

KUALA MUDA HISTORICAL SITE IN FULFILL REQUIREMENT OF TOURISM INDUSTRY IN KEDAH

ALI, M. A.¹ – HALIM, M. H. A.^{2*} – MASNAN, S. S. K.² – SAIDIN, M.²

¹ *Jabatan Pembangunan Masyarakat, Majlis Perbadanan Sungai Petani, Kedah, Malaysia.*

² *Pusat Penyelidikan Arkeologi Global, Universiti Sains Malaysia, Pulau Pinang, Malaysia.*

**Corresponding author
e-mail: mhasfarisham[at]gmail.com*

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Abstract. Archaeological research in the district of Kuala Muda since the 1980s until now have enabled several historical sites to be identified and studies conducted to complete the historical chronology that has occurred in this district. As a result, 52 archeological sites of early civilizations and 26 historical sites have been successfully classified, identified and developed such as the Sungai Batu Archaeological Complex, Pengkalan Bujang Archaeological Complex and Bukit Batu Pahat Archaeological Complex. Due to the need for the development of the district tourism sector, there are seven tourism packages such as Package 1: Pusat Interpretasi Pelancongan Kuala Muda (PIPKM), Package 2: Puncak Jerai, Package 3: Rekreasi Air Terjun Kuala Muda, Package 4: Mineral Kuala Muda, Package 5: Kedah Tua, Package 6: Bakau Sungai Merbok and Package 7: Galeri Tsunami dan Pasar Bisik were established to strengthen the tourism sector in Kuala Muda district with the Kuala Muda Tourism Interpretation Center (PIPKM) being made a one-stop tourism center for the district.

Keywords: *survey, mapping, historical tourism, iconic tourism, byproduct tourism, Kuala Muda district*

Introduction

A multidisciplinary systematic research conducted in the Kuala Muda district to date has been able to classify iconic and byproduct tourism for the historical category with an area of 822 square kilometers. This district which has 16 mukims such as Kuala, Bukit Meriam (there is Sayak Island), Merbok, Haji Kudong, Kota, Rantau Panjang, Pekula, Pinang Tunggal, Sidam Kiri, Telui Kiri, Simpor, Sungai Pasir, Sungai Petani, Bujang, Semeling and Gurun (Komoo and Said, 2019; Ahmat, 1984) (*Figure 1*) have recorded the discovery of important historical sites and need to be preserved as a district tourism product in the state of Kedah.



Figure 1. Mukims in Kuala Muda district.
Source: Department of Irrigation and Drainage (DID) (2014).

Materials and Methods

The research of the historical tourism sector of Kuala Muda district until 2021 has been able to elevate 52 archeological sites of early civilizations and 26 historical sites into iconic and byproduct tourism areas. In general, an iconic tourism product is a product that is known based on the validity of facts through academic studies (Grayson and Martinec, 2004) and provides a world-class impact to the area that has it based on the Outstanding Universal Value (OUV) (Halim and Saidin, 2019; Mohamed et al., 2019; Mokhtar and Saidin, 2019; Rapi and Saidin, 2019). Thus the area which has this iconic tourism product is able to provide an excellent tourism image due to its status which is the pride of the country, state and local (Jenkin, 2003). In fact, Holt (2004) thinks that the iconic tourism product can be made a major tourism icon to maximize tourist visits because of the uniqueness, privilege and ability of the product in attracting domestic and international tourists to the area.

The byproducts tourism is a classification of tourist areas whose data does not give a global impact such as iconic tourism but is still upgraded to diversify the scope of tourism to tourists. Among the byproducts tourism classifications that were also recorded during the survey and mapping conducted in Kuala Muda district were religious tourism, agro, recreation and ecotourism, culture and heritage, health, education, sports and gastronomy besides historical tourism itself (*Figure 2*).

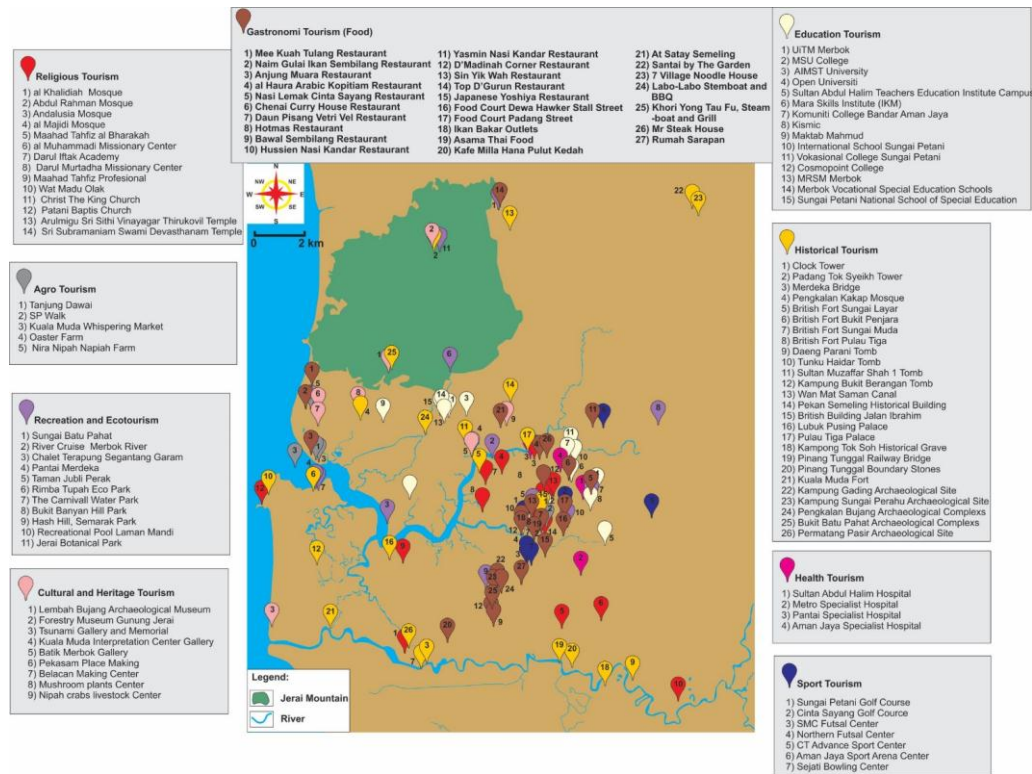


Figure 2. Tourism classification at Kuala Muda district.

