

## **The Decline of Shipbuilding and Maritime Capabilities in Vietnam and its Dependence on China's Qing Dynasty During the Tự Đức Era (1848–1883)<sup>1</sup>**

*Chen Wen<sup>°</sup> Li Lu\* Fan Yazhen\*\* Tan Simin\**

School of International Studies/Academy of Overseas Chinese Studies,  
Jinan University, China

### **Abstract**

During the early Nguyễn Dynasty, Vietnam prioritized the development of its shipbuilding industry, constructing numerous vessels for water transportation and coastal defence. However, during Emperor Tự Đức's reign (1848–1883), worsening internal and external crises, coupled with an increasingly depleted treasury, led to a severe decline in shipbuilding capacity. The number of ships dwindled, while existing large vessels and imported steamships fell into disrepair. Coastal shipping capabilities deteriorated significantly, and maritime accidents steadily increased. By the later years of Tự Đức's reign, the Nguyễn Dynasty's fleet was no longer capable of completing the annual transportation of official grain supplies between the north and south. At the same time, China's Qing Dynasty advanced its shipbuilding and maritime industries through the Self-Strengthening Movement, establishing the China Merchants' Steam Navigation Company and developed large-

---

<sup>°</sup> Chen Wen, is a professor at the School of International Studies/Academy of Overseas Chinese Studies, Jinan University, China. Her research areas include Vietnamese history and Sino-Vietnamese relations history. She can be reached at <twenchen@jnu.edu.cn>.

\* Li Lu, Ph.D. Candidate at the School of International Studies/Academy of Overseas Chinese Studies, Jinan University, China. Her research focuses on Sino-Vietnamese relations. She can be reached at <mi\_no@qq.com>.

\*\* Fan Yazhen, Ph.D. Candidate at the School of International Studies/Academy of Overseas Chinese Studies, Jinan University, China. Her research focuses on Sino-Vietnamese relations. She can be reached at <fyz1042911154@163.com>.

\*\*\* Tan Simin, Ph.D. at the School of International Studies/Academy of Overseas Chinese Studies, Jinan University, China. Her research focuses on Area Studies. She can be reached at <xvill2049@gmail.com>.

scale shipbuilding and maritime transportation industries. Chinese private merchant and fishing vessels also maintained strong maritime transport capabilities. Under the close suzerain-vassal relationship between China and Vietnam, Vietnam was compelled to rely on Chinese official and private ships to assist with grain transport, anti-piracy operations, foreign maritime affairs, and the procurement of goods. This reliance on external support underscored the comprehensive decline of Vietnam's maritime capabilities during the Tự Đức Era.

**Keyword:** *Shipbuilding Decline, Maritime Transport, Tự Đức Era (1848–1883), Vietnam's Nguyễn Dynasty, China's Qing Dynasty.*

## 1. Introduction

The development of Vietnam's shipbuilding and maritime capabilities has long been a focal point of academic research. Ancient Vietnamese shipbuilding techniques were considered unique and highly advanced. Some Vietnamese scholars have remarked,

*The shipbuilding and plank-crafting techniques of ancient Vietnamese were remarkably distinctive and reached a high level of sophistication. Even in the 19th century, when China faced the crisis of Western invasions, patriotic scholar officials such as Lin Zexu once proposed to imitate the ships of Annam in order to strengthen the maritime defence capabilities of the Chinese navy (Li, 2003; Nguyen, Van kim and Nguyen, Manh Dung, 2007).*

However, whether Vietnam's shipbuilding capabilities in the 19th century truly reached such a high level remains a subject worth further exploration.

