

A TESTAMENT TO THE GREATNESS OF TRADITIONAL MARINE TECHNOLOGY: AN INTRODUCTION TO *PERAHU BESAR TERENGGANU*

***(SATU PERJANJIAN KEHEBATAN TEKNOLOGI LAUT TRADISIONAL:
PENGENALAN KEPADA PERAHU BESAR TERENGGANU)***

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Abstract

The settlement of the Japanese in Malaysia has had several impacts, including on Malay heritage, particularly the endangered maritime heritage Perahu Besar Terengganu. Currently, only two units of Perahu Besar Terengganu are left, underscoring the urgent need to preserve this significant Malay heritage. Perahu Besar Terengganu played crucial roles not just in commerce but also in international relations, serving as a mode of transportation for people and festivals during times of war. This study aims to shed light on the different types of Perahu Besar Terengganu and their evolution. Aligned to achieve Sustainable Development Goal (SDG) 11, this study seeks to support the SDG 17 by fostering collaboration among several institutions including the Ministry of Higher Education, Universiti Malaysia Kelantan, Universiti Teknologi Mara Seremban, Politeknik Ungku Omar, Terengganu State Museum, and the Royal Terengganu Institute for Historical and Legal Studies. The methodology used is a qualitative approach. Data was collected through document reviews and in-depth interviews, involving historians and experienced boatbuilders from Kuala Terengganu. The study has revealed four types of Perahu Besar Terengganu which is Perahu Besar Dogol, Perahu Besar Anak Bedar, Perahu Besar Pinis Dogol and Perahu Besar Pinis Gobel. The evolution of these four types of Perahu Besar originated with Perahu Besar Dogol. The type of Perahu Besar is identified based on the unique characteristics of its stern and hull shape. Despite variations in aesthetics, the functions and other components of these Perahu Besar Terengganu remain consistent. These differences reflect the embodiment of human wisdom, external influences, and the creative skills of the boatbuilders. The recommendation of this study is to explore the specific components of Perahu Besar Terengganu, which will contribute further to our understanding of this remarkable heritage.

Keywords: Perahu Besar Terengganu; Malay heritage; types and evolution; traditional watercraft; tangible heritage object.

Abstrak

Penempatan Jepun di Malaysia telah memberi beberapa kesan antaranya terhadap warisan Melayu khususnya warisan maritim Perahu Besar Terengganu yang semakin terancam. Pada masa ini, hanya dua unit Perahu Besar Terengganu yang tinggal, menekankan keperluan mendesak untuk mengekalkan warisan Melayu yang penting ini. Perahu Besar Terengganu memainkan peranan penting bukan sahaja dalam perdagangan tetapi juga dalam hubungan antarabangsa, berfungsi sebagai pengangkutan orang ramai dan perayaan semasa perang. Kajian ini bertujuan untuk memberi penerangan tentang pelbagai jenis Perahu Besar Terengganu dan evolusinya. Diselaraskan untuk mencapai Matlamat Pembangunan Mampan (SDG) 11, kajian ini cuba menyokong SDG 17 dengan memupuk kerjasama dalam kalangan beberapa institusi termasuk Kementerian Pengajian Tinggi, Universiti Malaysia Kelantan, Universiti Teknologi Mara Seremban, Politeknik Ungku Omar, Muzium Negeri Terengganu dan Institut Kajian Sejarah dan Perundangan Diraja Terengganu. Metodologi yang digunakan ialah pendekatan kualitatif. Data dikumpul melalui semakan dokumen dan temu bual mendalam, melibatkan ahli sejarah dan pembuat bot berpengalaman dari Kuala Terengganu. Kajian telah mendedahkan empat jenis Perahu Besar Terengganu iaitu Perahu Besar Dogol, Perahu Besar Anak Bedar, Perahu Besar Pinis Dogol dan Perahu Besar Pinis Gobel. Evolusi empat jenis Perahu Besar ini berasal daripada Perahu Besar Dogol. Jenis Perahu Besar dikenal pasti berdasarkan keunikan bentuk buritan dan badan kapalnya. Walaupun terdapat variasi dalam estetika, fungsi dan komponen lain Perahu Besar Terengganu ini tetap konsisten. Perbezaan ini mencerminkan penjelmaan kebijaksanaan manusia, pengaruh luaran dan kemahiran kreatif para pembuat bot. Cadangan kajian ini adalah untuk meneroka komponen khusus Perahu Besar Terengganu, yang akan menyumbang lebih lanjut kepada pemahaman kita tentang warisan yang luar biasa ini.

Kata kunci: *Perahu Besar Terengganu; warisan Melayu; jenis dan evolusi; perahu tradisional; objek warisan ketara.*

INTRODUCTION

Boats have been an important water transportation all around the world since ancient times. However, there is no precise date recorded on the first or pioneer boat being constructed or used. However, there is one for sure, a gigantic watercraft was built and used by Prophet Noah; known as Noah's Arc. Though many researchers believed in the Noah's Arc, nonetheless, the Noah's Arc is primarily regarded as a religious and mythological account rather than a historical event. That is why researchers still look for other evidences to study on the world watercraft. Water transportation have played important roles since ancient periods (M.Yusof 1985; Fauzi 2022). Today, water transportation plays similar roles to ancient times, however, with different scales and purposes. In ancient times, water transportations such as boats and rafts were used for fishing and delivery of goods to nearby places, but today, fishing and delivery of goods covers long distance journeys across the ocean via gigantic ships and vessels. These situations proved that water transportation serves the community in the same way but on different scales.

