



Re-conceptualizing Toponyms as the repository of Moken traditional ecological knowledge: A case study of Surin Islands

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Abstract

Toponyms or place names are a crucial language component in every language. They usually represent topographic environment or cultural elements of specific groups or areas. Toponyms constitute the linkage between humans and the landscapes surrounding them. Further, toponyms are the repository of traditional ecological knowledge (TEK) of each individual group. Moken people in Surin Islands store various kinds of ecological knowledge in their Moken toponyms. In view of the foregoing, this research aims to disclose the repository of Moken people to illustrate the traditional ecological knowledge (TEK) underpinning the toponyms. This study adopted the TEK framework as proposed by Jones (2016) to reveal the findings. This research is a qualitative study based on 94 toponyms in the Moken language and culture documentation project (Klatalay et al., 2013; Kraisaame 2016; 2018). Salient findings indicated that the structure of Moken toponyms consists of a primary element and a core element. Specifically, Moken people use lexicons relating to beach, rock/stone and coral, cape, island, and direction as topographical names in the primary element, whereas those relating to subsistence names, social names, memory names, and religio-spiritual names are used in the core element. Also reported in the study is that these elements correlate with the cultural landscape concept of Sauer (1969). In the light of these findings, it can be argued that toponyms are not simply names denoting places, but they constitute a repository of individual groups that carry the torch of knowledge from one generation to the next.

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Introduction and Literature Review

Toponyms or placenames are a crucial language component of every culture. They are proper names that

each group uses for calling places around them such as names of towns, names of villages, names of the rivers, names of the islands and so on. Reasons abound concerning place naming. Some placenames relate to the local or national history; some relate to beliefs, and yet some others might relate to important people, plants, or geographical elements. In this respect, toponyms are not supposed to be understood literally as a name, but they

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are communicative vehicles of people that are quite capable of connoting histories, myths, beliefs, identities, ways of life, and biocultural knowledge (Deepadung, 2003; Jones, 2016). In a nutshell, toponyms epitomize people's identity, cultural practices, and traditional ecological knowledge that is stored and transmitted from generation to generation.

Toponymy or the study of toponyms has long been of interest to linguists and anthropologists alike. Toponyms can deliver invaluable messages of the ancestor of each specific group, namely, natural and cultural landscapes in a particular area of living, oral history, ecology of the workplace, ways of life, and memories. Sauer (1969, p.315–350) has explained that the natural landscape includes a geo-gnostic basis, climatic basis, and vegetational basis as illustrated in Figure 1 below. In other words, the natural landscape that changes from time to time is the original geography untroubled by any human activities. Therefore, forms of the natural landscape are a result of different factors that change over time.

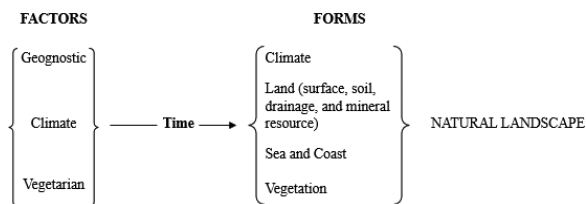


Figure 1 Diagrammatic representation of the natural landscape

Source: Sauer (1969, p. 337)

In addition, Sauer (ibid.) has also elaborated on the cultural landscape that is shaped by the interaction between a sociocultural group and the natural landscape, which is the medium of change as shown in Figure 2 below. A sociocultural group is the main factor that changes or adjusts the natural landscape in accordance with the way of life, economics, politics, tangible and intangible culture, to name a few. From Sauer's perspective, it can be concluded that toponyms relate to place, space, and humans. Humans are the important agent who creates the cultural landscape through time.

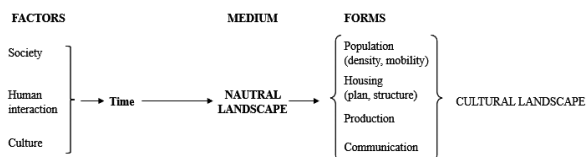


Figure 2 Diagrammatic representation of the cultural landscape (Sauer, 1969, p. 343)

They have cultivated, farmed, and used the natural landscape. In addition, they have also developed their own culture and named each place to represent their knowledge and viewpoints.