Based on the validity of the facts, it clearly shows that Kuala Muda is able to provide a variety of attractive tourism offers for tourist satisfaction. In order to reveal the uniqueness and specialty of Kuala Muda land in the national tourism sector, this paper will discuss the scientific evidence of iconic and byproduct tourism for the historical category in this district.

Results and Discussion

Iconic tourism product (historical classification) at Kuala Muda diatricht

Based on survey and mapping of Kuala Muda district since 2019 until 2021 has mapped a total of 52 historical tourism sites (Table 1). The results of the research enabled the archaeological evidence at the Sungai Batu Archeological Complex (Figure 3) which represents the sustainability of the Kedah Tua Kingdom to be raised as the iconic tourism product in this district. The uniqueness of this area compared to similar sites in Southeast Asia is based on its oldest chronometric dating in the region.

Table 1. Archeological heritage site of historical category in Kuala Muda district.

No.	Sites	Uniqueness	Reference
A	Pengkalan Bujang Archeological Complex		
1	19	1. Hindu temple 2. 11-13th century AD 3. Vimana-Mandapa from brick	Rahman (1984) Wales (1940)
2	21	1. Buddha temple 2. 9-10th Century AD 3. Cross-shaped architecture	Rahman and Yatim (1992)
3	22	1. Mahayana Buddhist temples are influenced by Tantric teachings	Rahman (1984) Wales (1940)

4	23	2. 9th Century AD 3. Vimana-Mandapa from brick 1. Hindu temple 2. 12th Century AD 3. Vimana-Mandapa from brick	Rahman and Zakaria (1993) Hergoualch (1992)
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B	Bukit Batu	Archeological Complex	
5	8	1. Hindu temple 2. 7-8th Century AD 3. Vimana-Mandapa from brick	Wales (1940)
6	16*	1. Hindu temple 2. 11th Century AD 3. Vimana-Mandapa from brick	Wales (1940)
7	21**	1. Buddha temple 2. 9-10th Century AD 3. Cross-shaped architecture	Rahman and Yatim (1992)
8	50***	1. Hindu temple 2. 12-13th Century AD 3. Vimana-Mandapa from brick	Wales (1940)
<hr/>			
C	Sungai Batu	Archeological Complex	
9	SB1A	1. Jetty structure 2. 3rd Century AD 3. The architecture is directed and slopes towards the river	Hassan (2018)
10	SB1B	1. Aminisme and Buddha temple 2. 2nd Century AD 3. The structure is a circle at the base, a rectangle in the middle and a small circle at the top	Hassan (2018)
11	SB1C	1. SB1B supporting building 2. 3rd Century AD 3. Ruins building of brick	Mohamed (2014)
12	SB1D	1. SB1B supporting building 2. 1st Century BCE 3. Ruins building of brick	Mohamed (2014)
13	SB1E	1. SB1B supporting building 2. 3rd Century AD 3. Ruins building of brick	Mohamed (2014)
14	SB1F	1. SB1B supporting building 2. 12-13th Century AD 3. Ruins building of brick	Mohamed (2014))
15	SB1G	1. Iron Smelting Site 2. 4-18th Century AD 3. Find base of the furnace, tuyure, iron ore, iron ingots and iron slag	Mokhtar (2019)
16	SB1H	1. Iron Smelting Site 2. 4-18th Century AD 3. Find base of the furnace, tuyure, iron ore, iron ingots and iron slag	Halim (2014)
17	SB1J	1. Jetty structure 2. 1st Century BCE 3. The architecture is directed and slopes towards the river	Halim (2014)
18	SB1K	1. Jetty structure 2. 1st Century BCE 3. The architecture is directed and slopes towards the river	Halim (2014)
19	SB1L	1. Jetty structure 2. 1st Century AD 3. The architecture is directed and slopes towards the river	Halim (2014)
20	SB1M	1. Administrative Structure 2. 1st Century BCE 3. Small room and horizontal monument	Aminuddin (2015)
21	SB1N	1. Administrative Structure 2. 1st Century BCE 3. Small room and horizontal monument	Aminuddin (2015)
22	SB1Q	1. Administrative Structure 2. 2nd Century BCE 3. Small room and horizontal monument	Yusof (2016)
23	SB1R	1. Administrative Structure	Yusof (2016)

