

THE CONTINUUM OF TERENGGANU DIALECT ALONG THE EAST COAST MALAYSIA: A GEOLINGUISTIC STUDY

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ABSTRACT

Background and Purpose: One of the eminent Malay dialects on the east coast is the Terengganu dialect which is argued to have some linguistic peculiarities. The prominent characteristics are nasal modification, nasal deletion, fricative modification, liquid deletion and monophthongization. These dialectal features are very much different from the standard Malay.

Methodology: This research involved a fieldwork at 52 village points with the participation of 500 informants. They were interviewed and requested to fill in the questionnaires.

Findings: The findings prove that the Terengganu dialectal features are widely used and progressed to southward. Hence the distribution overtly formed a continuum of Terengganu dialect. Non-linguistic factors such as history, socioeconomics and topography also play essential roles in regulating the distribution of this dialect. Historically, Terengganu was regarded as the centre of civilization with the discovery of the inscription stone as early as 1303AD. Its sea served as the silk road for the Chinese merchants. In addition, Terengganu people were expert in making vessels and they are skillful sailors as well. Furthermore, the flatlands along the coast amplifies the movement and dissemination of this dialect.

Contributions: A geolinguistic study presented in this article provides some novel insights into how

the Terengganu dialect dispersed, and the dialect continuum was formed using GIS technology.

Keywords: Dialect continuum, east-coast, geolinguistics, Terengganu dialect, topography.

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1.0 INTRODUCTION

Traditionally, great empires and kingdoms were initially established and developed close to the riversides. Human civilizations were progressively cultivated there and concurrently language development began to foster in the speech community in order to carry out its sociolinguistic function. The river served as an interacting point where a community began to be shaped and structured. For example, about 5,000 years ago, the kingdoms of Ur and Babylon in Mesopotamia were built on the riverbanks of Tigris and Euphrates. The realm of Malay states in Malaya were also established in the same environments. The Sultanate of Perak, for instance, was sited on the bank of Perak River, situated in the district of Kuala Kangsar (Saat, 2012). Another Malay kingdom, such as Johor Sultanate also commenced on the riverbanks, namely in Johor Lama. It is apparent that the riverside area was the initial meeting place where the inhabitants established their relationships as a community. Besides the rivers, the sea also plays a similar important role. The sea functions as linkages between districts and regions, and at the same time serves as the center of economic and trade activities (Jabatan Perancangan Bandar dan Desa Semenanjung Malaysia Kementerian Perumahan dan Kerajaan Tempatan, 2009). This is what materializes in Terengganu, where the sea plays an important role in transforming Terengganu as one of the dominant states in the east coast of Peninsular Malaysia, particularly pertaining to its economic activities, and the spreading of its dialect across state borders.

Dialect is defined as a sub-language that represents the spoken language of a population in an area (Omar, 1993). Collins (1983) defines dialect as a language variety that can be distinguished from other varieties based on pronunciation, vocabulary and grammatical features. He also suggests that this variety of language is found in certain geographical areas and certain social environments. The dialect used in one vicinity is different from one community to the other.

The study presented in this article has two main objectives. First, it attempts to discuss

the dominance of the Terengganu dialect on the east coast of Peninsular Malaysia where a clear dialect continuum can be mapped. Previous works have shown that the study of Malay dialects merely focused on local geographical dialects, such as the description of Kelantan dialect, Perak dialect, Kedah dialect, and so on. However, in this article we will describe and demonstrate how the Terengganu dialect spreads to the far south, namely across Pahang and Johor. It is evident that the Terengganu dialect has formed a dialect continuum or a chain of dialect that is connected to other states along the east coast. Second, this article will illustrate the spreading of the Terengganu dialect based on linguistic and non-linguistic features which are processed and analyzed by the Geographic Information System (GIS) software.

2.0 LITERATURE REVIEW

This article divides the literature review into two parts, namely (i) the description of Terengganu dialect, and (ii) the dissemination of dialects by means of water way, primarily through rivers. Omar (1993) categorizes the Malay dialects in Peninsular Malaysia into five types, as follows: (i) Northwest group (Kedah-Perlis-Penang, and North Perak), (ii) North East group (Kelantan), (iii) East group (Terengganu), (iv) Southern group (Johor, Melaka, Pahang, Selangor, and South Perak), and (v) Negeri Sembilan. Then, in her subsequent study which is wider and more detailed about Malay dialects, Omar (1993) has classed the dialects of Kelantan, Terengganu, and Pahang into a single group called the Kelantan-Pahang-Terengganu group. The research conducted by Omar (1993) can be considered as a general study on dialects in Malaysia, and still remains as the primary source of references in the field of Malay dialectology. She identifies the distinctions between dialects and sub-dialects based on phonology (vowel and consonant inventories) and lexical differences.

The study of the Terengganu dialect by Omar (1993) can be regarded as detailed and extensive. She compared Hulu Telemong subdialect with other subdialects in Terengganu which include Kuala Terengganu, Hulu Nerus, Kuala Jerangau, and Kuala Jelai subdialects. Some of the examples are listed below.

Table 1: Subdialect of Kuala Terengganu, Hulu Terengganu and Hulu Nerus

Kuala Terengganu	Hulu Terengganu	Hulu Nerus	Standard Malay
[dʒalan]	[dʒaleŋ]	[dʒalẽ]	[dʒalan] ‘road’
[makan]	[makeŋ]	[makẽ]	[makan] ‘eat’
[hitan]	[hiteŋ]	[hitẽ]	[hitam] ‘black’

Table 2: Subdialect of Kuala Jerangau and Kuala Jelai

Kuala Jerangau	Kuala Jelai	Standard Malay
[suŋa]	[suŋɛ]	[suŋaj] ‘river’
[kəda]	[kədɛ]	[kədaj] ‘shop’

As can be seen, different localities have different forms of lexical pronunciations commonly known as variants. Subsequently, Omar (1993) preliminary work on Terengganu dialect has been expanded and updated by other scholars and researchers.