The study of toponyms has a three-pronged focus: linguistic and cultural focus; local and historical focus; and folklore focus. The linguistic and cultural focus mainly adopts a linguistic approach to studying both the word-formation and meaning of toponyms with the interpretation of culturally-related issues. Based on the reported studies, toponyms were constructed in response to the surrounding physical environment, each specific cultural value, linguistic and social practices in each group, and the semantics that shapes the language

(Boillat et al., 2013; Coates, 2012; Cole, 2007; Gelling & Cole, 2000; Jones, 2016; Si, 2016; Thornton, 1997)

In Thailand, considerable research has been conducted focusing on toponyms with a linguistic and cultural focus on three levels: a regional level, a provincial level, and a district and village level. At the regional level, researchers tended to study toponyms in more than one province that belongs to each region: for example, a study focusing on the Southern region of Thailand (Ruengnarong, 2008), research in eight provinces of the Western region of Thailand (Deepadung, 2004), and the toponyms and their geographical characteristics in the North-eastern region (Piyapakorn, 1991). At the provincial level, a number of studies, whose findings bore resemblance to those at the regional level, have been conducted, but the scopes are restricted to one province: for example, the study of placenames in Phitsanulok province (Boonyarak & Naysap, 1999), the local toponyms in Lampang province (Hankam, 1992), and the study of toponyms in Auyudhaya province (Sutharat, 2005). The last level of the toponymic study in Thailand is the village level. At this level, the placenames of villages in one district/subdistrict or many districts/subdistricts in a specific province are the research foci. The studies were similar to the provincial level, but they were more specific such as the study of Northern Khmer placenames in Surin province (Moomthong, 2007) and the study of villages' placenames in Urak Lawoi' language, Phuket province (Thavisak, 1988)

The above examples of toponymic studies mainly used linguistic approaches, both semantics, and ethnolinguistics, to analyze the meaning and language structures of the toponyms. That being said, these studies appear to neither deeply reflect nor illustrate a clear picture of the traditional ecological knowledge of local people who live in that area, especially ethnic or indigenous groups. In addition, the previous studies seem unable to provide a formal toponymic taxonomy since the linguistic approaches have never proposed the taxonomy for the place-naming

systems. To fill the aforementioned gap, this research adopted six basic cross-cultural categories of Traditional Ecological Knowledge (TEK) semantic place-name themes which were proposed by Jones (2016) as a guide to study Moken toponyms in Surin Islands. The six basic cross-cultural categories of Traditional Ecological Knowledge (Jones, *ibid*) are topographical names, subsistence names, social names, memory names, religio-spiritual names, and movement and settlement names. The TEK theory was developed by ecological anthropologists, who studied the relationships between ethnoknowledge and scientific knowledge, to discover the linkage between humans, cultural practices and the ecosystem. A powerful means to link people's mind with the environment, human language enables us to gather knowledge from the ecosystem and transmit it to the next generation. Different systems depicted via different languages Mühlhäusler (2001) in varying environments aptly denote plenty of knowledge. As succinctly put by Mühlhäusler (2001), “[s]uch knowledge... is closely linked to language.”

Moken is a semi-nomadic hunter-gatherer in Thailand, whose life relates closely to the sea from the cradle to the grave. It has been reported in the mass media that there are 6,000 Moken people living in three provinces in the Anadaman: Ranong, Phang-nga, and Phuket (https://www.ethnologue.com/language/mwt). Moken studies are on-trend research topics among scholars in such fields as Anthropology, Sociology, and Linguistics Arunotai et al., 2006; Ivanoff, 1997; 2001; Kraisame, 2016; 2018; Larish, 1993; 1999; Naw Say Bay, 1995; Pittayaporn, 2005; White, 1992.



Figure 3 Sea Nomads in Thailand

Source: Hogan (1988)

The Moken language is one of the endangered languages in Thailand. The native language is being replaced with Thai, a dominant language. Like other endangered languages, domains of language use and language lexicons have been gradually disappearing through generations. The vanishing of Moken toponyms represents one of language decline as Mühlhäusler (2001) put it, “rapid disappearance of biocultural diversity is rapid disappearance of language and acting in the same equation in return”. Their placenames in Surin Islands are being replaced by Thai placenames. As mentioned earlier, placenames are not just a name, but they are a repository of each individual group that stores knowledge, history, myth, belief and culture. This research aims to ascertain the repository of Moken traditional ecological knowledge vis-à-vis the toponyms through the TEK lens (Jones, 2016), which consisted of three parts: the toponyms word structure, the word frequency analysis, and the TEK analysis. It is the repository that could potentially yield invaluable linguistic assets around Surin Islands.