Regarding Vietnam's ancient and modern shipbuilding technology and shipping capacity, France and other Western scholars have conducted more in-depth studies. For example, John Crawfurd was an early proponent of the idea that Vietnam's foreign trade was done by the Chinese, and that the Vietnamese were not good seafarers and seldom ventured beyond the coast (Crawfurd, 1820, 513-514). Paris published *Essai sur la construction navale des peuples extra-européens* and *Esquisse d'une ethnographie navale des pays Annamites* in 1843; JeanBaptiste Pietri authored *Voiliers d'Indochine*;

and Pierre-Yves Manguin conducted the first investigation of clinker-built ships in the Hue region in 1985. Additionally, Aubalie-Sallenave published *Bois et bateaux du Vietnam* in 1987, and Michael Flecker, following his participation in multiple South China Sea archaeological excavations from 1992 to 2001, released works that explored ship construction in depth. In the 21st century, French scholars have expanded their research to include small vessels such as bamboo rafts (Pham and Palmer, 2010). Relevant research by Vietnamese scholars, such as *Kinh te bien va khoa hoc ky thuat ve bien o nuoc ta* (Dao, 2002) and *Kinh te bien va khoa hoc ky thuat ve bien o nuoc ta* (To sang tac Bo Giao thong van tai, 2002), and the 2006 conference proceedings of the ASEAN Committee on Culture and Information, covers topics including maritime history, shipbuilding, and maritime socio-cultural aspects. These studies explore ship construction through sporadic findings from land-based archaeological excavations. Li Tana provided an in-depth study of ships and shipbuilding in Vietnam's maritime industry, arguing that ancient Vietnam was shaped by a vibrant coastal economy and cultural contact, with different types and numbers of ships constructed in the late 18th and early 19th centuries (Li, 1998, 2003, 2024). Zheng Yongchang and Li Guimin examined the shipbuilding, coastal defence reforms, and operations during the reign of Emperor Minh Mang (1820–1841). They argued that during this period, Vietnam prioritized coastal defence reforms and adopted Western modern technology to construct copper-clad ships, its shipbuilding technology and navigational capabilities reached a high level in ancient Vietnam, but this capability was merely a “momentary brilliance.” (Zheng and Li, 2014; Li, 2016; Zheng, 2022)

Studies have analysed in depth the maritime awareness, ships and shipbuilding capacity of Vietnam from the late 18th century to the early 19th century. However, the shipbuilding and maritime capabilities of Vietnam during the Tự Đức Era (1848–1883) have yet to receive sufficient attention and depth study. This paper intends to focus on the construction, number and maritime transport capacity of ships in Vietnam during the Tự Đức period in an attempt to gain a deeper understanding of the situation of shipbuilding in Vietnam in the 19th century and the help of Qing Dynasty ships to Vietnam, with a view to providing new perspectives and empirical evidence for related research.

## 2. The Shipbuilding and Sources of Vessels in Vietnam During the Tự Đức Era

In the early 19th century, following the unification of the north and south and the strengthening of national power, Vietnam's Nguyễn Dynasty constructed a fleet of ships for transportation and defence. However, during the Tự Đức Era, escalating internal and external crises, forced the Nguyễn Dynasty to build only essential ships within its limited fiscal capacity and technological capabilities. These vessels were primarily used for resisting French invasion forces and facilitating north-south transportation.

### 2.1 *Shipbuilding in Vietnam's Nguyễn Dynasty During the Tự Đức Era*

**Increase the Allocation of Ships for the Six Southern Provinces.** In 1847, French warships shelled Đà Nẵng. The Nguyễn Dynasty increased the shipbuilding quota in the six southern provinces to defend against the invasion of French warships. In April of 1854, the ship quotas for the six southern provinces were adjusted to a total of 302 vessels: Biên Hòa was assigned 30 vessels, Gia Định 67 vessels, Định Tường 43 vessels, Vĩnh Long 67 vessels, An Giang 65 vessels, and Hà Tiên 30 vessels (Nguyễn Dynasty Bureau of Historiography, 1979a, Vol. 10, 15). In July 1858, the ship quota for the six southern provinces was further increased to 416 vessels. This included 52 regular ships and 20 additional ships for Gia Định; 48 regular and 14 additional for Vĩnh Long; 22 regular and 7 additional for Biên Hòa; 26 regular and 11 additional for Định Tường; 48 regular and 15 additional for An Giang; and 20 regular and 9 additional for Hà Tiên. If the regular ship numbers were insufficient, the additional ships were to be used to fill the quota (Nguyễn Dynasty Bureau of Historiography, 1979a, Vol. 19, 1-2). However, this was merely the planned quota for shipbuilding, and it was not always possible to meet the prescribed numbers.