		2. 5th Century BCE 3. Small room and horizontal monument	
24	SB1S	1. Administrative Structure 2. 5th Century BCE 3. Small room and horizontal monument	Ahmad (2016)
25	SB1T	1. Administrative Structure 2. 2nd Century BCE 3. Small room and horizontal monument	Ahmad (2016)
26	SB1U	1. Administrative Structure 2. 2nd Century AD 3. Small room and horizontal monument	Ahmad (2016)
27	SB1V	1. Administrative Structure 2. 3rd Century AD 3. Small room and horizontal monument	Ahmad (2016)
28	SB1W	1. Administrative Structure 2. 7th Century AD 3. Small room and horizontal monument	Yusof (2016)
29	SB1X	1. Administrative Structure 2. 2nd Century AD 3. Small room and horizontal monument	Yusof (2016)
30	SB1Y	1. Jetty structure 2. 2nd Century AD 3. The architecture is directed and slopes towards the river	Halim (2019)
31	SB1Z	1. Administrative Structure 2. Dating has not been obtained 3. Small room and horizontal monument	Ahmad (2016)
32	SB1ZZ	1. SB1B supporting building 2. Dating has not been obtained 3. Ruins building of brick	-
33	SB1ZY	1. Iron Smelting Site 2. 4th Century BCE 3. Find base of the furnace, tuyure, iron ore, iron ingots and iron slag	Mokhtar (2019)
34	SB1ZX	1. Jetty structure 2. Dating has not been obtained 3. The architecture is directed and slopes towards the river	Zakaria (2020)
35	SB1ZT	1. Administrative Structure 2. Dating has not been obtained 3. Small room and horizontal monument	Hamid (2020)
36	SB2A	1. Iron Smelting Site 2. 1st Century AD 3. Find base of the furnace, tuyure, iron ore, iron ingots and iron slag	Mokhtar (2012)
37	SB2B	1. Jetty structure 2. 4th Century AD 3. The architecture is directed and slopes towards the river	Zakaria (2014)
38	SB2C	1. Iron Smelting Site 2. 8th Century AD 3. Find base of the furnace, tuyure, iron ore, iron ingots and iron slag	Molinka (2013)
39	SB2D	1. Jetty structure 2. 6th Century BCE 3. The architecture is directed and slopes towards the river	Zakaria (2014)
40	SB2E	1. Jetty structure 2. 3rd Century BCE 3. The architecture is directed and slopes towards the river	Halim (2014)
41	SB2F	1. Iron Smelting Site 2. 1st Century BCE 3. Find base of the furnace, tuyure, iron ore, iron ingots and iron slag	Mokhtar (2019)
42	SB2G	1. Administrative Structure 2. 5th Century BCE 3. Small room and horizontal monument	Halim (2019)
43	SB2H	1. Iron Smelting Site 2. 8th Century BCE	Mokhtar (2019)

		3. Find base of the furnace, tuyere, iron ore, iron ingots and iron slag	
44	SB2J	1. Jetty structure 2. 4rd Century Century 3. The architecture is directed and slopes towards the river	Halim (2019)
45	SB2K	1. Iron Smelting Site 2. 4th Century AD 3. Find tuyere, iron ore, iron ingots, iron slag, shells and animal bones	Pusat Penyelidikan Arkeologi Global (2013a)
46	SB2L	1. Iron Smelting Site 2. 5th Century AD 3. Find tuyere, iron ore, iron ingot, iron slag and shells	Pusat Penyelidikan Arkeologi Global (2013b)
47	SB2M	1. Iron Smelting Site 2. 3rd Century AD 3. Find tuyere, iron ore and iron slag	Pusat Penyelidikan Arkeologi Global (2013c)
48	SB2N	1. Iron Smelting Site 2. 3rd Century AD 3. Find tuyere, iron ore and iron slag	Pusat Penyelidikan Arkeologi Global (2013d)
49	SB2P	1. Iron Smelting Site 2. 3rd Century AD 3. Find tuyere, iron ore and iron slag	Pusat Penyelidikan Arkeologi Global (2013e)
50	SB2Q	1. Iron Smelting Site 2. 6th Century AD 3. Find base furnace, tuyere, iron ore and iron slag	Pusat Penyelidikan Arkeologi Global (2013f)
51	SB2R	1. Iron Smelting Site 2. Dating has not been obtained 3. Find tuyere, iron ore and iron slag	Pusat Penyelidikan Arkeologi Global (2013g)

Notes: * means origin from Pendiut Village; ** means origin from Pengkalan Bujang Village; *** means origin from Bendang Dalam Village.