Methodology

Data Collection

This is a qualitative study based on the Moken language and culture documentation project (Klatalay et al., 2013; Kraisame 2016; 2018). Well-trained native speakers were tasked with documenting all placenames in Surin Islands through 30-minute video recording to prevent the loss of their native placenames. A video recorder (Sony DR-Xs22E/S), a microphone (ECM-F8 and ECM-T6) and headphones were used in the documentation. This is because Moken is an endangered language with no writing system. Subsequently, the recorded data were member-checked with the community members to warrant the confirmability of the data prior to further analysis.

Data Analysis

The International Phonetic Alphabet (IPA) was adopted for transcribing the data, which were then translated into Thai. The transcribed toponyms were grouped, categorized, and analyzed by using Microsoft Excel 365. The TEK analytical framework proposed by Jones (2016) and the structural approach were adopted in this research, which consisted of three parts: the toponyms word structure, the word frequency analysis, and the TEK analysis. The frequency analysis illustrated the percentage

of word occurrence in the Moken toponyms. The rate of word occurrence could reflect biocultural diversity in Surin Islands and the relationships between Moken people and the environment. In addition, the TEK analysis was used to ascertain the relationships between ethnoknowledge and language to discover the linkage between Moken people, linguistic practices, and the ecosystem.

Results

From the Moken language and culture documentation project (Klatalay et al., 2013; Kraisame 2016), it has been found that there are 94 Moken placenames in Surin Islands: 49 toponyms in the north Surin Islands, and 45 in the south Surin Islands as shown in Figure 4. From the previous toponymic research, we can conclude that there is no formal structure or formation of toponyms since the toponyms in each place are formed by different languages and cultures (Boillat et al., 2013; Coates, 2012; Cole, 2007; Gelling and Si, 2016; Thornton, 1997).



Figure 4 Moken placenames in Surin Islands
Source: Adapted from Klatalay et al. (2013)

However, Jones (2016) has proposed six basic cross-cultural categories for analyzing toponyms with a TEK lens analysis. As for the first category, topographical names are the names that denote the geographical elements of places. Concerning the second category, subsistence names are the category for the names that relate to natural and environmental elements. The third category indicates that social names acknowledge individual persons or groups, relatives, and any other association. As regards the fourth category, memory names are names that relate local history or important events in the past to the land. The fifth category is concerned with religio-spiritual names that point to or mark out spiritual or ritual places. Finally, in the sixth category, movement and settlement names are those marking patterns of settlements, travels, or pathways.

The 94 Moken placenames in Surin Islands are classed into five cross-cultural categories of TEK analysis as proposed by Jones (2016), topographical names, subsistence names, social names, memory names, and religio-spiritual names. From the examples of Moken names and toponyms in Table 1, the topographical names are the first element of toponyms indicating the geographical location and place. The subsistence, social, memory and religio-spiritual names are the second element of toponyms which are preceded by the topographical names.

As discussed above, Moken toponyms can be grouped into two elements: primary and core element. These two are crucial elements in constructing Moken toponym structure. From the structural approach, names in both primary and core elements are structured with one head noun (N.) or a head noun with one noun modifier (N. + N.) or an adjective modifier (N. + ADJ.). In Table 2 below, Moken toponyms require the core element with a head noun. The primary element can be omitted from the toponyms. In addition, the head noun is required in the primary and core elements. The modifier, noun and adjective, in both elements is optional. The Moken toponym word structure rules can be summarized as following:

$\pm$ primary elements [$\pm$ head noun $\pm$ modifier] +core
[+head noun $\pm$ modifier]

Thus, the most important part in the Moken toponym construction is the core element because this element contains several pieces of knowledge of Moken people. The primary element points out the geographical areas, while the core element represents the knowledge about nature and the environment around Surin Islands, the history of Surin Islands, and the belief of Moken people.