**Construction of Patrol Ships and Warships.** In December 1857, the provinces of Bình Thuận and Khánh Hòa were instructed to build an additional 2 to 3 patrol vessels, bringing the total number of patrol ships in these two provinces to 5 to 7. The construction was completed by 1859 to support coastal patrol duties (Nguyễn Dynasty Bureau of Historiography, 1979a, Vol. 17, 40). In March 1865, an order was issued for the provinces from Thanh Hóa and Nghệ An to Bình Thuận to build 75 new-style warships in preparation for battle (Nguyễn Dynasty Bureau of Historiography, 1979a,

Vol. 31, 21). However, the task of building 75 warships was never fully completed. Combined with the frequent accidents involving the existing warships and patrol ships, by March 1873, the Nguyễn Dynasty had only 39 patrol and warships remaining. In March 1873, the Nguyễn Dynasty ordered the construction of 11 additional vessels, bringing the total number of patrol and warships to 50 (35 patrol ships and 15 warships) (Nguyễn Dynasty Bureau of Historiography, 1979a, Vol. 48, 10).

**Construction of “Long Dragon Ships”.** In March 1873, the Nguyễn Dynasty ordered the provinces of Hải Dương and Quảng An to imitate the design of the dragon boats and build 20 more for river transport (Ibid., 11).

**Construction of Fire-Powered Ships.** In April 1876, the Nguyễn Dynasty ordered the construction of one fire-powered ship to facilitate the transportation of money and grain between the north and south (Nguyễn Dynasty Bureau of Historiography, 1979a, Vol. 55, 15).

**Construction of Bamboo Boats and Plank Boats.** These types of boats were typically small vessels privately constructed by Vietnamese civilians. Plank boats measured 5 to 6 feet in width, while bamboo boats ranged from 5 feet to 10 feet 9 inches in width (Nguyễn Dynasty Bureau of Historiography, 1971, Vol.206, 6). In January 1881, the Nguyễn Dynasty ordered the construction of 20 small bamboo merchant boats each at the ports of Thuận An and Đà Nẵng (Nguyễn Dynasty Bureau of Historiography, 1979a, Vol. 65, 3-4), modelled after those used in Quảng Nam. As two of the most important commercial ports in central Vietnam, the use of only small bamboo vessels for official transport illustrates the marked limitations of Vietnam's shipbuilding capacity and financial resources at the time.

**Construction of Grain Transport Ships Based on Qing Dynasty Designs.** In the mid-19th century, China's Qing Dynasty purchased and built modern warships, and its grain transport vessels were relatively advanced. The Nguyễn Dynasty modelled its grain boats after Qing designs to transport rice from southern and northern regions to the capital, Huế. In September 1881, the Nguyễn Dynasty ordered the navy to build 15 vessels modelled after Qing grain transport boats and Hong Kong long ferry boats (Nguyễn Dynasty Bureau of Historiography, 1979a, Vol. 66, 19). It also ordered the provinces of Quảng Bình, Hà Tĩnh, Nghệ An, Thanh Hóa, Quảng Nam, Bình Định, and Phú Yên to collaborate in constructing canal boats, with the project scheduled for completion within three years (Ibid., 34). Imitating the style of Qing grain transport ship, 39 feet long, 5.5 feet across, 2 feet

deep in the middle, can carry 160 cubic units (方) of rice, “because of its lightness and speed, it can be ready for transportation” ( “以其轻捷, 可备堪运” ) (Ibid., 19). In December 1882, Thanh Hóa Province completed the construction of nine vessels, including maritime patrol boats and Qing-style grain transport boats, which were immediately put into service transporting grain from northern Vietnam to Huế. (Nguyễn Dynasty Bureau of Historiography, 1979a, Vol. 68, 28).