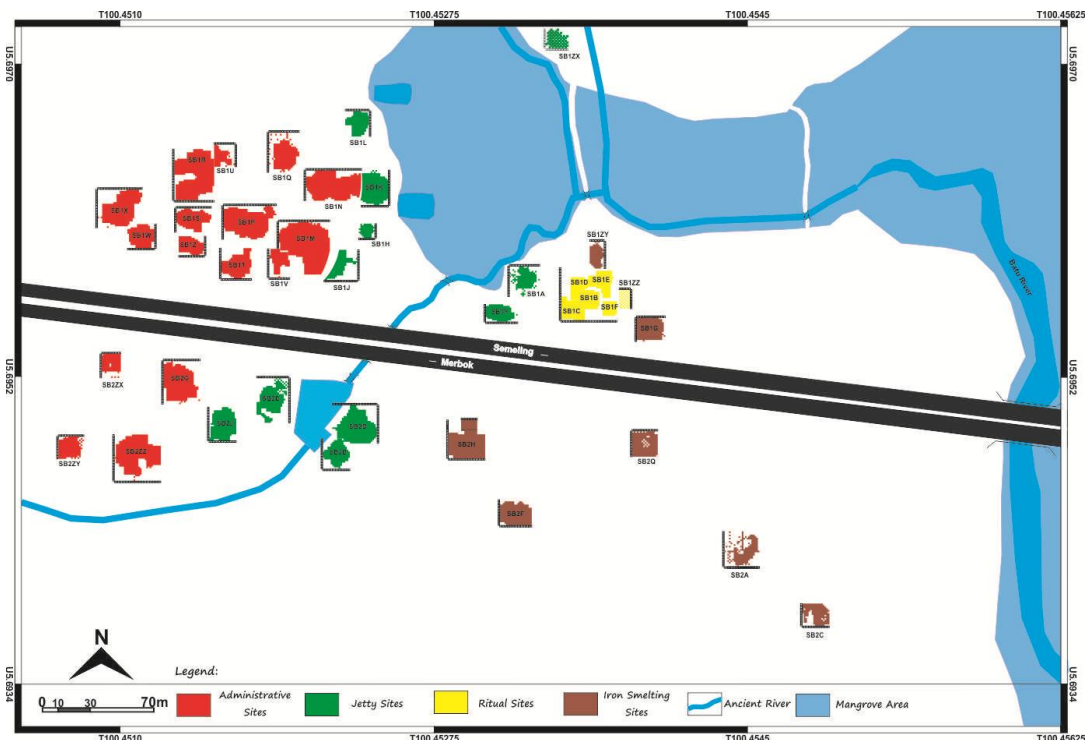


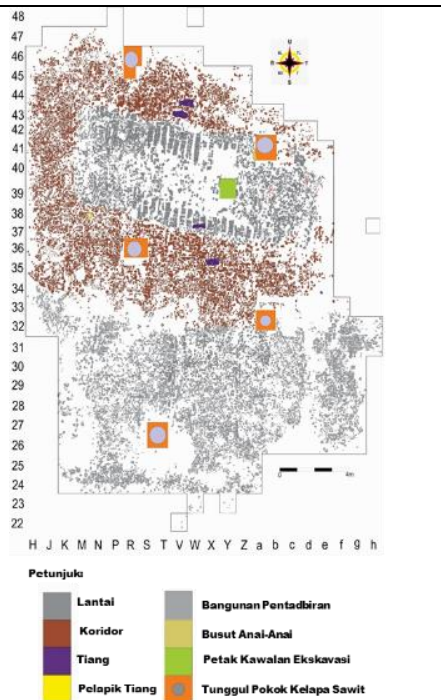
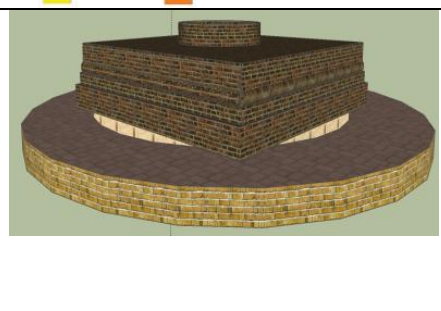
Figure 3. Sungai Batu Archeological Complex located in the Kuala Muda district which has been involved in the world iron industry since 788 century BCE.

Chronometric dating of OSL, TL and radiocarbon carried out on brick samples (for monument sites) and charcoal (for iron smelting sites) revealed evidence this area has been inhabited as a iron industry area since 788 century BCE (Saidin et al., 2019). In

fact, the dating is also able to determine the structure of the jetty was built since 582 century BCE, administrative monument since 487 century BCE and the ritual monument was built since 110 century AD (Saidin et al., 2019). The academic research conducted at the Sungai Batu Archaeological Complex allowed the specialties and uniqueness of this site to be classified which ultimately enabled the proposed OUV (Outstanding Universal Value) to be recorded (*Table 2*). Based on the OUV clearly demonstrates its world-class privilege which allows the UNESCO world heritage site nomination draft to be produced to be nominated jointly with geology of Gunung Jerai and Merbok River Biosphere (*Figure 4*) under Jerai Geopark concept.

Table 2. Sungai Batu Archeological Complex outstanding universal value.

No.	Function	OUV	Plotting site
1	Iron smelting sites	<ul style="list-style-type: none"> -The only early civilization based on the economy of the iron industry since 788 century BCE. -The Sungai Batu complex reveals the world's largest tuyere store. -Based on the meaning of the nickname Kedah Tua by almost every country in the world which means the port city related to black ore "iron" shows that Kedah Tua is the world's source of iron. 	
2	Jetty sites	<ul style="list-style-type: none"> -Most complete of jetty architectural of the early world civilization built since 582 century BCE. -Jetty structure built for the purpose of exporting Kedah Tua iron ingots since the sixth century BCE. -The only area in the world that reveals so many jetty structures (11 sites) in the vicinity of a river. 	

<p>3 Administrative sites</p>	<p>-The first early civilizations revealed clear and complete evidence of the architecture of port management as early as 487 century BCE. -The first discovery of iron export port management architecture in the early world civilization. -Sungai Batu as the most complete iron smelting center and iron export management.</p>	
<p>4 Ritual sites</p>	<p>-The only monumental architecture that has three architectural elements 1) circle at the base, 2) a rectangle in the middle and 3) a small circle on it since 110 century AD. -Reveals the development of continuously used from the beliefs of animism to Hindu Buddhism. -Represents the development of the early civilization of the iron industry in Kedah Tua</p>	

Sources: Halim and Saidin (2019), Mokhtar and Saidin (2019), Rapi and Saidin (2019), and Mohamed et al. (2019).