Water transportations have evolved from floating log (M.Yusof 1985 & 2021) in pre-ancient times up to gigantic vessels and in near future, an itinerant floating city; The Pangeos; that expects to commence its construction in 2033 (Lazzarini 2024). Nevertheless, the history of watercraft; typology, methods and materials; all around the world remain uncertain since as regarded by previous researchers such as Horridge (1978), Smyth (1902), Mahdi (1999) and M.Yusof (2021). This is parallel with Liebner (2005) who highlighted the scarcity of documented records on *perahu*-making traditions across the archipelago. As technology propels us into the future, we must not forget the traditional technology that laid the foundation for these advancements. Instead of being left behind, these traditional technologies deserve greater recognition and appreciation, as they represent the origins of our maritime heritage and technological progress.

The prevalence of modernization has resulted to a decline in the utilization of traditional Malay boats in Terengganu. Baba (2010) has suggested for an in-depth study of the traditional Malay boats to safeguard the cultural heritage and maritime traditions of the Malays as well as to educate the future generation of its importance. At present, the global existence of *Perahu Besar Terengganu*, the traditional vessel Terengganu, is limited to just two units. These remaining boats are now part of the Terengganu State Museum's collection and are on display. Out of the four types of *Perahu Besar Terengganu*, only two have survived; *Perahu Besar Pinis Dogol* and *Perahu Besar Pinis Gobel*, while the other two are represented in the form of prototypes. This paper aims to shed light on the four types of *Perahu Besar Terengganu*, highlighting their distinctive features. By doing so, it contributes to the dissemination of knowledge and aligns with the objective of Sustainable Development Goal 11, which emphasizes the need to protect and preserve the world's cultural and natural heritage. The attention and importance given to ensuring the long-term viability of this heritage is crucial, particularly considering that there are only two remaining units, making them endangered cultural heritage.

LITERATURE REVIEWS

World History

All human needs in ancient times were invented from the surrounding local natural materials. Hence, some materials in watercraft buildings during evolution slightly differ by place. This is as stressed by Altun (2015) and M.Yusof (2017) that different shapes, materials and construction methods of any invention such as watercraft, building and foods are due to different localities that influence different natural resources, climates, cultures as well as ways of thinking of human. This reflects the diversity of designs and material of watercraft all around the world.

Despite of imprecise record of the first invented watercraft, Altun (2015) and M.Yusof (1985) believed that the innovation of boats began in Babylon. In ancient times, a broad trade network was created to link Babylon to the other regions of the Near Eastern countries. Mainly the Euphrates and the other rivers were used as the main trade routes. In Mesopotamian civilizations materials and goods were carried by humans and animals with the help of instruments such as sleds, cart and boat. Researchers have studied the hieroglyphs in Egypt and the carvings are used as pieces of evidence of the existence of various important elements such as boats. While Egyptians have been referring to their hieroglyphs, in South East Asia, carvings on Candi Borobudur, Angkor Wat and Dong Son Drum have been studied and used as evidences of the existence of numerous historical objects including watercraft. Angkor Watt that was built 2000 years ago depicted that boats that carried many men whilst Borobudur displayed a huge vessel carrying many men. Carvings on Dong Son Drum displayed boats carrying warriors Horridge (1978).

It is widely believed that the Malay civilization began with the rise of the Malacca Empire in the 15th century, marking the start of a glorious era. However, it is not widely known that the Malay civilization predates this period. Wallace (1869) highlighted two points of Malays; firstly; The native are true Malay, never building a house on dry land if they, and secondly; if they can find water to set it in, never going anywhere on foot if they can reach the place in a boat. It shows that the relationship of the native Malay with water and the ocean is so close to the extent that the natives will not build a house on dry land while they still can build one on water and will not go anywhere on foot where they can be reached by *perahu*. In parallel to that, Khalid (1991) has identified four significant Malay empires that existed as early as the 2nd century: *Tambralinga*, *Langkasuka*, *Kedah Tua* and *Singapura*. These empires boasted important international trading ports that attracted merchants from various parts of the world, particularly China, Arabia, and India. The people of *Tambralinga*, along with their king, even ventured as far as Ceylon in the 13th century, establishing their own Malay settlement there. Horridge (1978) supports this notion by emphasizing that Austronesian-speaking people spread across regions over three hundred years ago using outrigger canoes. Supporting those facts, Shaffer (2015) claimed that the first balanced lugged sail in the world was independently invented by the Malays. He further noted that the sails were crafted from woven mats reinforced with bamboo, showcasing the ingenuity of early Malay sailors. The invention of these sails, combined with the Malays' mastery of navigating the monsoon winds, made it unsurprising that they could reach the

East African coast as early as the first millennium B.C.E. These pieces of evidence suggest that Malays have been engaged in seafaring for centuries (Smith 2008; Shaffer 2015).