In his famous book entitled *Khazanah Dialek Melayu* (The Treasure of Malay Dialects), Collins (1996) discusses the phonological aspects of diphthongization of the Ulu Terengganu subdialect. This research can be labelled as geographical dialect study because it specifically focuses on Ulu Terengganu locality. Collins (1996) notes that the dialect spoken in Ulu Terengganu is different from the typical Terengganu dialect. One of the distinguishing phonological features of the Ulu Terengganu dialect is diphthongization of high vowels in open syllable word finally. This phonological behavior is a unique characteristic of the Ulu Terengganu dialect. Collins (1996) argues that the Ulu Terengganu dialect is one of the dialects that belongs to the East Peninsula dialect group. Thus, linguistically the relationship between the Ulu Terengganu dialect and the Terengganu Pantai dialect is not so close as compared to the relationship between the Ulu Terengganu dialect and the Kelantan dialect. In conclusion, the Ulu Terengganu dialect is not a subdialect of Coastal Terengganu and they are regarded as two different Malay dialects. The diphthongizations of high vowels word finally in five different varieties of Ulu Terengganu dialect are exemplified in Table 3 below.

Table 3: Diphthongizations of high vowels in Ulu Terengganu

Malay	Pereh	Tanjung Putat	Telaga	Tanjung Baru	Pench	Ulu Sat
abu	abuw	abuw ^h	abu ^{<} w	aba ^{>} w	abəw?	abəw ^k
aku	akuw	akuw ^h	aku ^{<} w	aka ^{>} w	akəw?	akəw ^k
sembilu	m̃:iluw	səm̃iluw ^h	səm̃ilu ^{<} w ^h	səm̃ilu ^{>} w	səm̃iləw?	m̃:ləw ^k
garu	gayuw	gayuw ^h	(ukəə)	gaya ^{<} w	gayəw?	gayəw ^k
bulu	buluw	buluw ^h	bulu ^{<} w	bula ^{>} w	buləw	buləw ^k
kayu	kayuw	kayuw ^h	kayu ^{<} w	kaya ^{>} w	kayəw	kayəw ^k
batu	batuw	batuw ^h	batu ^{<} w	bata ^{>} w	batəw	batəw ^k
beli	bəliy	bəliy ^h	bəliy	bəla ^{<} y	bələy	bələ ^{<} y ^k
kiri	kiyiy	kiyiy ^h	kiyiy	kiya ^{<} y	kiyəy	kiyə ^{<} y ^k
mati	mātiy	mātiy ^h	mātiy	māta ^{<} y	mātəy	mātə ^{<} y ^k
laki	lakiy	lakiy ^h	lakiy	laka ^{<} y	lakəy	lakə ^{<} y ^k
kaki	kakiy	kakiy ^h	kakiy	kaka ^{<} y	kakəy	kakə ^{<} y ^k
hati	atiy	atiy ^h	atiy	ata ^{<} y	atəy	atə ^{<} y ^k
mimpi	mīpiy	mīpiy ^h	mīpiy	mīpa ^{<} y	mīpəy	mīpəy ^k

In addition to Omar (1993) and Collins (1996), Che Kob (2008) writes an article entitled “*Subklasifikasi Dialek Melayu Patani-Kelantan-Terengganu: Satu Analisis Kualitatif*” (Subclassification of Patani-Kelantan-Terengganu Malay Dialects: A Qualitative Analysis). He proposes five shared phonological features in justifying that the three dialects should be classified under one group. First, these three dialects undergo the same process of monophthongization – *aw > a, *ay > a at word final position (i.e. [hidʒaw] 'green' realizes as [idʒa]. Second, homogenous voiced stops of nasal-stop clusters undergo the process of weakening (i.e. [ɣambut] 'hair' surfaces as [ɣamb^hoʔ]). Third, high vowels undergo the process of vowel lowering – *i > e (i.e. [putih] 'white' realizes as [puteh]). Fourth, deletion of homogenous nasal in nasal-voiceless stop clusters (i.e. [pantaj] 'beach' becomes [pata]. Fifth, lengthening of word initial consonant (i.e. [tʃayi] 'find' surfaces as [tʃ:ayi]. Since the three dialects are sharing the same phonological rules, it is evident that they belong to the same dialect group which can be labelled as Patani-Kelantan-Terengganu Malay dialect.

This proposition can be supported further by nonlinguistic information, namely geographical and historical evidences. Geographically, these three dialects are widely spoken in the networked areas along the east coast of Peninsular Malaysia, starting from the Patani region in southern Thailand down to Kelantan and then spreading along the coast of Terengganu and Pahang up to Mersing in Johor. Terrestrial areas along the shores of these

three states are mostly flatlands, and therefore it is favorable for a continuum of dialect to form and establish here. Such geographical conditions effortlessly facilitate the movement and verbal communication among the residents in the region. Another substantiation is that historically the three states were ruled by a solitary Malay kingdom centered in Patani known as Kerajaan Melayu Patani Besar. In terms of linguistic relationship, Che Kob (2008) emphasizes that the Patani dialect is closer to the Kelantan dialect as compared to the Terengganu dialect.

Instead of merely focusing on the linguistic description of the Terengganu dialect, this article will briefly elaborate the role of rivers and the sea in determining regional dialect dissemination. The first empirical study that traces the distribution of vowel system along Sungai Muar was conducted by Collins (1996) which involved thirteen villages starting from the upper part of Bandar Maharani near Sungai Merbulu up to Kuala Pencabang estuaries of Sungai Labis and Sungai Muar. Besides of listing the inventory of vowels and diphthongs in the dialect spoken along Sungai Muar, Collins (1996) emphasizes the importance of non-linguistic factors such as geographical and historical information that should be taken into account in order to succinctly understand the dialect dissemination phenomenon. The importance of non-linguistic factor in dialect study is also noted in Jalaluddin, Ahmad, Radzi, and Sanit (2016) work. She claims that Sungai Perak plays a significant role in determining the distribution of Perak dialect in Kuala Kangsar and Perak Tengah areas. It is evident that the villages in Perak Tengah bordering the districts of Kuala Kangsar and Hilir Perak do not use the typical Perak variant [mike] ‘you’. On the contrary, the other nearby villages, namely Kampung Teluk Kepayang, Belanja Kiri and Kampung Raja, Pasir Panjang Ulu actively used the [mikə] variant which is a peculiar form of the Kuala Kangsar subdialect. Although these villages are located in Perak Tengah district, the speakers regularly use the Kuala Kangsar subdialect as their daily verbal communication. Additionally, this study affirms that besides topographic factors (rivers and hills), historic and socioeconomic factors also play pivotal roles in governing dialect dissemination in the area.

Recent study by Saari (2019) correspondingly affirms that language dissemination is also regulated by rivers. Saari (2019) has investigated how the Bugis, Javanese and Banjar languages entered and dispersed across the regions in the state of Johor. He substantiated a topo map of river drainage in Pontian, which is a dominant area of the Bugis community in Johor. They migrated from their homeland in Indonesia and opened settlements in Pontian district. The settlement still stays until today. Figure 1 below shows the route of their movement through river into the state of Johor.