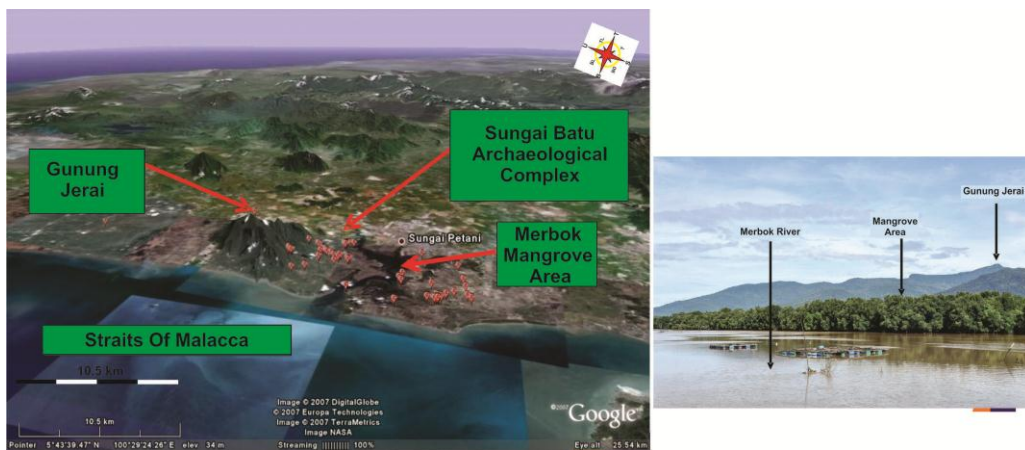


Figure 4. The location of Gunung Jerai and the biosphere of Merbok River which was nominated jointly with the geoarchaeology of Sungai Batu as a UNESCO world heritage site.
Source: Saidi (2016).

The chronometric dating makes the Sungai Batu archaeological Complex among the oldest civilizations in Southeast Asia whose existence is earlier than other kingdoms in

Southeast Asia (Munoz, 2006) and contemporaneous with the Roman civilization in Europe, the Maya in Mesoamerica and Africa (Figure 5).

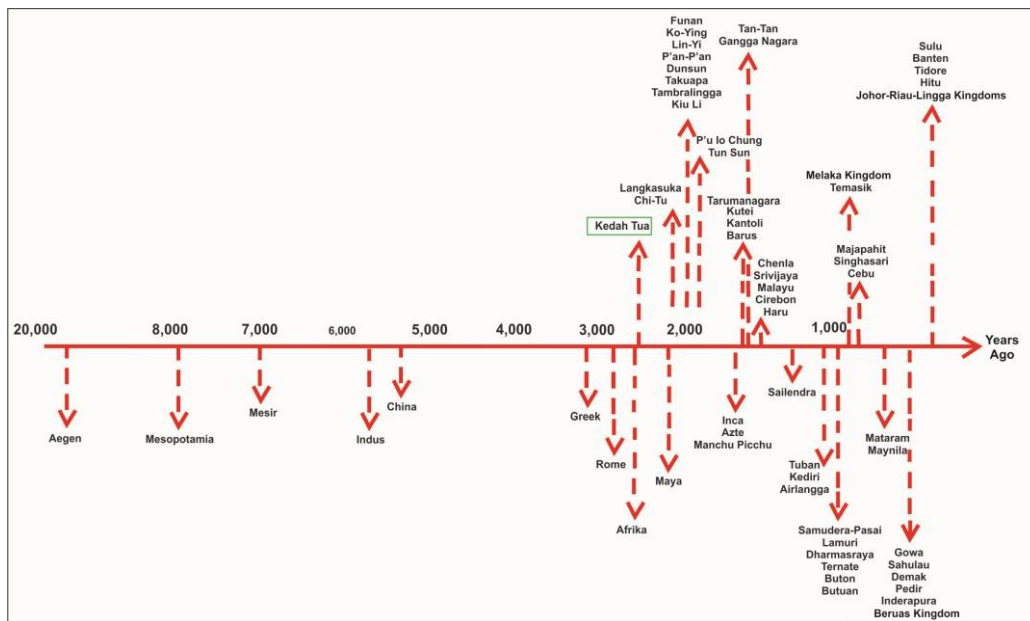


Figure 5. Chronology of the Kedah Tua Kingdom in the early world civilization.

Source: Saidi (2016), Qin and Xiang (2011), Munoz (2006), Houston (1998), and Andah (1981).

Furthermore, world-class archeological research until 2021 have not recorded site findings that reveal evidence of iron industry, jetties, administrative and ritual monuments in the same area also show the specialty of archaeological studies in this area. Table 3 is a data classification of early world civilization sites that have evidence of iron, copper and bronze industries that have conducted a comparative study with the Sungai Batu archaeological site which clearly reveals the Sungai Batu Archaeological Complex is the only one in the world that reveals evidence of iron industry complete with river jetty structure, port management building (administrative), ritual and religious in the same area.

Table 3. The site of the iron, copper and bronze industries of early civilization.

No.	Civilization	Sites	Notes
1	Southeast Asia	Santubung, Nong Nor, Khok Phanom Di, Ban Na Di, Non Nok Tha, Ban Chiang, Non Nong Chik, Ban Puan Phu, Ban Tong, Ban Tam Yae, Ban Loet, Don Klang, Ban Kao Din Tai, Ban Non Wat, Khao Sam Kaeo, Sa Huynh, Zi-O, Pandwin and Nyaunggan.	No discovery of port/jetty structures, administrative and ritual monuments was recorded near the site.
2	East Asia	Gansu-Qinghai, Zongri, Gamatai, Heishuigou (Xichengyi), Xinjiang, Zhukaigou, Xiajiadian, Shaanxi, Shandong, Jiangzhai, Zhangye, Xiaohe, Huoshaogou, Mogou, Mjiayuan, San Xingdui, Jinsha, Hanzhong, Zhukaigou, Shilou, Liangdaicun, Laoniupo, Houma, Yuanqu, Erdoajingzi, Dongheishan, Yinxu, Yexian, Shuangdun, Dayangzhao, Zhongyuan, Sanxingdui Pit, Yunnan, Yongzhi, Xinjiang, Sichuan, Xingye Country, Jinlingzhen, Qeshan and Guangdong.	No discovery of port/jetty structures, administrative and ritual monuments was recorded near the site.