**Repair of Existing Ships.** Due to the reduction of ships, the Nguyễn Dynasty had to order the repair of the existing ships. In 1855, the Nguyễn Dynasty stipulated the years of repair for all types of ships, “copper-coated ship” ( “裹铜船” ), repair every 5 years, rebuild every 16 years; non-copper-coated ships ( 非裹铜船 ), repair every 3 years, rebuild every 10 years; and return to the oil tanker once a year (Do Van Tam, 1907). Owing to increasing financial constraints, the time frame set for the repair of ships could not be fully implemented.

## 2.2 *Other Sources of Ships in the Nguyễn Dynasty During the Tự Đức Era*

In addition to the various types of officially built ships, there were several other sources of ships in Vietnam during the Tự Đức Era:

**Expropriation of Private Vessels.** Lacking the financial resources to construct modern ships, the Nguyễn Dynasty mobilized private resources for shipbuilding. In March 1873, the Nguyễn Dynasty encouraged coastal residents to build ships to support the dynasty’s maritime operations. It was stipulated that large ports were to construct around ten ships, while smaller ports were tasked with building three to five ships. Nearby coastal communities, consisting of either several hundred or around one hundred people, were selected to “appropriately fulfil maritime duties” ( “适充船务” ). However, many provinces reported that “the burden on the local population was unbearable” ( “辖民在所难堪” ), making it difficult to complete the assigned tasks (Nguyễn Dynasty Bureau of Historiography, 1979a, Vol. 48, 10-11). In October 1878, the Nguyễn Dynasty ordered various provinces to gather private resources to construct steam-powered sailing ship, stating (Nguyễn Dynasty Bureau of Historiography, 1979a, Vol. 60, 30). Despite the preferential conditions offered by the Nguyễn Dynasty, Vietnamese civilians were still reluctant to participate in the court’s shipbuilding and transportation tasks. This reluctance was primarily due to the small size of civilian vessels, the lack of technology and experience for

long-distance maritime navigation, and the unwillingness of the populace to take on the risks of sea transport. They feared that storms or pirate attacks could result in damage to their ships or even loss of life (Nguyễn Dynasty Bureau of Historiography, 1979a, Vol.65, 12-13).

**Purchasing Western-Style Ships.** In response to the continuous incursions by Western colonial powers, the Nguyễn court and its officials began to place greater importance on learning advanced technologies from Western countries. Tự Đức regarded Western steam-powered ironclad ships as superior to other ships. Despite financial constraints, he spared no expense in purchasing Western-style steam-powered ironclad ships and even hired foreigners to serve as technical personnel for navigation and operation. In August 1865, the Nguyễn Dynasty purchased the “Minto Steam-Powered Ironclad Ship” ( “敏妥气机大铜船” ) for a price of 135,000 Vietnamese piastres, equivalent to 97,200 taels of silver. The ship measured 11.23 zhang ( 丈 ) in length, 1.69 zhang in width, and had a carrying capacity of 300,000 catties ( 斤 ) . (Nguyễn Dynasty Bureau of Historiography, 1979a, Vol. 32, 40-41). In June 1866, the Nguyễn Dynasty spent a considerable sum to send Nguyen Chinh and others to Hong Kong to purchase the “Thuan Tiep Steam-Powered Ironclad Ship” ( “顺捷气机大铜船” ), The total expenditure, including the ship’s price, accompanying equipment, and supplies such as coal, amounted to 134,300 taels of silver. The ship’s hull was clad in copper, featuring two decks, one smokestack, and two masts. It measured 9.36 zhang in length, 1.6 zhang in width, and 8.3 chi ( 尺 ) in depth. The ship was equipped with six cannons, 15 muskets, five horse rifles, eight cabins, and various tools and iron chains. The fore and aft compartments could carry approximately 400,000 catties (Nguyễn Dynasty Bureau of Historiography, 1979a, Vol. 34, 29-31). In 1870, the Nguyễn Dynasty purchased another Western-style ship, the “Teng Hui Fire-Powered Ship” ( “腾辉火船” ) (Nguyễn Dynasty Bureau of Historiography, 1979a, Vol. 32, 40).