Figure 1: Topo Map of River Drainage in Pontian, Johor

It is apparent that the dispersing of Bugis language correlates with the spreading of Banjar language. Both ethnics migrate to Johor through Sungai Pulai, Pontian. The dispersion of the Bugis language only took place in Kampung Serkat Barat, which is located in the sub-district of Kukup, Pontian. Based on the attested data gathered in the field, some Bugis lexical items are as follows:

Table 4: Bugis language data in the state of Johor

Word List	Standard Malay Transcription	Bugis Language Transcription
ular 'snake'	/ular/	[ulaʔ]
kelapa 'coconut'	/kəlapə/	[kluku]
air 'water'	/æ/	[baɾu] or [ɲumbɛ]
tikus 'rat'	/tikus/	[dʒikaw]
ayam 'chicken'	/ajam/	[manoʔ]
ikan 'fish'	/ikan/	[blukaŋ]
durian 'thorny fruit'	/duyijan/	[duyejan]
kupas 'peel'	/kupas/	[kopiʔ]
cubit 'pinch'	/ʃubit/	[ʃəku]
malas 'lazy'	/malas/	[məndaɟ]
masam 'sour'	/masam/	[kəʃot]

Based on Saari (2019) study, it is apparent that the rivers and even the sea play an important role in influencing the widespreading of language or dialect to the nearby areas and across regions.

In tandem with the advancement of technology, dialect studies should be conducted in

a more sophisticated way, particularly with the appliance of high-tech tools. A multidisciplinary approach study which integrates Geographic Information System (GIS) softwares and linguistic discipline can obviously offer a better analysis about language or dialect phenomena. By incorporating non-linguistic factors into the analysis, such as topographic, historical and socioeconomic information, a more convincing explanation can be drawn. The study of dialects assisted by GIS has attracted the attention of international scholars which accordingly leads to the establishment of a unique GIS group pioneered by Asian scholars via International Conference Asian Geolinguistics (ICAG) which is based in Japan. There are many journals, particularly the *Journal of Dialectologia* published by the University of Barcelona discusses a lot about dialect or language studies and the utilization of GIS in the analyses (Teerarojanarat & Tingsabadh, 2011; Jalaluddin, Radzi, Kasdan, & Abd Halim, 2017; Jalaluddin, Tinggom, Hamzah, & Lateh, 2019a; Jalaluddin, Mohamed Sultan, Radzi, & Saari, 2019b; Jalaluddin et al., 2016; Ahmad, Jalaluddin, & Yusoff, 2018; Fukushima, 2019; etc.).

Since a multidisciplinary study is superior, particularly with the provision of GIS tools, the present study attempts to employ this approach to describe the dominance of Terengganu dialect, which widely spreads to the neighboring states and also to the south of the country. Although many linguistic features of the Terengganu dialect described here are quite similar to the descriptions reported in the previous work, the presentation of GIS maps illustrating the dissemination of Terengganu dialect across the state border has never been done before. The latter will be our main emphasis and contribution to the advancement of dialect studies in Malaysia. Besides linguistic elements, non-linguistic factors such as regional civilization, a strategic port for trade and commerce are sourced as additional accounts of how and why the Terengganu dialect is so dominant on the east coast of Malaysia. Its dissemination as a dialect continuum can be clearly perceived in the GIS maps.

3.0 METHODOLOGY

This study involved a fieldwork where primary data were collected directly from the informants. The research method adopted here can be dubbed as an explanatory research which means that personal observation and data collection in the field are scrutinized and examined systematically, and the linguistic outcomes are explained adequately. This is a type of research methodology proposed and applied in Jalaluddin et al. (2016, 2017), and its main concern is on the scientific aspect where the application of appropriate approach can give an adequate explanation through a comprehensive analysis. The scientific aspect refers to the way data is

collected and analyzed based on linguistic disciplines and processed by geographic information software. Therefore, strategic planning in terms of data collection and processing needs to be done cautiously with the attention to obtain the best research results.

The selection of respondents consists of three groups, namely the young (aged 15-25 years), the adult (aged 26-49 years) and the elderly (aged 50 years and above). This division is important so that the pattern of usage of Malay dialect between generations can be observed. All respondents were native speakers of their respective districts. The village was selected according to the village point represented in the map based on GPS (Global Positioning System), and verified further with the help of the village head to ensure that the authenticity of the attested data. The study was conducted throughout the coastal areas of Terengganu, Pahang and Johor. A total of 52 village points along the coast were selected: 26 village points in Terengganu and 26 village points in Pahang and Johor (see Figure 2 below). Apart from Terengganu, the districts of Kuantan, Pekan, Rompin, Mersing and Kota Tinggi were detected with the influence of the Terengganu dialect.

All informants completed a questionnaire and pronounced the vocabulary that have been listed. The vocabulary is selected based on Swadesh's list and being adapted to local lexicals that are frequently used (Collins, 1983). A total of 40 lexical items were selected and classified based on family, emotions, food, noun, verb and adjective domains. To obtain accurate and authentic pronunciation, spontaneous interview sessions and recordings were conducted. The collected data were then transcribed, put into Excel and cleaned before being transferred into the ArcGIS system. At the analysis level, the given data characterized by the Terengganu dialect were sorted. This characterization is based on the following phonological rules.

- i. Nasal modification – word final /m,n/ surfaces as velar nasal /ŋ/ (i.e. /ajam/ 'chicken' becomes /ajaŋ/);
- ii. Nasal deletion - homogeneous nasals preceding voiceless stops (p, t, k) get deleted (i.e. /sapah/ 'rubbish' is pronounced as [sapah]);
- iii. Liquid deletion – consonants /l, r/ at word final position are deleted, (i.e. /pukul/ 'hit' becomes [puko]);
- iv. Fricative modification – word final consonant /s/ is realized as [h] (i.e. /panas/ 'hot' becomes [panah]),
- v. Monophthongization – word final diphthong becomes monophthong (i.e. /səyai/ 'lemongrass' becomes [səɣa]).

To get a better understanding how this GIS is utilized, first, the village points that served as research sites are visibly marked in the map (see Figure 2 below). Villages marked ● are supplied with topographic information of the area, such as hills (marked ▲) and rivers. The physical pattern of the area can be easily viewed directly from the map. At this juncture only attested data that have Terengganu dialect phonological features were taken into account. Variants inferred as Pahang and Johor dialects were not considered because our main objective is to highlight the widespread use of Terengganu dialects through various variants and the distribution is represented in GIS-assisted maps. In addition, historical and geographical information of the villages were also taken into consideration in the data collecting process.