3	South Asia	Eran, Noh (Rajasthan), Asur Munda, Andhra Pradesh, Madhya Pradesh, timur Uttar Pradesh, Bihar, Benggal, Orissa, Naikund, Sigiriya, Hallur, Nagpur, Saraswati, Pandu Rajar Dhibi, Atranjikhera, Natarhat Plateau, Sigirya, Bukit Samanalawewa, Kiri Oya, Dikyaya-Kanda and Dehigahao-ala-Kanda.	No discovery of port/jetty structures, administrative and ritual monuments was recorded near the site.
4	West Asia	Lembah Timna, Ein-Yahav, Tel Nami, Tell Hammeh, Tel Abu Matar, Umm an-Nar, Salut, Ras Shamra, Ed-Dur, Sinai, al-Maysar, Khirbet Hamra Ifdan, En Yahav-Arabah, Nahal Mashmar, Wadi Abu Gerida, Wadi Dara, Kushan, Margiana, Kuil Oxus, Fargana, Osrusana, Tepe-i-Iblis, Tepe Ghabristan, Arslantepe and Sideri.	No discovery of port/jetty structures, administrative and ritual monuments was recorded near the site.
5	Europe	Steno, Kato Zakro, Pangaion Range, Khobi-Ochkhomuri, Supsa-Gubazeuli, Choloki-Ochkhomuri, Chakvistkali, Chorokhi, Skhalta-Adjaristskali, Liguria, Piazzetta Epulione, Adjara, Guria dan Piazzetta Castromediano, Lecce, Cyprus, Sardinia, Levent and Greece.	No discovery of port/jetty structures, administrative and ritual monuments was recorded near the site.
6	Africa	Akjoujt, Meroe, Ashanti, Benin, Agadez, Igbo Ukwu, Mapungubwe, Damagaran, Kwara, Limbo, Kisarawe, Kwale, Nampula, Zitondo, Kilwa, Manda, Shanga, Chibuene, Kisiju, Ungwana, Abungu, Kaole, Aksum, Thamusida, Nyika, Debbat El Eheima, Do Dimmi, Taruga, Nsukka, Daboya, Jenne-Jeno, Atwetuereboose, Daima, Gabon, Rwanda, Burundi, KM2 & KM3 (Tanzania), Nkese, Tchissanga, Divuyu, Matola, Enkwazimi, Mzonjani, Silver Leaves, Eiland, Broederstroom, Mabveni, Katuruka and Botswana.	No discovery of port/jetty structures, administrative and ritual monuments was recorded near the site.
7	Mesoamerica	Jiskairumoko, Michoacan, Guerrero, Jalisco, Colima, Nayarit, Lamanai, Amapa, Tlacotepec (Lembah Toluca), Xicalango, Chetumal, Chamelecon, Honduras, Veracruz dan Progreeo Lagoon, Utatlan, Lamanai, Tomatlan, Cojumatlan and Tizapan.	No discovery of port/jetty structures, administrative and ritual monuments was recorded near the site.

Source: Halim and Saidin (2019).

In addition, the uniqueness of the Sungai Batu Archaeological Complex in the world iron industry is clearly reinforced by records of early shipping and trade especially from the poem Pattinappalai (2nd century BCE) which records the call of Kedah Tua (*Figure 6*) by the name Kazhagam which means iron (Thilakavathy, 2019). Even the Tamil epic record of Parunkahtai (10th century AD) confirms the occurrence of the process of iron trade from Kataram to be used as a chariot. Al-Kindi and al-Biruni in their notes also confirmed the world's best iron in the 1st century AD originated from three places namely Yemen, Hindi and Kalah (Kedah Tua) which strengthened the quality of Kedah Tua iron products (Hoyland and Gilmour, 2006).






Figure 6. Nickname according to Kedah Tua which means iron and port.

I-Ching recorded in his notes that iron products from Che-cha (Kedah Tua) measuring three fingers were exchanged for five coconuts in the Nicobar Islands (I-Tsing, 1896). Even the call Kataha to Kedah Tua which is the intermediate language of Southeast Asia at that time also means iron bowl (Saidi, 2016) is also a clear proof of the importance of Kedah Tua iron industry to the world which allows it to be raised as an iconic tourism product of Kuala Muda district.

Kuala Muda byproducts historical tourism category












A total of 26 byproducts sites for the history category were recorded in Kuala Muda district which are classified as towers, bridges, British fort, mosques, tombs, historic tombs, canals, palaces, boundary stones, railway bridges, fort, colonial buildings and archeological sites. *Table 4* describes the specialties and uniqueness of the site after the survey and mapping was conducted in terms of its historical value which allows it to be used as a by-product of Kuala Muda district tourism.

Table 4. Classification of specialties and uniqueness of tourism products by the historical category in Kuala Muda district..

No.	Product	Location	Historical value	Plate
1	Clock Tower	05°38'35" North and 100°29'20" East. Ibrahim street, Sungai Petani town	The tower was built by Lim Lean Thing in 1934 and is 121 feet high. The construction of this tower is to be a gift to the residents of Sungai Petani in conjunction with the commemoration of King George V.	
2	Padang Tok Syeikh Tower	05°47'43" North and 100°26'18" East on top Gunung Jerai	This prayer tower was built in 1136 AD and turned into a mosque after the conversion of Sultan Muzaffar Shah.	
3	Merdeka Bridge	5°33'51" North and 100°25'40" East in Muda River, the border of Kedah-Pineng	This bridge was built by the British to facilitate communication across the Muda River. However, it was destroyed by the British during the Japanese advance to Malaya and rebuilt after the Japanese surrendered	

in 1945.