Table 1 Five categories of Moken toponyms in Surin Islands

Category	Moken names	Lexical meaning	Moken toponyms	TEK
Topographical	jagan	coral reef	jagan da:lik kitua?	The coral reef where a person named Kitua usually dived for clams.
	bale:	rocky shore	bale: taŋa: k cʰa:ba?	A rocky shore between the beaches where a python was found.
Subsistence	le:ka?	tropical almond	bale: le:ka?	A rocky shore where there are many tropical almonds. During the full moon, Moken people can easily find apple snails for cooking.
	buan	a short-tail monkey	ba:ja? buan	Big stone piles where short-tail monkeys swam to.
Social	tana:w	Burmese people	pa:na:t tana:w	A long beach where Burmese people built houses to live in
	cʰu:wan	Mr. Chuwan	cʰo:k ka:ba:ŋ cʰu:wan	A short beach where Mr. Chuwan cut the tree to build his boat
Memory	la:jop	a flag	te:t la:jop	Long time ago, Moken ancestors used to worship their holy spirit poles at this cape. So, they installed a flag as a landmark for this place.
	ca:lɔʔ kʰo:m	a light house	pɔ:la:w ca:lɔʔ kʰo:m	An island where the lighthouse was built.
Religio-spiritual	ma:nut ma:taj	dead people	cʰo:k ma:nut ma:taj	A short beach which Moken people used for burying their dead bodies.
	lɔ:bo:ŋ	a holy spirit pole	cʰo:k lɔ:bo:ŋ	A short beach which Moken people used to arrange a holy spirit pole ritual

Table 2 Moken toponym word structure

Moken toponyms	Primary		Core		Toponym structure
	head noun	modifier	head noun	modifier	
pʰɛ:la? ba:la:t			pʰɛ:la?	ba:la:t	core-topographical (N.)
te:t la:jop	te:t		la:jop		primary-topographical (N.) + core-memory (N.)
cʰo:k ka:ba:ŋ cʰu:wan	cʰo:k		ka:ba:ŋ	cʰu:wan	primary-topographical (N.) + core-memory (N. + N.)
bale: taŋa:k cʰa:ba?	bale:	taŋa:k	cʰa:ba?		primary-topographical (N. + ADJ.) + core-subsistence (N.)

In a primary element in Moken toponym construction, there are 12 topographical names which can be divided into five groups: beach, rock or stone, cape, island and direction.

Based on the data analysis, the most frequent occurrence of names is in the beach group comprising 50 percent of the topographical names. The names that belong to this group are /pa:na:t/ ‘beach’, /cʰo:k/ ‘short beach or small bay’ and /bu:hu:n/ ‘sand dune under the sea’. The second highest frequent occurrence of names is the names in “the rock/stone and coral group” constituting 36 percent of all names. The last three groups are “the cape”, “the island” and “the direction” group which account for 14 percent as illustrated in Figure 5 below.

As mentioned above, the primary element consists of five types of geography: beach, rock/stone and coral, cape, island and direction. As shown in Table 3 below, diversity of geographical areas of Surin Islands is in evidence. Among the variety of geographical areas in Surin Islands, /cʰo:k/, /pa:na:t/, /bale:/ and /jagan/

are the most frequent words used as topographical names. This means many geographical areas in Surin Islands are short beaches or small bays, long beaches, rocky shores and coral reefs. More importantly, these areas also significantly relate to Moken people’s areas of living and ways of life.

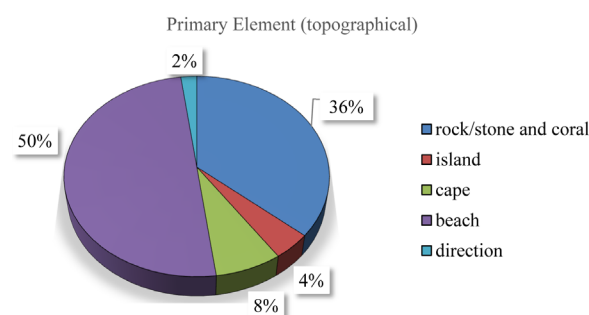
**Figure 5** Percentages of topographical names in the primary element

Table 3 Percentages of Moken lexicons used as topographical names

Types of Geography	Moken names	Lexical meaning	%
Beach	pa:na:t	long beach	18
	cʰɔ:k	short beach or small bay	30
	bu:hu:n	sand dune under the sea	2
Rock/stone and coral	ba:ja:ʔ	big rock	7
	ba:le:	rocky shore	15
	ne:ʔah	rock	1
	jagan	coral reef	13
Cape	pu:tu:	cape	1
	te:t	small cape	6
Island	po:la:w	island	4
Direction	pʰe:la:ʔ	west	1
	pʰe:la:ʔ ba:la:t	northwest	1
Total			100

The core element consists of four categories of toponyms: subsistence names, social names, memory names, and religio-spiritual names. Figure 6 below indicates the most common Moken words that are used as a part of names belonging to the subsistence names making up over 60 percent. The second most common Moken words belong to social names comprising 21 percent of the element. Moken people usually use the names of persons or the ethnic group of that person to name places. These people’s names can be shamans, the elderly, or ordinary people who may intentionally or

incidentally relate to these places. The last two groups are memory and religio-spiritual names consisting of 18 percent of the core element. These names directly reflect what is significant for Moken people. The higher percentage of names, the more significant they are for Moken. Unsurprisingly, the subsistence names have the highest percentage since Moken people are a semi-nomadic hunter-gatherer group. They have spent their lives with the sea and natural surroundings. The next section will discuss these names in greater detail.