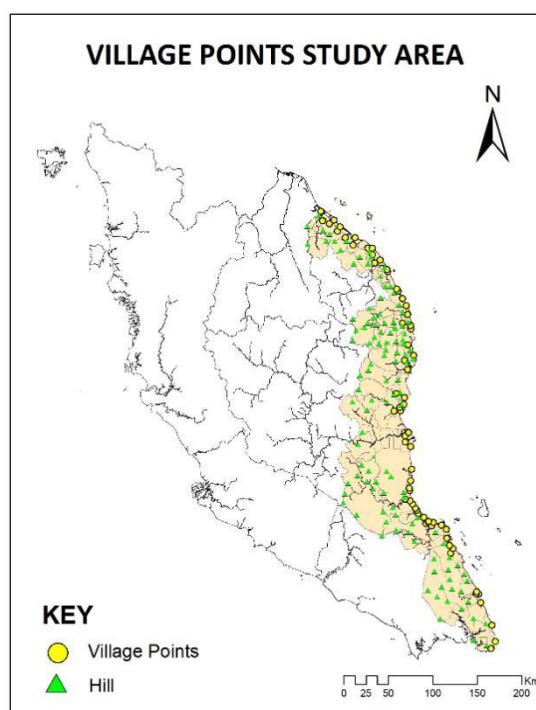


Figure 2: Village points study area

After the village points along the coast had been determined, data collection was carried out at the site. As mentioned, lexical items representing Terengganu dialectal features were recorded and keyed in into Excel. The attested data then underwent a cleaning process to ensure correct transcription particularly in terms of phonetic representation. The clean Excel data were imported into GIS software where linguistic maps were then produced.

Tables 5 and 6 below show that there are 11 recorded lexical items that have Terengganu dialectal features. Their usage spreads across the state borders starting from Kuantan in Pahang up to Kota Tinggi in Johor. The lexical items are *ayam* ‘chicken’, *durian* ‘thorny fruit’, *sampah*

‘rubbish’, *bantal* ‘pillow’, *pukul* ‘hit’, *ular* ‘snake’, *panas* ‘heat’, *tikus* ‘rat’, *kacau* ‘stir’ and *serai* ‘lemongrass’. The data represented in Table 5 are verified in various villages in Johor and Pahang, whereas the forms in Table 6 are collected in other villages in Terengganu. It must be noted that both tables display the same lexical items but represent different village points. The next process is to generate choropleth maps which served as the basis for detailed analysis and discussion.

4.0 ANALYSIS AND DISCUSSION

Based on the fieldwork conducted along the east coast, as mentioned, there are 11 lexical items out of 40 that meet the phonological features of the Terengganu dialect. It is apparent that besides Terengganu itself, the lexicals are also widely used in Pahang and Johor, as represented in Table 5 and Table 6 below. Generally, the data collected from Setiu to Kemaman demonstrated a full use of the Terengganu dialect, while some districts in Setiu seem to use the Kelantan dialect instead. For instance, speakers in Kg. Banting Lintang and Kg Bahagia use the variant [aɟɛ] ‘chicken’ instead of the typical variant [aɟaŋ]. The former is peculiarly used by Kelantan dialect speakers. Another comparable example is the lexical *durian* ‘thorny fruit’. Speakers in Kg. Banting Lintang, Kg. Banggol and Kg Bahagia pronounced it as [duyijɛ] with Kelantan dialect instead of [duyijaŋ]. It must be noted that these villages are located alongside the state border. Thus, the influence of Kelantan dialect into the community is expectable and not an abnormal case.

The same linguistic phenomena occur in other states as well which involved district borders, such as Selama and Taiping in Perak, Alor Gajah and Sungai Udang in Melaka. In the former, the residents use Kedah dialect such as [haŋ] ‘you’ instead of the typical Perak dialect [kamu] or [kumə], while in the latter, the community uses Negeri Sembilan dialect, such as [səsaɪ], [bəda], [hoben] and [ləmpaŋ] for the lexical item ‘hit’ (Jalaluddin, 2019a). Linguistically, it has been demonstrated that a dialect isogloss is determined by geographical boundaries and not political boundaries. Topographic factors also play an important role in regulating the spread of a dialect (Fukushima, 2019; Jalaluddin, 2019b).

As can be seen in Table 5 below, the lexical items used by most of the villagers in Pahang and Johor are those with Terengganu dialectal features. The dialect is so dominant along the coast and its distribution creates a dialect continuum which can be spotted in Figure 3 below. The continuum stretches from Setiu in Terengganu up to Kota Tinggi in Johor. As can be observed, the spreading only took place along the coast and does not diffuse towards the inland. The underlying reason is that some highlands block this dialect from spreading.