4	Pengkalan Kakap Mosque	05°42'27" North and 100°23'39" East in Kampung Pasir, Merbok	This mosque is one of the 12 oldest mosques in Peninsular Malaysia built in 1808 AD.	
5	Sungai Layar Fort	5°40'18" North and 100°27'56" East in Sungai Layar	This British fort was built to face the second world war (1941-1945) whose main purpose was to control the Merbok and Muda rivers from being invaded by the enemy.	
6	Bukit Penjara Fort	05°40.105' North and 100°22.266' East in Pantai Merdeka	This British fort was built to face the second world war (1941-1945) whose main purpose was to control the Merbok and Muda rivers from being invaded by the enemy.	
7	Sungai Muda Fort	5°33'44" North and 100°25'40" East in Muda Riverbank	This British fort was built to face the second world war (1941-1945) whose main purpose was to control the Merbok and Muda rivers from being invaded by the enemy.	
8	Pulau Tiga Fort	5°41'03" North and 100°29'09" East in kampong Pulau Tiga	This British fort was built to face the second world war (1941-1945) whose main purpose was to control the Merbok and Muda rivers from being invaded by the enemy.	
9	Sultan Muzaffar Shah 1 Tomb	05°41'09" North and 100°26'51" East in Kampung Langgar, Bujang	The first Sultan of Kedah to embrace Islam was Sultan Muzaffar Shah who died in 1179 AD. Revealing the shoulders of four eight-shaped tombstones known as Aceh tombstones.	
10	Daeng Parani Tomb	5°39'33.4" North and 100°20'02.7" East in Kampung Ekor Lubuk	The tomb of the soldiers known as the great warriors of the Johon Sastera Pahlawan because of the active role he played on the monarchical institution in Peninsular Malaysia.	
11	Tunku Haidar Tomb	5°39'34.0" North and 100°20'02.5" East in Pulau Sayak	Tomb of the son of the Kedah royal named Tunku Haidar Ali Syah Ibni Tuanku Diauddin Ibni Sultan Zainol Rashid who died in 1915 AD.	
12	Kampung Bukit Berangan grave	5°37'10" North and 100°21'54" East in Kampung Bukit Berangan	Probably the royal burial ground that ruled Bukit Meriam Fort. The tombstones used in this cemetery are of the kawi stone type.	
13	Kampung Tok Soh historical grave	5°33'42" North and 100°30'36" East in Kampung Seberang Tok Soh	Possibly this tomb belonged to a dignitary or dignitaries Kedah and tombstones were used in this cemetery tombstones are of Aceh A1 type.	
14	Wan Mat Saman Canal	05°50'35" North and 100°28'00" East in Gunung Jerai	The canal was built on 13 August 1985 and completed on 12 July 1986 by locals. The canal was built with a length of about 36 kilometers with a depth of 1.5 meters.	
15	Semeling Historical Buildings	5°42'08" North and 100°28'19" East in Semeling	This process of urbanization was planned to balance the production of produce in this area by the British in the 18th-19th century AD.	

16	Lubuk Pusing Palace	5°37'45" North and 100°24'30" East in Teluk Bayu	Located on the riverbanks of the Merbok River in Teluk Bayu and built for the purpose of a royal wedding between D.Y.M.M. Tuanku Sultan Abdul Hamid Halim Shah with Y.M. Sharifah Seha bint Syed Hussein Shahabuddin.	
17	Pulau Tiga Palace	5°41'07" North and 100°29'12" East in Kampung Pulau Tiga	Built in 1820 and completed in 1821 during the reign of Sultan Ahmad Tajuddin Halim Shah II in preparation for the attack from the Siamese.	
18	Stone boundary Pinang Tunggal	5°33'05" North and 100°31'43" East in Kampung Bukit Sementol	The stone boundary was built to separate the states of Kedah and Penang which at that time were controlled by the British and Siamese.	
19	Pinang Tunggal Railway Bridge	5°34'02" North and 100°30'15" East in Pinang Tunggal	The construction of this railway bridge is more motivated by the economic development of mining in this district in the 18th century AD.	
20	Kuala Muda Fort	05°35'12" North and 100°22'32" East in Sungai Muda riverbank	It is the main trading center of Kedah since the 18th century AD when merchandise such as tin ore from Kedah, Perak and other states had to pass through this area first.	
21	Colonial Buildings	5°38'32" North and 100°29'19" East in Ibrahim street, Sungai Petani town	This process of urbanization was planned to balance the production of produce in this area by the British in the 18th-19th century AD.	
22	Kampung Gading Archaeological Site	5°49'40" North and 100°37'14" East in Kampung Gading	Evidence of the sustainability of the iron industry along Sungai Muda by the Kedah Tua kingdom. The evidence allows the proposal related to the extent of influence of the Old Kedah kingdom is proposed to exceed 1000 square kilometers.	
23	Kampung Sungai Perahu Archaeological Site	5°47.648' North and 100°37.910 East in Kampung Sungai Perahu	Evidence of the sustainability of the iron industry along Sungai Muda by the Kedah Tua kingdom. The evidence allows the proposal related to the extent of influence of the Old Kedah kingdom is proposed to exceed 1000 square kilometers.	
24	Pengkalan Bujang Archaeological Complex	05°41.016' North and 100°25.451' East in Kampung Pengkalan Bujang	The complex revealed sites 19, 22 and 23 that are still in-situ. This area has been the main trading area of Kedah Tua since the 11th century AD.	
25	Bukit Batu Pahat Archaeological Complex	05°44.346' North and 100°24.818' East in Bukit Batu Pahat	Revealing a Hindu temple (Site 8) that is still in-situ. In this area, sites 16, 21 and 50 have also been reconstructed for tourists.	
26	Permatang Pasir Archaeological Site	05°34.453' North and 100°24.954' East in Kampung Permatang Pasir	It is a rectangular monumental structure that is proposed to function as Vimana-Mandapa which has been used since the 10th century AD.	