Terengganu and Maritime Activities

Terengganu is located in East Coast Peninsular Malaysia. It consisted of 8 districts; Kuala Terengganu, Kuala Nerus, Setiu, Besut, Marang, Dungun, Kemaman and Hulu Terengganu. Since Terengganu spread on a long and wide coast facing South China Sea, hence it is no wonder that maritime activities have been part of the community's culture and lifestyle. Terengganu, located on the east coast of Peninsular Malaysia, comprises eight districts: Kuala Terengganu, Setiu, Besut, Marang, Kuala Nerus, Dungun, Hulu Terengganu and Kemaman. With its extensive coastline along the South China Sea, it's sensible that maritime activities have deeply influenced the community's culture and lifestyle, shaping the traditions and livelihoods of the people in this region.

Terengganu has actively involved in international trading since hundreds of years ago. Since water transportation was the main mode of transportation, hence, there were 3 important ports located in Terengganu in the 2nd century as highlighted by M.Yusof (2021) which were Kule (Kemaman), Perimula (Kuala Terengganu) and Kua Dun Kun (Kuala Dungun). On top of that, Shafie (1999) highlighted that Kuala Berang that was known as Fo-lo-an in Chinese record, had an important and busy international trade port in 7th and 8th century. These facts have proved that Terengganu has actively involved in international trading and marine activities.

Traditional Malay watercraft, particularly in Terengganu, are commonly known as *perahu*. The term "*perahu*" is a general term used throughout Southeast Asia, including Indonesia, Malaysia, and the Philippines, to describe a range of small to medium-sized wooden vessels. These boats are primarily used for transportation, fishing, and recreation in coastal areas, rivers, and lakes. Fraser (2000) defines *perahu* as a generic term for native boats or vessels. In Terengganu, the earliest record of *perahu* dates back to the Mesolithic period, as highlighted by M.Yusof (1985, 2017, 2021). The discovery of Dong Son drums from Vietnam in Batu Burok, Kuala Terengganu, and Kampung Gaung in Besut indicates that trading activities between Terengganu and Vietnam occurred as early as 500 B.C. Shaffer (2015) further claimed that the Malays were the ones who responsible to travel to Vietnam and bought the drums back to their place.

Although not many ancient boats have survived to the present day, researchers have relied on carvings on historical monuments like the Borobudur Temple and other cave carvings to trace the existence of these ancient watercrafts. However, in context of local Terengganuan, as stressed by Nordin (2024); Adyla (2024); Sabri (2024) *Perahu* is specific term for traditional watercraft that move with oar, rudder and sails or just any one of these without help of any modern engine or tools. Just like other part of South east Asia Horridge (1978) that has scattered information on their traditional watercraft, there is also not much record on *Perahu* in Terengganu. However, there are certain important records on involvement of Sultan Mansur I in 18th century on maritime activities. He owned quite a number of *Perahu* including *Perahu Besar Terengganu* that were actively used for various important purposes.

Perahu in Terengganu

Terengganu is known for its outstanding boatbuilding industry (Longuet 2009; Fauzi 2022). Boat building skills and knowledge are inherited from one generation to another that there is no formal school for this purpose. After WWII, many Terengganuan including boatbuilders from Terengganu moved to other states and build their career there (Muhammad 2018). Hence, it is undeniable that Terengganuan has contributed to boatbuilding industry in other states of Malaysia and not just in Terengganu. It can be summarised that there are 17 types of Terengganu Traditional *Perahu*. Starting with Bark boat, *Perahu Jalur*, *Perahu Jongkong*, *Perahu Setak* (also known as *Perahu Haluan Katup*), *Perahu Jalural*, *Perahu Kajangan*, *Perahu Sekoci*, *Perahu Kolek Kuel*, *Kolek Lincang*, *Kolek Pengair*, *Kolek Gelibat*, *Perahu Payang*, *Perahu Payang Barat*, *Perahu Bedar*, *Sampan Perahu Besar*, *Perahu Keci* and *Perahu Besar* (Ahmad 2003; M.Yusof 2021). Amongst these 17 types of *Perahu*, *Perahu Besar Terengganu* is the most complex

watercraft (Johari 2024; Nordin 2024). This type of vessel was used to sail across the ocean for various purposes including war (Kamal 1992; M.Yusof 2021).

Perahu Besar Terengganu

Perahu Besar Terengganu is the biggest and most complex Traditional *Perahu* ever existed until today. The last two of its remains; *Perahu Kemajuan T.65* and *Perahu Besar Sabar T.82* have been gazetted as Tangible Heritage Object under Department of National Heritage. It is believed that there is another type of Malay *perahu* which was even bigger than *Perahu Besar* called *jong* or *junk* (Shaffer 2015; Sabri 2024). However, there is no remains or other evident of the existing of such *perahu*. Hence, till today, *Perahu Besar Terengganu* is considered the largest and most advanced *perahu* of that time. Since *Perahu Besar Terengganu* has more 2 vertical and one horizontal masts, then it falls under schooner type of vessel (Longuet 2009). There only 2 last units of *Perahu Besar Terengganu* existed until today. They are part of the Terengganu State Museum collections; *Perahu Sabar T.82* and *Perahu Kemajuan T.65*. Both *perahu* have been gazetted as Historical Object under Department of National Heritage.