Table 5: Lexicals with Terengganu dialectal features in Pahang and Johor






NEGERI	NAMA KAMPUNG/DAERAH	ayam [ajaŋ]	ikan [ikaŋ]	durian [duɣijaŋ]	sampah [sapah]	bantal [bata]	pukul [puko]	ular [ulo]	panas [panah]	tikus [tikuh]	kacau [kuʃa]	serai [səɣa]
PAHANG	KUANTAN											
	Kg. Nadak	ajaŋ	ikaŋ		sapah		puko	ulo	panah	tikuh	kuʃa	səɣa
	Kg. Kuala Reman				sapah		puko	ulo	panah	tikuh	kuʃa	səɣa
	Kg. Permatang Badak	ajaŋ	ikaŋ	duɣijaŋ	sapah			ulo	panah			səɣa
	Kg. Balok Baru		ikaŋ		sapah		puko	ulo	panah	tikuh	kuʃa	səɣa
	Kg. Peramu	ajaŋ	ikaŋ	duɣijaŋ	sapah			ulo	panah			səɣa
	Kg. Pantai Beserah	ajaŋ	ikaŋ		sapah		puko	ulo	panah			səɣa
	PEKAN											
	Kg. Serandu	ajaŋ			sapah			ulo	panah		kuʃa	səɣa
	Kg. Padang Polo	ajaŋ			sapah			ulo	panah		kuʃa	səɣa
	Kg. Bukit Udang		ikaŋ	duɣijaŋ	sapah		puko	ulo	panah		kuʃa	səɣa
	Kg. Pelak	ajaŋ	ikaŋ		sapah		puko	ulo	panah		kuʃa	səɣa
	Kg. Belimbing	ajaŋ	ikaŋ		sapah			ulo	panah		kuʃa	səɣa
	Kg. Salong	ajaŋ	ikaŋ	duɣijaŋ	sapah	bata		ulo	panah			səɣa
	Kg. Batu 5, Sungai Miang			duɣijaŋ	sapah			ulo	panah		kuʃa	səɣa
	Kg. Jambu	ajaŋ	ikaŋ		sapah		puko	ulo	panah		kuʃa	səɣa
	Kg. Tering		ikaŋ		sapah			ulo	panah			səɣa
	ROMPIN											
	Kg. Bukit Ibam	ajaŋ	ikaŋ	duɣijaŋ	sapah	bata		ulo	panah		kuʃa	səɣa
	Kg. Lanjut		ikaŋ		sapah			ulo	panah			səɣa
	Kg. Tanjung Gemok	ajaŋ			sapah	bata		ulo	panah		kuʃa	səɣa
	Kg. Tanjung Gading	ajaŋ	ikaŋ		sapah		puko	ulo	panah			səɣa
	Kg. Bangkong	ajaŋ	ikaŋ		sapah		puko	ulo	panah			səɣa
	Kg. Lubuk Batu	ajaŋ	ikaŋ		sapah			ulo	panah			səɣa
	Kg. Janglau 3				sapah	bata	puko	ulo	panah		kuʃa	
	Kg. Sabak		ikaŋ		sapah	bata	puko	ulo	panah	tikuh	kuʃa	
	MERSING											
	Kg. Belukar Juling	ajaŋ	ikaŋ	duɣijaŋ	sapah	bata			panah		kuʃa	səɣa
	Kg. Penyabong	ajaŋ	ikaŋ	duɣijaŋ	sapah		puko	ulo	panah		kuʃa	səɣa
	KOTA TINGGI											
	Kg. Semayong		ikaŋ		sapah	bata		ulo	panah			səɣa
JOHOR												

As expected, the village points in Terengganu are definitely using the variants of Terengganu dialect (see Table 6). The same variants are being used by speakers in all 26 villages in Pahang and Johor (see Table 5 above). Based on the given data, it is affirmed that the Terengganu dialect is widely spread from Setiu in Terengganu up to Kota Tinggi in Johor. On the contrary, Omar (1993), Collins (1983), and Che Kob (2008) noted that Setiu and Besut districts use the Kelantan dialect instead of Terengganu. This study, however, found that Setiu Laut still uses Terengganu dialect. As mentioned earlier, since Setiu district is located near the border, the influence of Kelantan dialect is expectable.

Generally, as can be seen in both Tables 5 & 6 the lexical variants collected in Terengganu are quite similar as in Pahang and Johor. Only one lexical item that has a diverse match and variation, that is /pukul/ 'hit' which has three different variants, namely [puko], [katɔʔ] and [godɛ]. [godɛ] is particularly used by Kelantan speakers, while [katɔʔ] is only being used in Terengganu and not elsewhere. But the variant [puko] is still found in all village points. Based on the given data, a continuum of Terengganu dialect can be drawn along the east coast, of Peninsular Malaysia.

Table 6: Data on Terengganu dialect

LEKSIKAL	ayam	ikan	durian	sampah	bantal	pukul	ular	panas	tikus	kacau	serai
DAERAH/MUKIM	[aɲ]	[ikaɲ]	[duɲiɲ]	[sapah]	[bantal]	[puko]	[ulo]	[panah]	[tikuh]	[kuʈa]	[səɣa]
KAMPUNG											
KEMAMAN											
Kg Bukit Mentok	aɲ	ikaɲ	duɲiɲ	sapah	bata	katɔʔ	ulo	panah	tikuh	kuʈa	səɣa
Kg Yak Yah	aɲ	ikaɲ	duɲiɲ	sapah	bata	katɔʔ	ulo	panah	tikuh	kuʈa	səɣa
Kg Beris Meraga	aɲ	ikaɲ	duɲiɲ	sapah	bata	katɔʔ	ulo	panah	tikuh	kuʈa	səɣa
Kg Chabang	aɲ	ikaɲ	duɲiɲ	sapah	bata	katɔʔ	ulo	panah	tikuh	kuʈa	səɣa
Kg Cagar	aɲ	ikaɲ	duɲiɲ	sapah	bata	katɔʔ	ulo	panah	tikuh	kuʈa	səɣa
DUNGUN											
Kg Tebing Tembah	aɲ	ikaɲ	duɲiɲ	sapah	bata	katɔʔ	ulo	panah	tikuh	kuʈa	səɣa
Kg Durian Mentangau	aɲ	ikaɲ	duɲiɲ	sapah	bata	katɔʔ	ulo	panah	tikuh	kuʈa	səɣa
Kg Rantau Abang	aɲ	ikaɲ	duɲiɲ	sapah	bata	katɔʔ	ulo	panah	tikuh	kuʈa	səɣa
Kg Nibung	aɲ	ikaɲ	duɲiɲ	sapah	bata	katɔʔ	ulo	panah	tikuh	kuʈa	səɣa
MARANG											
Kg Jambu Bongkok	aɲ	ikaɲ	duɲiɲ	sapah	bata	puko	ulo	panah	tikuh	kuʈa	səɣa
Kg Gong Balai	aɲ	ikaɲ	duɲiɲ	sapah	bata	katɔʔ	ulo	panah	tikuh	kuʈa	səɣa
Kg Pantai Merchang	aɲ	ikaɲ	duɲiɲ	sapah	bata	puko	ulo	panah	tikuh	kuʈa	səɣa
Kg Ru Dua	aɲ	ikaɲ	duɲiɲ	sapah	bata	puko	ulo	panah	tikuh	kuʈa	səɣa
Kg Binjai Bongkok	aɲ	ikaɲ	duɲiɲ	sapah	bata	katɔʔ	ulo	panah	tikuh	kuʈa	səɣa
Kg Kijing	aɲ	ikaɲ	duɲiɲ	sapah	bata	katɔʔ	ulo	panah	tikuh	kuʈa	səɣa
KUALA TERENGGANU											
Kg Pulau Duyung	aɲ	ikaɲ	duɲiɲ	sapah	bata	katɔʔ	ulo	panah	tikuh	kuʈa	səɣa
Kg Tualang	aɲ	ikaɲ	duɲiɲ	sapah	bata	puko	ulo	panah	tikuh	kuʈa	səɣa
Kg Batu Rakit	aɲ	ikaɲ	duɲiɲ	sapah	bata	katɔʔ	ulo	panah	tikuh	kuʈa	səɣa
Kg Pecah Rotan	aɲ	ikaɲ	duɲiɲ	sapah	bata	katɔʔ	ulo	panah	tikuh	kuʈa	səɣa
Kg Pasir Putih	aɲ	ikaɲ	duɲiɲ	sapah	bata	katɔʔ	ulo	panah	tikuh	kuʈa	səɣa
SETIU											
Kg Pangkalan Gelap (setiu laut utara)	aɲ	ikaɲ	duɲiɲ	sapah	bata	katɔʔ	ulo	panah	tikuh	kuʈa	səɣa
Kg Banting Lintang (setiu laut utara)	aɲ	ike	duɲije	sapah	bata	gode	ulo	panah	tikuh	kuʈa	səɣa
Kg Banggol (setiu darat)	aɲ	ikaɲ	duɲije	sapah	bata	gode	ulo	panah	tikuh	kuʈa	səɣa
Kg Bahagia (setiu darat)	aɲ	ike	duɲije	sapah	bata	katɔʔ	ulo	panah	tikuh	kuʈa	səɣa
Kg Bari Besar (setiu laut selatan)	aɲ	ikaɲ	duɲiɲ	sapah	bata	katɔʔ	ulo	panah	tikuh	kuʈa	səɣa
Kg Kubang Puyu (setiu laut selatan)	aɲ	ikaɲ	duɲiɲ	sapah	bata	katɔʔ	ulo	panah	tikuh	kuʈa	səɣa