As mentioned earlier, the subsistence names have received the highest percentage among other names. The subsistence names are names that relate to nature and the environment. These names can be subcategorized into three groups: plants, animals, and the environment. Table 4 below indicates fifteen plant names that are used as subsistence names. Those plants are mostly perennials usually found in Surin Islands, reflecting the richness of biodiversity around Surin Islands. Moken people, normally, do not use plants in their everyday life except in building boats or houses. Thus, they name each place according to a plant that grows or can be found there. However, /ni:ʔu:n/ ‘coconut tree’ and /ja:nat/ ‘pineapple’ are not local plants. According to the documentation, /ni:ʔu:n/

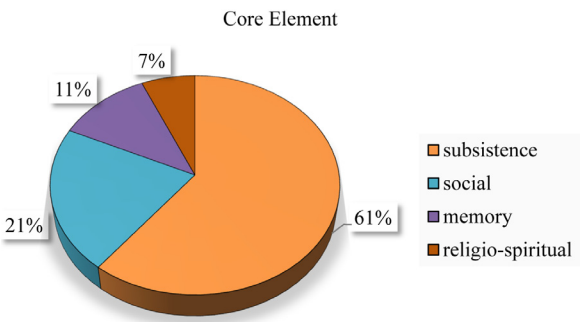


Figure 6 The percentage of names in the core element

Table 4 Plant-related lexicons in subsistence names

Plants (Subsistence Names)			
Moken names	Lexical meaning	Moken names	Lexical meaning
bu:bɔŋ	Rak tree	ki:buaŋ	Lawcha-oon tree
bu:ŋa:ʔ	Flower (the flower of Goat’s Foot Creeper)	le:ka:ʔ	Huukwang tree (tropical almond)
bu:tu:n	Jik tree (sea poison)	ma:lu:ŋ	Maluung tree
ci:mat	Jaak tree	ni:ʔu:n	Coconut tree
ga:du:j	A kind of local vegetable that can be eaten with chili paste	paʔɔ:k la:wi:	Mango tree
ha:la:ʔ	Banyan tree	po:na:w	Krating tree
ja:nat	Pineapple	taja:n	Takhian tree
ji:ŋin	Yee tree (Velvet tamarind)		

are invasive alien species planted at that location by outsiders. In addition, /ja:nat/ is from the rinds of pineapple that were eaten by tourists. Thus, /pa:nat ja:nat/ is the long beach where the rinds of pineapple are usually found.

Another sub-category in subsistence names is “animals” which can be divided into two groups. The first group is aquatic animals, the second terrestrial animals and reptiles. Table 5 below shows that five aquatic animals, one terrestrial animal, and one reptile have been found to possess subsistence names. Notwithstanding their habitats with close proximity to the sea, the Moken do not normally use many aquatic animal-related lexicons. This could be attributed to the fact that Moken people usually hunt and gather aquatic animals near their living areas. Thus, aquatic animals used as subsistence names are the animals that can be mostly found in that area. It should be noted, therefore, that aquatic animals that are hunted in areas beyond the living areas have not been used as subsistence names.

The last sub-category of subsistence names is “environment”. The subsistence names related to the environment consist of five lexicons, as shown in Table 6 below. The lexicons in this sub-category can be divided into two groups: one is about direction and the other, the environment. /ba:la:t/ ‘west’, /ba:la:t ta:lian/ ‘northwest’ and /ta:lian/ belong to the direction in the subcategory. /pe:la:ʔ/ ‘monsoon’ and /we:n/ ‘water’ belong to the environment.