The use of construction technology, materials and a touch of distinct identity make *Perahu Besar Terengganu* worthy to be recognized and conserved to show the future generation of their heritage (M.Yusof 1985). *Perahu Besar Terengganu* once served so many purposes including diplomatic and international relationship, war, merchant and transportation (M.Yusof 1985). There were more than 300 of *Perahu Besar Terengganu* prior to World War II (Kamal 1992). However, they were destroyed in bombing during that war so as to ruin the transportation system during the war (M.Yusof 1985 & 2021). It was believed that, *Perahu Besar Terengganu* were used to transport Japanese armies to Burma during that war. Hence, bombing of the *perahu* was inevitable so as to curb the Japanese armies (Kamal 1992; Sabri 2024). In 1977, only 12 units of *Perahu Besar Terengganu* were still intact and still being used. However, in 1980s only 3 *Perahu Besar Terengganu* left. This situation called Terengganu State Museum to take it as part of the historical collection in the Terengganu State Museum (M.Yusof 2024).

Early Documentation on *Perahu Besar Terengganu*

The study on *Perahu Besar Terengganu* was carried out via a process of data collection method that involved document survey and interviews. All the data obtained were triangulated analysed to attain the objective of the study; to identify types of *Perahu Besar Terengganu*. The writings on *Perahu Besar Terengganu* are also limited and rare. There are proceeding papers, books, journals and thesis on *Perahu Besar Terengganu* but the information is on history and redundancy of data is inevitable. Since document survey cannot provide appropriate and adequate data, interviews took place to obtain more data. The earliest record on *Perahu Besar Terengganu* as mentioned by researchers such as M.Yusof (1985), Mohd Salleh (1987), Kamal (1992) and Fauzi (2022) started back in the reign of Sultan Mansur in 1769. The record stressed on importance of *Perahu Besar Terengganu* during that time that included for trading purposes, war, international relations as well as to transport people. There is no proper documentation on *Perahu Besar Terengganu* earlier than that. However, the verbal story has uncovered that *Perahu Besar Terengganu* have been used long before that documented period. There were hundreds of *Perahu Besar Terengganu* before WWII, however most of them were destroyed in bombing (M.Yusof 2021). As Smyth (1902) did not mentioned the existence of *Perahu Besar* in his paper, Gibson-Hill C.A. (1949 & 1953) however exposed types and features of *Perahu Besar Terengganu* and its origin.

One of the earliest local writings on *Perahu Besar Terengganu* is by M. Yusof (1985) who provided a brief history and classification of these traditional large boats. Later, M.Yusof (1985) linked the *Perahu Besar Terengganu* to ancient commerce ports in Terengganu, emphasizing its significance in international relations. Hashim (1991) also explored *Perahu Besar Terengganu*, focusing on its historical importance within the state of Terengganu. Kamal (1992) in his thesis examined the role of *Perahu Besar Terengganu* in spreading Islam throughout Southeast Asia, particularly in Terengganu.

Later, Maidin (2003) studied the construction team system of Terengganu's *perahu*, including the *Perahu Besar*, highlighting the hierarchy within boatbuilding teams, consisting of the *Tukang Timbal*

(Master Boatbuilder), *Tukang Perahu* (Boatbuilder), and *perantis* (Apprentice). M.Yusof (2017) revisited the topic by focusing on the materials used and the sailing skills of Terengganuans. Later M.Yusof (2021) published a book on *Pengangkutan Air Terengganu*, concentrating on its history and structural components. His latest work that year discussed the unique features of the *perahu* and the evolution of Malay watercraft from traditional designs to modern boats like fiberglass vessels.

RESEARCH METHODOLOGY

The methodology used is a qualitative approach. The data for this case study was collected through document reviews and in-depth interviews, involving historians and experienced boatbuilders from Pulau Duyong and Pulau Ketam in Kuala Terengganu. Interview respondents include 3 boatbuilders from Kuala Terengganu were interviewed and 2 historians involved as respondents of this study. All respondents were carefully selected based on their direct experience with *Perahu Besar Terengganu*. All the data obtained were analysed to attain the objective of the study; to identify types of *Perahu Besar Terengganu* and its evolution. The findings are presented to the stakeholders from Terengganu State Museum and Royal Terengganu Institute for Historical and Legal Studies for validation.

RESULTS AND DISCUSSION

This study aims to shed light on the different types of *Perahu Besar Terengganu* and their evolution. Aligned to achieve Sustainable Development Goal (SDG) 11, this study seeks to support the Sustainable Development Goal (SDG) 17 by fostering collaboration among several institutions including the Ministry of Higher Education, Universiti Malaysia Kelantan, Terengganu State Museum, and the Royal Terengganu Institute for Historical and Legal Studies. This study has identified 4 types of *Perahu Besar Terengganu* and their evolution which will be presented in the next section.

Types of *Perahu Besar*

The *Perahu Besar Terengganu* falls under the category of *Perahu Timbal*, although it stands out in terms of its massive size compared to other types of *Perahu Timbal*. The *timbal* method continues to play a significant role in Terengganu's boat construction industry, highlighting its effectiveness. However, advancements in technology have introduced the use of nails, bolts, and nut jointing methods. While this evolution offers greater efficiency in terms of time, some respondents agree that the traditional method is more durable. Nevertheless, they acknowledge that it struggles to remain viable in today's capitalist-driven era. M. Yusof (2021) has identified five types of *Perahu Besar Terengganu*, namely *Perahu Keci*, *Perahu Dogol*, *Perahu Anak Bedar*, *Perahu Pinis Gobel*, and *Perahu Pinis Dogol*. However, some interviews discovered that *Perahu Keci* does not fall under *Perahu Besar*. Hence, this study has excluded *Perahu Keci* from the classification of *Perahu Besar*. As a result, this study focuses solely on the four types of *Perahu Besar Terengganu* for which adequate information is available.