Based on the survey and mapping, *Figure 7* is the location of a byproduct tourist site that has been mapped in the district of Kuala Muda. Due to the uniqueness and privilege of the site in terms of its historical value, several tourism packages can be designed that combine the tourism products to develop the historical tourism sector of Kuala Muda district.



Figure 7. Location of the historical tourism site of Kuala Muda district.

Tourism package of Kuala Muda

To boost the tourism industry in Kuala Muda district, several tourism packages have been designed to balance the supply of iconic and byproduct tourism industry. Generally, a total of seven tourism packages are provided in this district and the Kuala Muda Tourism Interpretation Center (PIPKM) has been selected as a "one stop center" (*Figure 8*) for district tourism products due to the availability of infrastructure in the area. This means tourists are obliged to visit this area in advance for registration and selection of tour packages. Before that, tourists will be taken around PIPKM and

exposed to a short video screening related to Kuala Muda tourism and after that the tour package selection process will begin.



Figure 8. Kuala Muda Tourism Interpretation Center (PIPKM) which is used as a one stop center for tourism in Kuala Muda district.

The seven tourism packages offered are related to tourism products that are the identity of Kuala Muda district, namely Gunung Jerai geology, Sungai Merbok biosphere and Sungai Batu Complex geoarchaeology as iconic tourism products and a combination of several byproduct tourism products (history, agro, recreation and eco, culture and heritage). *Table 5* briefly describes each tour package that has been provided to tourists to diversify the scope of tourism in this district.

Table 5. Kuala Muda district tourism packages combining iconic tourism products (Gunung Jerai geology, Sungai Merbok biology and Sungai Batu Complex geoarchaeology and byproduct tourism (history, agro, recreation and eco, culture and heritage).

No.	Package	Product
1	Package 1: Kuala Muda Tourism Interpretation Center (PIPKM)	Visit around PIPKM to see the scenery of various species of mangrove forest, Sungai Merbok and the distant view of Mount Jerai. After that, a visit to the PIPKM gallery and batik Merbok kiosk was also held to complete this package.
2	Package 2: Jerai Peak	Visit around PIPKM, former Gurun quarry, Sungai Layar fort, Wan Mat Saman Canal, Forestry Museum, see beautiful scenery of four types of Gunung Jerai forest, Padang Tok Syeikh, Padang Tok Syeikh tower, Tok Syeikh well and Batu Kapal. While on top of Gunung Jerai tourists have the opportunity to enjoy the beautiful scenery with cool temperatures around the hotel The Jerai Hill Resort, beautiful views of Yan and the Botanical Park.
3	Package 3: Kuala	Visit around PIPKM and after that the tour continued by

	Muda Waterfall Recreation	visiting Sungai Batu Archaeological Complex, Semeling historical building, Sungai Layar fort, former Gurun quarry, see the beautiful scenery of lowland tropical forests before reaching Sungai Badak or Sungai Kunyit for recreation.
4	Package 4: Kuala Muda Minerals	Visiting around PIPKM and after that the tour continued by visiting Semeling and Tok Pawang mines, Sungai Batu Archaeological Complex, Sultan Muzaffar Shah 1 Tomb, Besta Gold mine mineralization zone, Tupah, Bukit Batu Pahat Archaeological Complex and Merbok town.
5	Package 5: Kedah Tua	Visit around PIPKM and after that visit Sungai Batu Archaeological Complex, Tomb of Sultan Muzaffar Shah 1, Semeling mangrove charcoal manufacturing center, Pengkalan Bujang Archaeological Complex, Pengkalan Kakap Mosque, Bukit Batu Pahat Archaeological Complex, kelulut honey farm, nira nipah Merbok and enjoy the panorama of the Tanjung Dawai.
6	Package 6: Sungai Merbok Mangrove	Visit around PIPKM and after that see the beautiful scenery of Merbok mangroves, Pulau Tiga palace, Semeling charcoal manufacturing center, Lubuk Pusing palace, Sungai Merbok oyster breeding center, Pantai Merdeka, Pulau Sayak and enjoy the panoramic beauty of Tanjung Dawai .
7	Package 7: Tsunami Gallery and Whisper Market	Visit around PIPKM and after that see the beautiful scenery around Sungai Petani town, Merdeka Bridge, Guar Kepah Neolithic site, Kuala Muda fort, Sungai Muda fort, whisper market, Tsunami gallery, Sayak Island, Mahang Formation red mudstone, Bukit Penjara fort and beautiful views of Merdeka Beach.

The scope of tourism offered to tourists is a package of day trips to tourist sites. This allows tourists to minimize tourism time as well as to maximize the experience with the beauty of the natural panorama and the validity of the research facts of the tourism product. The unique experience gained through the visit session is expected to generate identity building related to nation building through historical values adapted from the experience of the visit.

Conclusion

The Kuala Muda district has been proven to reveal several high potential tourism sites to be highlighted as the district's tourist products. In order to develop as a tourism product, the product needs to be highlighted by its strengths, advantages, specialties and uniqueness whether tangible or intangible to sustain tourism in this area. Although only historical tourism is discussed in this writing, the district also has many other types of tourism that need to be preserved as a district tourism product that needs to be preserved. Understanding the concept of conservation, then cooperation between the government, state, stakeholders and research teams should be combined to the maximum to nominate the tourism products as a UNESCO world heritage site. The nomination will definitely have a positive impact on the development and sustainability of historical and other tourist sites in the Kuala Muda district in particular. The positive impact of this allows economic generation to be carried out intensively as well as to

disseminate the latest knowledge related to the civilization and intellectuality of the nation's ancestors that once took place in this country.

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Conflict of interest

The authors confirm that there are no conflict of interest involve with any parties in this research.

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