Before choropleth maps are produced by GIS software, the given data in Tables 5 and 6 have to be classified based on their phonological features, as mentioned earlier. Lexicals with nasal modification are marked with a symbol , nasal deletion with a symbol , liquid deletion with a symbol , fricative modification with a symbol  and monophthongization with a symbol .

ayam ‘chicken’	[aʝaŋ] ●
ikan ‘fish’	[ikaŋ] ●
durian ‘thorny fruit’	[duʝijaŋ] ●
sampah ‘rubbish’	[sapah] ◆
bantal ‘pillow’	[bata] ◆
pukul ‘hit’	[puko] ■
ular ‘snake’	[ulo] ■
panas ‘hot’	[panah] ▲
tikus ‘rat’	[tikuh] ▲
kacau ‘stir’	[kaʝa] ◆
serai ‘lemongrass’	[səʝa] ◆

A choropleth map illustrating the distribution of the given data along the coast from Setiu to Sedili in Kota Tinggi is shown on Figure 3 below. As can be seen, the symbols are overlapping, which implies that the presence of this dialect is indeed productive in all 52 points of the villages under studied. The frequency of its usage can be referred to Table 5 and 6 above. For [sapah] ‘rubbish’ and [panah] ‘hot’, their usage is one hundred percent. Meanwhile, the usage of other lexicals, such as [aʝaŋ] ‘chicken’, [ikaŋ] ‘fish’, [ulo] ‘snake’, [kaʝa] ‘stir’ and [səʝa] ‘lemmongrass’ also show a high percentage, which is more than 60%. Only the lexicals [duʝijaŋ] ‘thorny fruit’, [bata] ‘pillow’, [puko] ‘hit’ and [tikuh] ‘mouse’ show a percentage of usage of less than 50%. It is apparent that the drop in usage of certain lexical items can be attributed to age factors. Adolescents, for instance, are more inclined to use the standard language instead of the local dialect due to the influence of education and mass media. This is established in a study conducted by Hamzah (2018), which shows that almost 80% of adolescents in Perak are unenthusiastic to use Perak dialect, but they are more excited to use the standard Malay language. The same thing happened in Pahang and Johor. Apart from the influence of the mass media and education, adolescents in Pahang and Johor are also well assimilated with local speakers where gradually they tend to use more local dialect than the Terengganu dialect itself. Figure 3 below clearly shows the continuum of the Terengganu dialect implying that it is very dominant along the east coast of Malaysia.

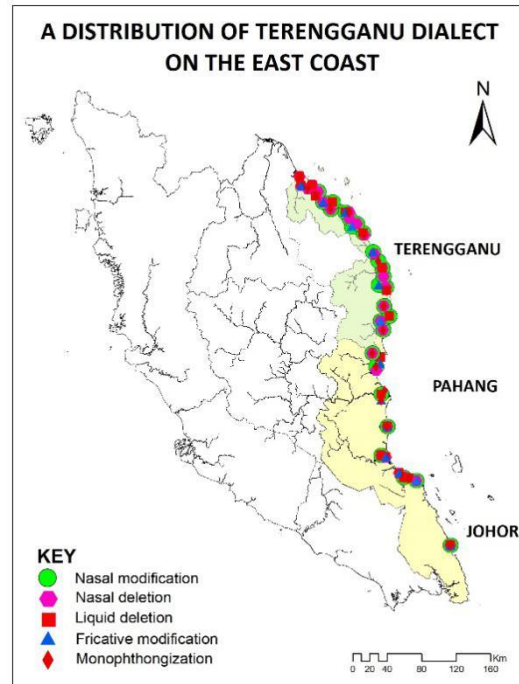


Figure 3: A distribution of Terengganu dialect on the east coast

5.0 NON-LINGUISTIC FACTORS

There are three non-linguistic factors that can be substantiated here in justifying the existence of the Terengganu dialect continuum on the east coast, namely historical, socioeconomic and topographic information.

5.1 Historical Factor

Historical factors are crucial in tracing the spread of the Terengganu dialect along the east coast. It can be used as a point of reference for the existence of the dialect continuum. We begin with the factor of civilization. A society is always being associated as highly civilized if there are sources of literature either in written or oral form. This means that the community has a high literacy rate. For instance, the Malay civilization during the reign of Malacca sultanate had momentous manuscripts, literature materials either in oral or written form. Another piece of evidences vindicating civilization is the discovery of inscription stone noting the presence of a writing system, and knowledge about religion, custom and tradition. This suggests that the society had a culture of thinking and appreciating knowledge. According to Mohd Yatim and Nasir (1990), the Terengganu Inscription Stone was found on the right side of Sungai Tersat, Kampung Buluh, Kuala Berang, Hulu Terengganu in 1887. Based on a study conducted by Al-Attas (1970), the inscription stone was imprinted on 702 Hijri, which is equivalent to 1303AD.