Four types of *Perahu Besar* can be categorized into two groups: basic shapes and *pinis*-shaped. The influence of French sailors stranded in Terengganu during the 19th century can be seen in the development of *pinis*-shaped *Perahu Besar*. *Pinis* shaped implies a duck's tail shaped on the back of the *perahu*. Basic shaped *Perahu Besar* are *Perahu Besar Dogol* and *Perahu Besar Anak Bedar* whilst *pinis* shaped are *Perahu Besar Pinis Dogol* and *Perahu Besar Pinis Gobel*. However, *Perahu Besar Anak Bedar* can be divided into two types which are; (i) *Perahu Besar Anak Bedar* (ii) *Perahu Besar Bedar*. *Perahu Besar Anak Bedar* is massive in size with shorter duck's bill stem head whilst *Perahu Besar Bedar* is smaller in size with longer duck's bill stemhead (Nordin 2024; Nawi 2024).

Regardless of the type, it is important to highlight that the change in shape did not affect the performance of the *perahu*; rather, it was primarily for aesthetic purposes (Nordin 2024; Johari 2024; M.Yusof 2024). It is also worth emphasizing that the evolution of *perahu* design does not render earlier types obsolete or unused (Johari 2024; Nordin 2024). Instead, it offers a range of design options that cater to the preferences and specific requests of individual owners.

All these 4 types of *Perahu Besar* share similar features as below:

- i. Using 3 sails; *Layar Agung*, *Layar Topang* and *Layar Jib*.
- ii. Using *kemudi cawat* (stern rudder).
- iii. Has three masts; *Tiang Agung* (main mast), *Tiang Topang* (secondary mast) and *Tiang Sepirit* (jib mast) which make them classified as schooners (Longuet 2009).

Originally, *Perahu Besar Terengganu* involved only high-quality and durable material from the local nature. Most *Perahu* used only Chengal for its body whilst *Gelam* bark (*Melaleuca cajuputi powell*) as caulking material, bamboo, Nipa palm, *mengkuang* (*Pandanus amaryllifolius*) leaves, kercut (*Lepironia articulate*) were also used to build other components of *Perahu Besar Terengganu* (M.Yusof 2017). Kamal (1992) has also listed 4 uniqueness of *Perahu Besar Terengganu*; i: not easily leak, ii: strong and sturdy to stand against the waves, iii: made of matured Chengal wood with mortise tenon joints and iv: built without plan or sketch, relied on boatbuilder's expertise and experience. Adding to these, the researchers have listed four uniqueness of *Perahu Besar Terengganu* which are: i. durable, long-lasting due to the properties of Chengal and its construction method. ii. Tree nails and dowel connection made of *penaga* (*Mesua ferrea*) wood for sturdy structure iv. The use of *gelam* (*Melaleuca cajuputi Powell*) bark as durable caulking material iii. Without oar, sailing depends on *kemudi cawat* (stern rudder) and sail iv. huge battened matt sail. The features of the sails described by (Shaffer 2015); woven matt, and reinforced with bamboo are also characteristic of the sails found on *Perahu Besar*.

For further details, data from the document reviews and interviews are concluded as in the below sub-sections.

Perahu Besar Dogol

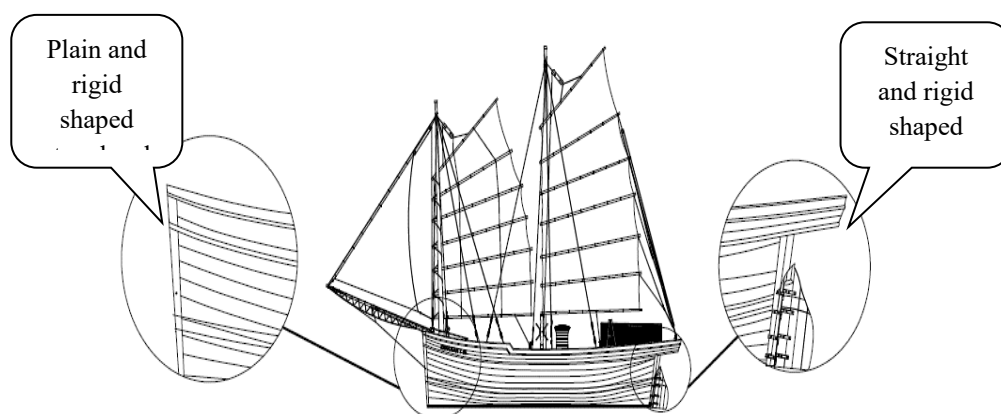


Figure 1. *Perahu Besar Dogol*

Perahu Besar Dogol (as shown in Figure 1), also referred as *Dogar* Gibson-Hill C.A. (1949) is characterized by the following distinctive features:

- i. It has a basic, rigid, and raked-shaped bow and stern.
- ii. There is no ornamentation present on the boat, no stem head
- iii. It features *dandang*, a platform for building of *kup* (captain's room)
- iv. It is specifically designed for long journeys.
- v. Among the different types of *Perahu Besar*, *Perahu Besar Dogol* is renowned for its remarkable speed, making it the fastest type.