These steam-powered ironclad ships were the largest and most advanced vessels in Vietnam at the time, but they were already obsolete by Western standards. Many were damaged before they could even be put into use. For example, the “Thuan Tiep Steam-Powered Ironclad Ship”, purchased in 1866, was damaged by strong winds while sailing from Hong Kong to the Thuận An Port in Vietnam, “the water intake tube at the bottom broke, and the engine was too small to move quickly” ( “船底引水筒折坏, 又机

小驶迟” ) , requiring repairs upon arrival in Gia Định. Emperor Tự Đức lamented that it was a “misguided purchase” ( “此系误买” ) and ordered the hiring of foreign agents to capture Nguyen Chinh and others responsible for the acquisition (Nguyễn Dynasty Bureau of Historiography, 1979a, Vol. 34, 31).

**Accepting Ships Gifted by the French.** During the reign of Emperor Tự Đức, the Nguyễn Dynasty also accepted fire-powered ships gifted by the French. In September 1876, the dynasty received five fire-powered ships from France, which Emperor Tự Đức named them “Li Zai” ( “利载” ) “Li Ji” ( “利济” ) “Li Da” ( “利达” ) “Li Yong” ( “利用” ) “Li Fan” ( “利泛” ) (Nguyễn Dynasty Bureau of Historiography, 1979a, Vol. 56, 3).

**Seizing Pirate Ships.** In the 19th century, pirates frequently harassed the coastal areas of Vietnam, and the Nguyễn Dynasty occasionally seized pirate ships. However, by the later years of Tự Đức Era, the dynasty’s ability to resist pirates had weakened significantly, and the number of pirate ships captured became very limited. For instance, in the intercalary May of 1876, the “Teng Hui Fire-Powered ship” seized a pirate ship off the coast of Hà Tĩnh Province (Nguyễn Dynasty Bureau of Historiography, 1979a, Vol. 55, 27-28). In July 1883, “Li Da” fire-powered ship and “Thuan Tiep Steam-Powered Ironclad Ship” seized a pirate ship off the coast of Khánh Hòa Province (Nguyễn Dynasty Bureau of Historiography, 1979b, 18-19). In February 1881, Nguyễn Dynasty troops launched an anti-piracy operation off the coast of Bình Định Province, seizing two ships and several pieces of artillery (Nguyễn Dynasty Bureau of Historiography, 1979a, Vol. 65, 12).

In summary, during the Tự Đức Era, due to limited shipbuilding capacity, the Nguyễn Dynasty rarely constructed large vessels apart from repairing steamships and copper-clad ships inherited or purchased from earlier reigns. Instead, it primarily built a small number of fire-powered ships, warships, patrol boats, and privately owned small boats. By this period, Vietnam’s shipbuilding capabilities had significantly weakened, and both the variety and quantity of vessels had markedly declined.