A legal charter written on the stone served as a proof that the Islamic legal system had been practiced in the community (Mohd Yatim & Nasir, 2007). In sum, the Terengganu Inscription Stone has become a strong evidence in marking the existence of Islam in Terengganu. The influence of Jawi and Sanskrit writing system were documented on the inscription stone (Mohd Yatim & Nasir, 2007). In his article entitled *Batu Bersurat Terengganu: Perspektif Matematik* (translated Inscribed Stone of Terengganu, a Mathematical perspective), Salleh (2010) describes the numbering system that was practiced in that century, and this mathematical aspect was imprinted on the Terengganu inscription stone. He classified the numbering system into numbers or counting, ordinal numbers, time (days, months, years), units of measurement or scales, and logical reasonings.

To sum up, what are transpired in the Inscription Stone about the civilization of Malay community during that era can be summarized as follows:

1. They embraced an Islamic faith (Islamic civilization)
2. They had an administrative and political system
3. They had a legal system
4. They had a high social justice (inscribed law)
5. They had knowledge of mathematic, such as *sepuluh tengah tiga* ‘ten middle three of fractions’, weight scale system like *tahil*, *paha* and *saga* and counting of ordinal numbers like *pertama* ‘first’, *keempat* ‘fourth’, *kelima* ‘fifth’ and *keenam* ‘sixth’.
6. They had a calendar system (the use of Friday and the month of Rejab on the inscription stone)
7. They had a writing system, namely Jawi script, which is an innovation from rencong, pallawa and kawi writing.
8. They had remarkable economic and trade activities (the use of gold, penalty possessions, unit of measurement, rule and regulations for creditors).
9. They had knowledge of astronomy (the practice of *Buruj al Hamal* or zodiac constellation Aries, and it was noted that the Terengganu Malay community are skillful at using the sky observation instrument (astrolabe) invented by Islamic scholars (Mohamed Anwar, 2019).

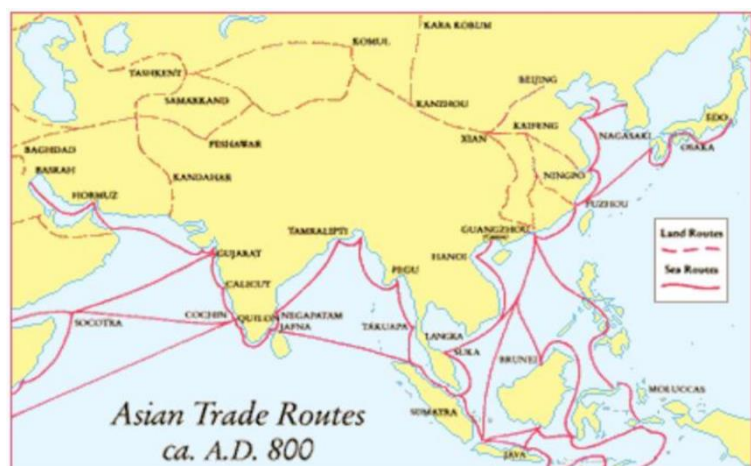
Due to the advancement of their civilization, it is not surprising that the Terengganu Malays could travel to other places for trade purposes, open new settlements and even have inter-state marriage. According to the book entitled *Sulalat as Salatin* (Saleh, 1997), Megat Panji Alam,

Raja Muda Terengganu (Crown Prince), was supposed to marry Tun Teja from Pahang. But she was abducted by Hang Tuah and taken to Melaka to be pronounced as the designated queen for the Sultan (Sultanate) of Melaka. This incident shows that inter-state marriage was quite familiar since in the 15th century. Hence, it is common for more Terengganu people migrated to Pahang and Johor to marry the locals and subsequently settled in those states. This is one of the reasons why the Terengganu dialect is widely spread in the states of Pahang and Johor.

5.2 Socio-Economic Factor

The next contributing element of Terengganu's excellence is the socio-economic factor, which was noted in the book entitled *Morfologi Bandar Kuala Terengganu* (The Morphology of Kuala Terengganu City) published by *Jabatan Perancangan Bandar dan Desa Semenanjung Malaysia Kementerian Perumahan dan Kerajaan Tempatan*. As stated in this book, the city of Kuala Terengganu was a stopover for traders from Asia. Terengganu had a trade relation with China.

The book further notes that the Malay Peninsula is located at the cruise known as Maritime Silk Road between China and the Middle East (Figure 4 as shown below). This route has become the main route for Chinese, Arab, Persian and Indian merchant ships. Therefore, Terengganu is a well-known state among traders, especially among the Chinese traders who went through the Silk Road to go to the Middle Eastern countries (Muhamad, 2018). The map in Figure 4 below gives an overview of the trade routes which involved Terengganu as one of the Silk Road states.



Sumber : C.P.Filsqerold –“The Southern Expansion of the Chinese People–Southern Fields & Southern Ocean”, 1974

Figure 4: The Map of Asian Trade Routes

In the years 1413 century AD – 1415 century AD, an enormous entourage voyage led by Admiral Cheng Ho had passed through Terengganu (Ding-Jia-Lu). As noted in the book entitled 'Ying Ya Sheng Lan' written by Ma Huan and Xing Cha Sheng Lan, there were 27,800 people on board who joined this delegation for the 4th time with 200 ships from China. The mission was to strengthen good-neighborly ties between China and the countries in Southeast Asia, the Indian Ocean, the Arabian Peninsula / Persia and East Africa as well as to promote international trade. It was mentioned also that around 1500AD, there was a migration of the Chinese community from the southern part of Hokkien State, China to explore Sungai Terengganu, Sungai Telemong and Sungai Nerus to open new lands for agriculture. Apart from agriculture, the Chinese community in Terengganu had also introduced a system of exporting activities of local products and the regulation of using coins (Jabatan Perancangan Bandar dan Desa Semenanjung Malaysia Kementerian Perumahan dan Kerajaan Tempatan, 2009).

Another great talent of the Terengganu people was building boats and ships. Sheppard (1980) made a remark about a famous carpenter in Terengganu in the early 20th century, named Mr. Long. He was invited by the royal highness to build a palace and also a royal boat under the forced labor system and that became his permanent job. On one occasion, he was also invited by Sultan Ibrahim from Johor to make a ceremonial boat. His art work had been used as a souvenir to be sent to England. In fact, according to Sulaiman, Ismail, and Muhamad (2019), the way of life of the Terengganu Coastal community was so much connected to the water environment, the culture of building and using boats as the main water transport was gradually enriched. Historical documents noted that Terengganu was one of the busiest boat and yacht destinations in the past. Its prominence had attracted many maritime communities either local or international to come and pay a visit. The advent of foreign yachts seems to have an influence on local boat architecture where many boats in various sizes and shapes were built. According to them again:

The Terengganu coast is a good port and is easily accessible by boats and merchant ships, especially on the coast of Kuala Terengganu. The natural and strategic development of the port has prompted the coastal community to be skilled in the carpentry making of various types of boats. Along with the development of handicrafts in Terengganu, various types of boats have been produced by the coastal community for navigation and trade purposes

(Sulaiman et al., 2019, p. 16).