The second category in the core element is “social names.” The social names, according to Jones (2016), are for acknowledging individual persons or groups, relatives, and any other association. Thus, these social names in Moken toponyms directly relate to a name of a person or group. Since the social names are a proper name, the TEK meaning under the names is the history of that place. As shown in Table 7, the social names can be roughly divided into three groups. The first is the social names that relate to a person who usually went to that place for food or for some purposes; for example, /c^hu:wan/, /ji:ki:/, /ma:dah/, and /ʔe:duan/. The second is the names

that relate to non-Moken people who used to stay or live there; for example, /bi:lu:ʔ/ and /tana:w/. The last is the names that relate to a person who died or was buried in that place. These people are not a shaman or an important person. In this regard, it might be assumed that Moken people do not hold those individuals in high regard.

The third category in the core element is “memory names.” Table 8 shows that seven Moken lexicons have been adopted as memory names. Noticeably, most of the lexicons in memory names are objects that either were from outside or were found atypical in their culture. For example, /ca:lɔ:ʔ k^ho:m/, /kaʔo:m/, /ka:ba:ŋ ba:law/ and /la:c^he:/ are not the Moken’s material culture. Even though these memory names do not directly portray Moken cultural practices, they could relate to local events that once occurred in Surin Islands.

The last category in the core element is “religious-spiritual names.” These names directly relate to the dead and spirits. Four lexicons have been adopted to be part of these names and could be roughly divided into two groups as shown in Table 9. The first is lexicons that relate to dead people. The second is lexicons that relate to the holy spirit. Moken people clearly make a distinction between dead and living people. Thus, Moken people will not stay or build their houses on the premises marked with dead-related lexicons, Moken people will not stay or build their house at that place. Even though /ja:ja:ʔ bu:m/ is a Moken name that is translated from a Thai word and not directly related to the Moken belief of the dead and spirits, this place is reserved as a burial ground. /lɔ:bo:ŋ/ and /kana:/ clearly reflect the Moken’s belief about animism, that the holy spirit protects their villages, health and sea-faring.

Table 6 Environment-related lexicons in subsistence names

Environment (Subsistence Names)			
Moken names	Lexical meaning	Moken names	Lexical meaning
ba:la:t	West	ta:lian	North
ba:la:t ta:lian	Northwest	we:n	Water
pe:la:ʔ	Monsoon		

Table 5 Animal-related lexicons in subsistence names

Animals (Subsistence Names)			
Aquatic Animals		Terrestrial Animal and Reptile	
Moken names	Lexical meaning	Moken names	Lexical meaning
ba:da:k	A type of shellfish	buan	short-tail monkeys
c ^h a:ja:j	A type of shellfish	c ^h a:ba:ʔ	Pythons
k ^h ajik	Grouper		
ma:muŋ	A type of fish		
pu:ka:	A type of fish		

Table 7 Moken lexicons in social names

Social names			
Moken names	TEK meaning	Moken names	TEK meaning
bi:lu:ʔ	The name of Urak Lawoi' people who used to stay at that place	tiaŋ	The name of a Moken person who died at that place
cʰanaj	The name of a Moken person whose body was buried at that place	ʔana:t kɔ:lɛ:ʔ	The name of a Moken person's child whose body was buried at that place
cʰu:wan	The name of a Moken person who usually came to that place for cutting the tree to build his boat	ʔana:t jo:	The name of a Moken person's child whose body was buried at that place
ji:ki:	The name of a Moken person who usually made charcoal at that place	ʔɛ:duan	A name of a Moken person who usually came to that place for clam [relaxation]?
jo:hun	The name of an Urak Lawoi' person who died at that place	ʔɛ:luaj	The name of a person from Myanmar whose body was buried at that place
tana:w	People from Myanmar who usually stayed at that place		
ma:dah	The name of a Moken person who usually came to that place for water		

Table 8 Moken lexicons in memory names

Memory names			
Moken names	Lexical meaning	Moken names	Lexical meaning
ca:lɔ:ʔ kʰo:m	Lighthouse	la:cʰe:	Thai alphabet (Thai alphabets have been inscribed on the rock)
kaʔo:m	Monk's alms bowl	la:jop	Flag (The flag was here as a place mark for the holy spirit poles)
ka:ba:ŋ	Boat (Mr. Chuwan cut the tree to build his boat at this place)	ʔɔ:ma:k	House (the national park officers used to build their house at this place)
ka:ba:ŋ ba:law	Fishing boat (two fishing boats crashed into each other)		