Perahu Besar Anak Bedar

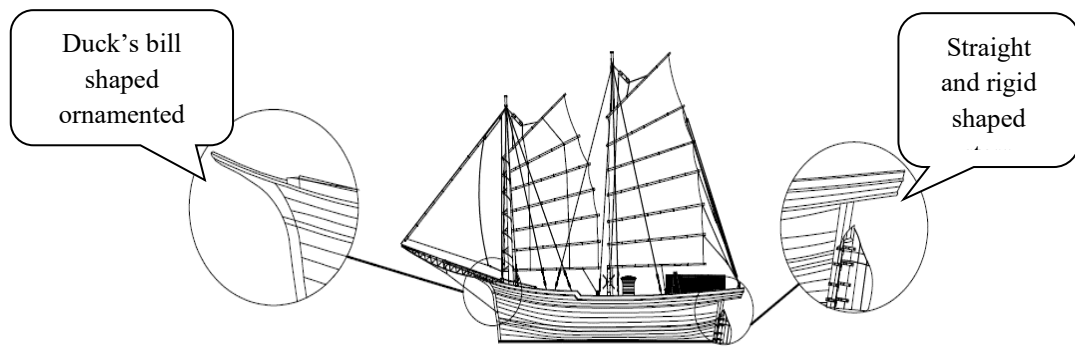


Figure 2. *Perahu Besar Bedar*

Perahu Besar Anak Bedar (as shown in Figure 2), also known as *Bedar*, is characterized by the following features:

- i. It has a basic, rigid, and raked shape bow and stern.
- ii. It features *dandang*; a platform for building of *kup* (captain's room)
- iii. One distinctive ornamentation on the boat is a stem head, which is shaped like a duck's bill. This duck's bill stem head identifies the image of *Bedar*.
- iv. This type is unique in that it is built in both smaller and larger sizes. Larger size is known as *Perahu Besar Anak Bedar* whilst the smaller is known as *Perahu Besar Bedar*. The larger versions are comparable in size to the *Perahu Besar Dogol* and *Pinis*
- v. The smaller size was typically used for short sailing trips around Peninsular Malaysia. It is designed for coastal or nearshore navigation rather than long-distance journeys.

Perahu Besar Pinis Dogol

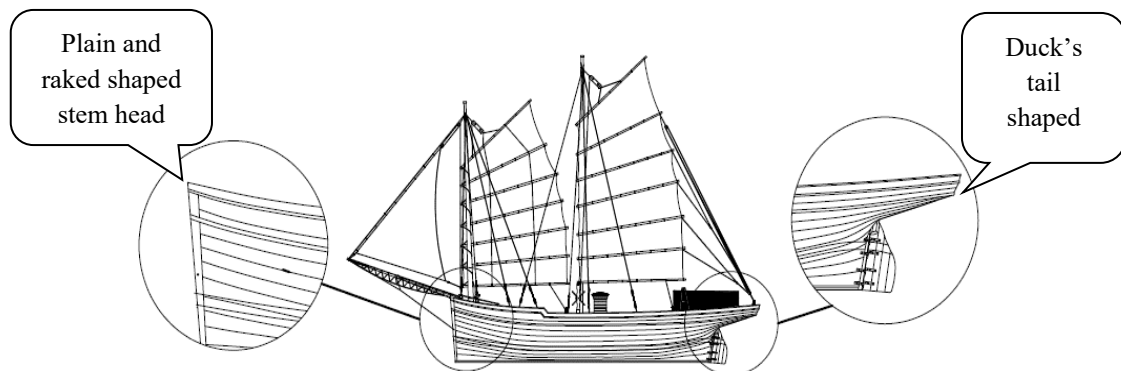
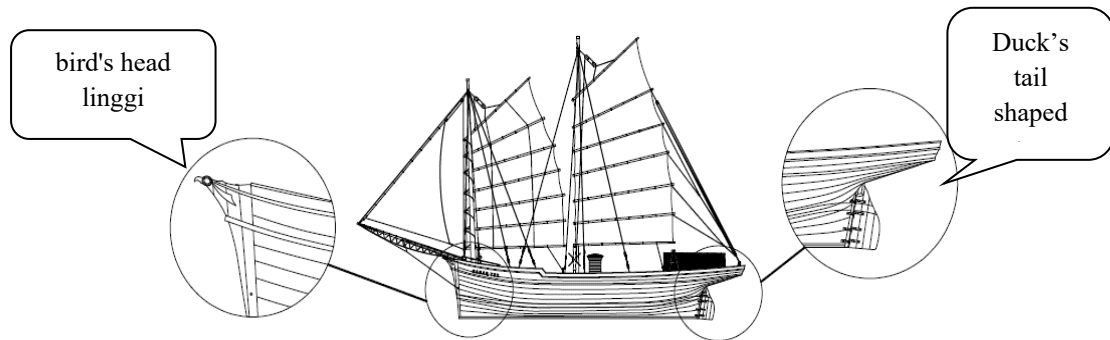