As mentioned earlier, in the present study, a total of 26 village points in Pahang and Johor, as well as 26 village points in Terengganu located on the east coast, were studied. More than 400 respondents were involved. From the interviews conducted with the respondents in Pahang and Johor, an average of them said that they came as fishermen and eventually resided in Pahang and Johor. Throughout the studies in Balok, Pantai Batu Hitam and Cherating, most of the respondents are fishermen and sellers of seafood product along the road to Kuantan. The industrial site in the Semambu area is a factor of attraction in the migration of the Terengganu community to the state of Pahang. Another attractive factor that draws many Terengganu residents to migrate to Kuantan is the presence of Kuantan port. Many fish-based foods such as *keropok keping*, *keropok lekori*, *sata* and dried seafood are easily accessible here.

The same situation occurs in Mersing and Kota Tinggi. A respondent in Kg. Semayong, Sedili, Kota Tinggi said that his family moved to Kota Tinggi and remained as a fisherman there. In fact, their house is so close to the collection center of fresh fishes from the sea. However, the community in Kota Tinggi is not as large as in Mersing. The use of the Terengganu dialect is easier to be recognized in Mersing as compared to the one in Kota Tinggi. According to Samsudin, Mohd Radzi, Abdul Manaf, and Saim (2010) during the British administration, Mersing maintained its importance as a sea route to the east coast states of Pahang, Kelantan, Terengganu and Johor (Southeast). These sea routes (through the three states) are essential for economic and trade activities, especially for the events of European merchant ships that carry forest products, such as agarwood, sandalwood, rattan, resin and rubber. At that time, Mersing had already become an important city and served as the main transportation route from Johor to the East Coast states of Pahang, Terengganu and Kelantan. This is one of the contributing factors that triggered the phenomenon of migration of East Coast residents to the Mersing district.

5.3 Topography Factor

The non-linguistic factors given above can assist us in explaining the existence of Terengganu dialect continuum on the east coast of Peninsular Malaysia. Previous studies by Jalaluddin et al. (2019a, 2019b) prove that the non-linguistic factors have a big influence in determining the spreading of a dialect to an area, particularly through topographic elements.

Topography is related to landforms such as lowlands, highlands and rivers (see Figure 2 shown above). The vastness and richness of South China Sea has made it possible for fishermen to earn a living. But the question is, why this Terengganu dialect is widely spoken along the coast and not on the inland areas. As can be seen in Figure 2, topographically, there are many

highlands in the inland areas of Pahang and Johor (indicated by symbol ▲ (hills and highlands)). They become a barrier to the spreading of this dialect towards the inland areas. This is the main reason why the Terenggnu dialect is not found in Maran, Temerloh, Raub and so on, except in isolated cases that resulted from marriage. The same explanation goes for Johor. Terengganu dialects that were found and actively used were in Mersing and Kota Tinggi, but not in Kulai, Kluang, Pontian, Muar, Batu Pahat, Segamat and Johor Bharu. The detection of the Terengganu dialect in Johor is not so apparent as in Pahang because in the former there are lot of forest reserves and lack of inhabited areas. Thus, noticeably there is a large empty space between Mersing and Kota Tinggi. The distance between Terengganu and Johor is much further as compared to Pahang. Therefore, the process of dialect dissemination is quite limited in Johor. The same causal effect of topography can also be observed in the case that involved Minang and Rawa dialects in Tapah where the place is surrounded by highlands of the Tititwangsa Range. Hence, the prevailing Perak dialect failed to penetrate into the area. The similar occurrence happened in Taiping which is located adjacent to Kuala Kangsar. It is apparent that the people of Taiping are using the Kedah dialect, instead of the prominent Perak dialect as spoken in Kuala Kangsar. And again, the surrounding highlands blocked the spreading of Perak dialect into Taiping (Ahmad et al., 2018; Hamzah, Jalaluddin, & Ahmad, 2017).

Another typical case pertaining to topography can also be witnessed in Langkawi which involved the spreading of Malay dialects. Topographically, Langkawi island has many bays and it is secured from strong westerly winds. Its strategic location attracts many people from Satun, Thailand to come and make a living there, and work as fishermen, restaurant cooks and shopkeepers. Family ties and marriages from the past also encourage them to visit Langkawi more often. They are given a monthly immigration pass to enable them to commute to Langkawi easily. Consequently, the dialect of Satun Malay is widely spoken in Pulau Langkawi (Jalaluddin et al., 2019a).

In another study, Jalaluddin et al. (2019b) also explain how non-linguistic factors play an important role in determining the spreading of Thai Malay dialect in Perlis, Kedah, Penang and northern Perak. Historical catastrophe of wars between Malay and Thai and the oppression on the Thai Muslims in the 19th century led to many Thai Muslims fled to the highlands in the north of Malaysia (Jalaluddin, 2015). In addition, business activities such as in Penang also encouraged them to come to Malaysia and subsequently spread their dialects in the country (Mohamed Sultan, Jalaluddin, Radzi, Kasdan, & Suhaimi, 2019). In sum, all the above mentioned factors and justifications can also be used in explaining how the Terengganu dialect

being so dominant along the east coast and subsequently forms a strong dialect continuum.

6.0 CONCLUSION

The present study has successfully mapped the continuum of Terengganu dialect along the east coast of Peninsular Malaysia. Its existence has been adequately explained and evidently supported by linguistic and non-linguistic information. The attested data collected in the field were fortified further by historical, socio-economic and topographic facts. The phonological features represented in the data clearly confirm that the dominant dialect spoken along the east coast is certainly the Terengganu dialect. It is worthily noted that scientific studies require reengineering. For instance, the less appealing traditional dialectology or dialect study should be revitalized by a multidisciplinary approach, particularly with the application of cutting-edge technology. By utilizing the GIS tool, we can accurately plot the distribution of the dialect under study, and concurrently observed and analysed the topography of the area as shown in the generated map. The dialect continuum established in this study is therefore far superior than the one suggested by Che Kob (2008) because in the latter the map was imprecisely drawn. In conclusion, a multidisciplinary approach research assisted by high-tech tools can inclusively offer an excellent value-added result as compared to the exclusive traditional study.

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