Table 9 Moken lexicons in religio-spiritual names

Religio-Spiritual Names			
Moken Names	Lexical Meaning	Moken Names	Lexical Meaning
ja:ja:ʔ bu:m	Mother-in-law	kana:	A holy spirit house
ma:nut	Dead people	lɔ:bo:ŋ	A holy spirit pole
ma:taj			

Conclusion and Recommendations

In light of the traditional ecological knowledge (TEK) framework, the Moken people have a wealth of traditional ecological knowledge, especially in the sea and surrounding territories. As can be seen from the aforementioned discussion of the main elements, all these geographies are related to the physical geography of the islands: the size of the beaches, sand dunes, corals, and rocks. The primary element of toponyms shows topographical names that play an important role in naming individual places in the Moken language, which is consistent with Jones (2016) TEK. This element shows the geographical knowledge and worldview of Moken people. This also relates to “the natural landscape

concept” by Sauer (1969, p. 337), which illustrates the linkage of humans and the landscape. Moreover, the topographical names deliver a variety of geographical charactersites of Surin Islands as discussed in [Table 1](#).

The core element is the repository of natural resources and ecological knowledge, social relations, memory and history, and belief. This element discloses not only the biological aspect of knowledge but also the special events that have unfolded in the past years. Given the significance of this repository, Moken people deem it necessary to pass on this precious knowledge to the next generations by using the topographiacial devices. The research shows that the core element consists of four groups of names: subsistence names, social names, memory names, and religio-spiritual names. Among these four groups, the subsistence names have been used most frequently (61%) as compared to the other categories. This indicates close-knit relationships between Moken people and their ecological knowledge. The subsistence names contain the data of natural resources and natural surroundings, which in turn reflects the biodiversity of Surin Islands. Lexicons-related to plants, animals and the environment are included in the subsistence names as shown in [Table 4-Table 6](#).

Social names show the relationships between human interaction and the places. The names of people have been used as topographies (21%). The names indicate the extent to which Moken people have interacted with that place. Some people stayed or had some activities at that specific place, while the deceased were buried there. These findings contradict those reported in a study by Jones (2016), since the names of these people belonged to ordinary people rather than shamans or dignitaries. Suffice it to say that Moken people do not necessarily assign a more important role to any particular person; in other words, all (Moken) men are created equal. This might also reflect the egalitarian nature of hunter-gatherers.

The last two toponyms are memory names and religio-spiritual names. These are the repository of past events and traditional beliefs, amounting to 18 percent in total. The percentage should be considered significant albeit at the lowest rung of the ladder. As for the memory names, Moken people name each place based on an atypical event that happened at that place in the past. Most of the events were initiated by the outsiders, which Moken people perceived as unusual or significant for their areas. Further, the religio-spiritual names clearly indicate that Moken people hold animistic beliefs. That is, they believe in and worship the holy spirit that takes care of the village and their lives. As shown in Table 9, there are two lexicons that relate to the holy spirits and another two lexicons related to the dead. Essentially, the lexicons serve to demarcate the land for living people and the deceased. That is, they believe that the deceased must cross the ocean and live in the other side of the world.

The findings as reported here support Sauer's argument that toponyms directly portray the cultural landscape in which humans act as authoritative agents. Although these 94 toponyms are crucial repositories for Moken people as they store much traditional ecological knowledge, this knowledge has been gradually disappearing from the vanishing of Moken toponyms. A considerable number of Moken children do not know their Moken toponyms as they use Thai names instead due to sociocultural and economic changes. Like their language, Moken toponyms are being threatened by Thai, a dominant language. When the language changes, they will most likely lose their repository of traditional ecological knowledge. Their system of thoughts and values will also disappear. This may eventually lead to the loss of language and identity. Thus, to avoid the loss of Moken traditional knowledge, the community-based language and culture preservation project must be continually supported by the funding agencies and linguists of all stripes. However, this phenomenon of

linguistic deterioration is not confined to the Moken community in Surin Islands; some other indigenous communities are also facing the same challenge. Indeed, now is the time for both serious research and preservation work to take place before toponyms in most, if not all, communities disappear for good.

Since this research is based on secondary data from the Moken language and culture documentation project (Klatalay et al., 2013; Kraissame 2016), deep interview with the native speakers is needed for data analysis and discussion especially in Moken's traditional ecological knowledge. Thus, the fieldwork is not included in the current study which is the research limitation. The authors recommended that the TEK fieldwork and interview with the Moken native speakers should be arranged for further study.

Conflict of Interest

The authors declare that there is no conflict of interest.

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