Figure 3. *Perahu Besar Pinis Dogol*

Perahu Besar Pinis Dogol (as shown in Figure 3), a specific type of *Perahu Besar*, can be described by the following characteristics:

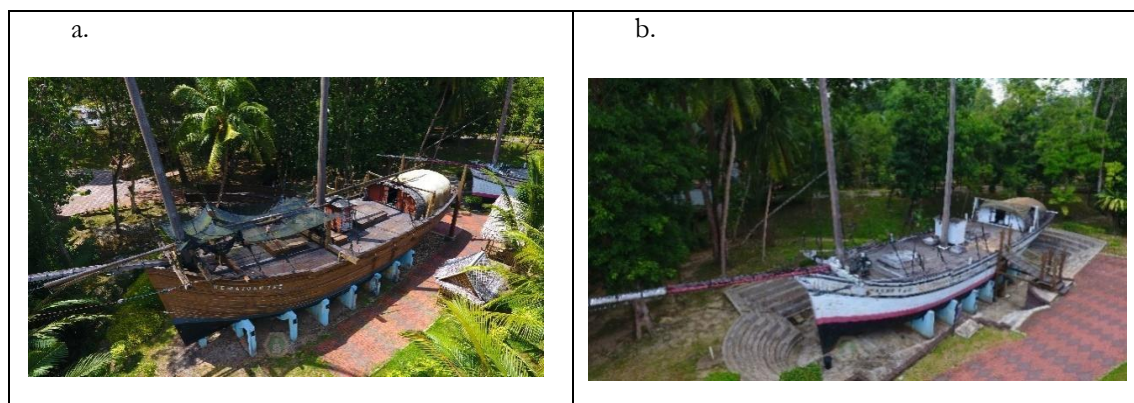
- i. It has a basic and raked shape with a *linggi* (stem head) that is also straight and simple in design.
- ii. The stern of the *perahu* also incorporates a duck's tail shape, further emphasizing its significance.
- iii. The *Pinis Dogol* is primarily designed for long journeys, indicating its suitability for extended voyages.
- iv. The back or stern of the boat is shaped like a duck's tail, giving it the image of *Pinis*.

Perahu Besar Pinis GobelFigure 4. *Perahu Besar Pinis Gobel*

Perahu Besar Pinis Gobel (as shown in Figure 4), also known as *Pinis Golok* (Gibson-Hill C.A. 1949; Nordin 2024; Nawi 2024), is characterized by the following features:

- It features a distinct bird's head ornamentation on the *linggi* (stem head). This ornamental design resembles the head of a bird.
- The stern of the *perahu* also incorporates a duck's tail shape, giving it the image of *Pinis*.
- Pinis Gobel*/*Pinis Golok* is considered the largest type of *Perahu Besar*. It is known for its significant size and capacity.
- It is primarily designed for long-distance journeys, indicating its suitability for extended voyages and exploration.

Figures 5(a) and 5(b) illustrate the actual *Perahu Besar Kemajuan Pinis Dogol* and *Perahu Besar Sabar Pinis Gobel* exhibited in Terengganu State Museum. Both are exhibited without sails.

Figure 5. (a) *Perahu Besar Kemajuan Pinis Dogol*; (b) *Perahu Besar Sabar Pinis Gobel*

Source: Terengganu State Museum

Evolution of *Perahu Besar Terengganu*

In M. Yusof's (2021) research, it is highlighted that evolution is propelled by advancements in tools and shifts in people's thinking. This notion is applicable to the evolution of *Perahu Besar Terengganu*, which can be traced through its design and physical attributes. There are four distinct types of *Perahu Besar* (Ahmad 2003; Sabri 2024; Johari 2024; Nordin 2024) that can be classified into two groups: original shapes and *pinis*-shaped *perahu*. The influence of French sailors stranded in Terengganu during the 19th century can be observed in the development of *pinis*-shaped *Perahu Besar* (Gibson-Hill

C.A. 1949; M.Yusof 2021). This implies that the *pinis* types came later than the original types. However, it is important to note that this change in shape did not affect the performance of the *perahu*; rather, it primarily served aesthetic purposes (Johari 2024; Ruslan 2024; Nordin 2024). It is also crucial to emphasize that the evolution of *perahu* design does not render earlier types obsolete or unused. Instead, it provides a variety of design options that accommodate the preferences and specific requirements of individual owners. The key differences between the original and *Pinis* shapes are: (i) the original shape features a raked stern, whereas the *Pinis* shape has a duck's tail stern, and (ii) the original shape includes a *dandang*, while the *Pinis* shape does not. The narrow stern of the original shape does not accommodate the construction of the *kup* (captain's room). To address this, a *dandang*—a platform built above the deck—serves as the base for constructing the *kup* (Ahmad 2003; Nordin 2024; Johari 2024). In contrast, the duck's tail stern of the *Pinis* shape already provides a sufficient platform for building the *kup*, making the *dandang* unnecessary.