### 3. Low Coastal Transport Capacity of Vietnamese Ships

During the Tự Đức Era, Vietnam’s shipbuilding capacity and maritime transportation and defence capabilities significantly declined, leaving the country struggling to fulfil functions such as north-south cargo transportation

and combating piracy. This decline is evident in the following aspects:

### ***3.1 The Nguyễn Dynasty's Steamships and Fire-powered Ships Fell into Disrepair and Often Ran Aground***

During the Tự Đức Era, although Vietnam constructed and purchased steamship with copper plating and fire-powered ships, it faced multiple challenges. First, local sailors generally lacked the technical skills required to operate these modern vessels, forcing the Nguyễn Dynasty to hire Western and Qing navigators and operators, a role referred to as “oversee operations” ( “看标” ). For example, in June 1866, purchased the “Thuan Tiep Steam-Powered Ironclad Ship”, the dynasty hired one Western technician, along with 34 Javanese and Chinese personnel, to oversee operations and machinery (Nguyễn Dynasty Bureau of Historiography, 1979a, Vol. 32, 40-41). Second, due to financial difficulties, these ships often lacked the necessary maintenance and repairs, resulting in frequent malfunctions and damage. These issues severely undermined the operational efficiency and maritime safety of the fleet. In June 1855, pirates raided merchant ships at the Thị Nại port in Bình Định Province and attacked official ships along the coast of An Du port. The Nguyễn Dynasty dispatched two ironclad ships to capture the pirates. However, one ship began leaking due to strong winds upon reaching the waters of Thị Nại, and had to return to Quảng Nam Province for repairs (Nguyễn Dynasty Bureau of Historiography, 1979a, Vol. 12, 31). In November 1875, Vietnam's largest ship at the time, the “Minto Steam-Powered Ironclad Ship”, was tasked with transporting goods such as ironwood planks from Thanh Hóa and Nghệ An Provinces. On its return journey, while sailing along the coast of Quảng Bình Province, the ship's main boiler began leaking and required repairs. After the repairs, the coastal area of Taiyang in the Phú Thừa Thiên, “the boiler burst, and the hull broke” ( “大锅破裂，船身荡破” ), resulting in the tragic drowning of 36 crew members (Nguyễn Dynasty Bureau of Historiography, 1979a, Vol. 54, 40). In July 1876, the “Teng Hui fire-powered ship”, carrying official funds and grain, ran aground along the coast of Hà Tĩnh Province and sank near Ang Ao ( 盎澳 ) (Nguyễn Dynasty Bureau of Historiography, 1979a, Vol. 55, 38). In December 1883, the two ironclad ships, “Xiang Yan” ( “祥雁” ) and “Jing Yang” ( “静洋” ) were “sent on a northern patrol mission but were lost to strong winds” ( “往北哨载，因风漂没” ). This tragic incident resulted in the drowning of 77 crew members on the “Xiang Yan” and 51

on the “Jing Yang,” marking a major disaster (Nguyễn Dynasty Bureau of Historiography, 1980a, Vol. 2, 13).

Even the fire-powered ships gifted by the French, due to their narrow hulls and inability to withstand sea voyages, were limited to inland river transportation. For example, the “Li Ji” fire-powered ship arrived at a Vietnamese port in September 1876. In November, while departing on a mission to transport official goods, the vessel ran aground along the coast of Thừa Thiên Prefecture and was wrecked and sunk off the shores of Tang Ky District. For instance, the “Li Ji” fire-powered ship arrived at a Vietnamese port in September 1876. However, by November, during its first voyage transporting official goods, it ran aground along the coast of Phủ Thừa Thiên and sank off the shores of Tang Quỳ village (唐圩邑) (Nguyễn Dynasty Bureau of Historiography, 1979a, Vol. 56, 29). The “Li Fan” fire-powered ship was also described as “narrow, heavy, and underpowered, suitable only for river navigation” ( “狭小, 身重力微, 只堪江行” ). In May 1877, the fire-powered ship “Li Fan” was dispatched to the inland waterways of Hải Dương for the purpose of “patrolling the rivers and transporting cargo” ( “巡江搭货” ) (Nguyễn Dynasty Bureau of Historiography, 1979a, Vol. 59, 30).