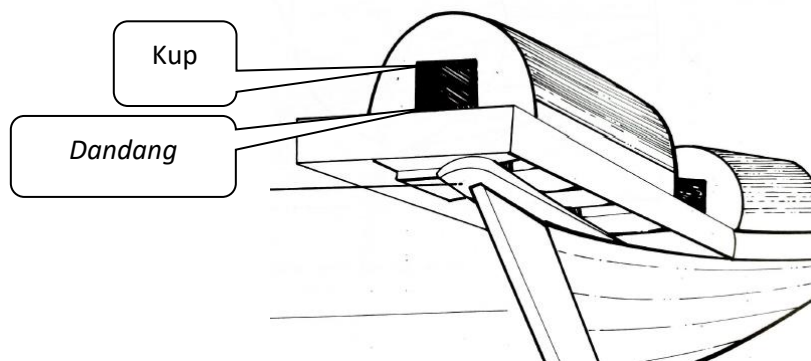


Figure 6. *Kup* and *dandang* on *Perahu Besar Dogol* and *Anak Bedar*
Source: Ahmad (2003)

The original types of *Perahu Besar* came before the *Pinis* types (Johari 2024; Nordin 2024; Nawi 2024; Sabri 2024). The first invented *Perahu Besar Terengganu* surely displayed basic shapes; and that is *Perahu Besar Dogol*. Besides, the overall shape of *Perahu Besar Dogol* resembles shape of *Perahu Sekoci*; (Sabri 2024; Nordin 2024; Johari 2024) type of *perahu* that was widely used in Terengganu (Gibson-Hill 1954). The observation uncovered that *Perahu Besar Dogol* was a large-scale of *Perahu Sekoci*. On the basis of these, then *Perahu Besar Dogol* is believed to be the first *Perahu Besar* ever invented. Then, *Perahu Besar Bedar* was invented to cater to the needs for short-journey sailing. The hull of *Perahu Besar Bedar* looks identical to *Perahu Besar Dogol*. However, other than the size; Bedar was built small size; the other difference between these two types is the duck-shaped stem head which basically added an esthetical value to it. While the *Perahu Besar Dogol* closely resembles the *Perahu Sekoci*, the *Perahu Besar Bedar*, on the other hand, bears a striking resemblance to the *Perahu Bedar*, indicating that it is essentially a scaled-up version of the *Perahu Bedar* (Johari 2024; Nordin 2024; Sabri 2024). Following this evolution, the *Perahu Besar Bedar* developed into the *Perahu Besar Anak Bedar*, which was essentially a larger version of the Bedar. Aside from the size difference, the *Perahu Besar Bedar* featured a shorter duck's bill stem head, while the *Anak Bedar* was adorned with a longer, more pronounced duck's bill stem head for added ornamentation (Nawi 2024; Nordin 2024).

Later, the shapes evolved to *Perahu Besar Pinis Dogol* and *Perahu Besar Pinis Gobel*. The *Pinis* types *Perahu Besar* is basically refers to the duck's tail shapes of the front hull. *Perahu Pinis Dogol* came first before *Perahu Besar Pinis Gobel*. This is due to the basic shape of the *Pinis Dogol* as compared to the *Pinis Gobel* that featured ornamentation of bird's head on its stem post. *Pinis* is believed to be derived from the word '*Pinase*' in French. Both *Perahu Besar Pinis Dogol* and *Pinis Gobel* were influenced by French design when French frigate wrecked around 1820-1860 and the crew stranded in Terengganu (Gibson-Hill C.A. 1949). As Gibson-Hill C.A. (1953) revised his earlier view from 1949, suggesting that the *Pinis*-shaped *Perahu Besar* originated from Europe, the people of Terengganu

continue to believe that the Pinis design was influenced by the French, reflecting an assimilation of French and local cultural elements within Terengganu's community (Othman 2002).

Contrary to the prevailing belief that the Perahu Besar Anak Bedar was the latest type of Perahu Besar, favored for its suitability for shorter journeys along the coast of Peninsular Malaysia, the findings from this study uphold the original assertion that the Perahu Besar Anak Bedar was, in fact, the second type of Perahu Besar to be developed. This conclusion is drawn from the insights gained through observation of the shapes and interviews with experienced boatbuilders and historians.

CONCLUSION

In conclusion, this paper has provided a new understanding of the typology of *Perahu Besar Terengganu* based on their physical features. While there is no precise record regarding the exact invention or construction of *Perahu Besar Terengganu*, the study has revealed their extensive use in the 18th century, suggesting that their existence predates this period. Over the years, *Perahu Besar Terengganu* has undergone evolution in terms of their shapes and designs. However, it is worth noting that these changes have not impacted their performance. Furthermore, the introduction of later designs has not halted the production of earlier ones, as the variation in designs offers boatbuilders and owners more options to select a *perahu* design that suits their needs and preferences. These findings contribute to the overall understanding of traditional *perahu* and emphasize the importance of studying them to appreciate the wisdom and mindset of our ancestors and to enhance our cultural identity, particularly among the younger generation. Just as people often discuss the Titanic, our glorious traditional *perahu* deserve similar attention. Therefore, further studies on the history and various aspects of *Perahu Besar Terengganu* should be conducted in the future to preserve our heritage for future generations and to achieve Sustainable Development Goal 11, which focuses on protecting and safeguarding cultural and natural heritage, as well as Sustainable Development Goal 17, which promotes partnerships between governments, private entities, and civil society.

This study has opened new research areas to explore including the application of visualization methods or digital design to help document and visualize the traditional boat forms in greater depth. This would also open the opportunity for the educational or training programs for younger generations in the field of boat building to ensure that this tradition is preserved.

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