### ***3.2 Private Small Boats Failed to Handle North-South Official Goods Transport***

The Nguyễn Dynasty’s north-south cargo shipping system (water transport of grain to the capital) was known as “Grain Transport” ( “漕运” ) and “Patrol Shipping” ( “哨载” ). In 1826, it was decreed that north-south shipping routes be divided into two sections: Northern Grain Transport and Southern Grain Transport. “The Southern Grain Transport covered areas south of Thừa Thiên, while the Northern Grain Transport included areas north of Quảng Trị” ( “承天以南曰南漕, 广治以北曰北漕” ) (Cabinet of Nguyễn Dynasty, 2015, Vol. 257, 1). Typically, valuable and heavy goods were transported by official ships, while other official goods were carried by grain transport ships.” (Ibid.)

In the late of Tự Đức Era, due to the backwardness of shipbuilding technology, frequent harassment by pirates, inadequate protection of Nguyễn Dynasty’s official ships, the increase in the rate of wreckage of private boats hired for grain transport (patrol shipping), and insufficient compensation due to the Nguyễn Dynasty’s financial emptiness, the Vietnamese people

were reluctant to build ships for sentry loads (Nguyễn Dynasty Bureau of Historiography, 1979a, Vol. 65, 12-13). As a result of these factors, the number of grain transports was greatly reduced, and they were no longer able to fulfil the annual task of transporting grain and goods from the north to the south. For example, in June 1875, Vietnam planned to release 490,000 cubic units of rice from the northern provinces to the capital that year, but the transportation into the capital was only 10,350 cubic units of rice (Nguyễn Dynasty Bureau of Historiography, 1979a, Vol. 53, 57). In the fourth month of the following year, a high-ranking official reported that “the hired civilian boats were either plundered by pirates or wrecked in storms, resulting in unreliable transport” ( “雇拨民船应载，或被匪劫掠，或因风失事，运载不清” ), which led to “maritime blockades and a shortage of vessels” ( “海梗船稀” ), making it impossible to fulfil the official transport tasks for silver and grain (Nguyễn Dynasty Bureau of Historiography, 1979a, Vol. 55, 10, 15-16).

### **3.3 High Rate of Shipwrecks**

During the Tự Đức Era, Vietnam's transportation ships were wrecked frequently due to wind and waves and pirate attacks, resulting in serious losses of people and goods. For example, in March 1856, Biên Hòa Province sent sea-going ships to transport public goods and return items that were given as gifts by others, and on the way, the ship broke in the wind and waves, and 41 people were lost in the water (Nguyễn Dynasty Bureau of Historiography, 1979a, Vol. 16, 10). In front of the French fire-powered ship guns, the Vietnamese government ships are also unbeatable. Such as from 1861 winter to the first month of 1862, the Nguyễn Dynasty to unload the ship transporting food and pay equipment, 25 ships were burned by foreign ships, the loss of more than 20,080 cubic units of rice (Nguyễn Dynasty Bureau of Historiography, 1979a, Vol. 26, 3).

In the first period of Tự Đức, Vietnam sent more sentinel ships every year, such as 612 ships in 1852, 613 ships in 1853 and 650 ships in 1855. However, since the middle of the period, not only the number of sentinel ships decreased year by year, some years even only a few dozens of ships, but also the rate of shipwrecks of sentinel ships increased, and the loss of personnel and property was heavy. The highest rate of shipwrecks was in 1883, when 69 ships were dispatched, and 19 ships were sunk and lost to bandits because of the wind, the rate of shipwrecks was as high as 27.53

percent, and the number of people drowned and disappeared was 119 (Nguyễn Dynasty Bureau of Historiography, 1980a, Vol.2, 20).

Private boats suffered heavy losses in hurricanes because of their small hulls and outdated technology. For example, in August 1861, Thanh Hóa province was hit by a hurricane, which capsized 26 fishing boats of coastal residents and drowned 220 people (Nguyễn Dynasty Bureau of Historiography, 1979a, Vol. 25, 7).

#### **4. The Nguyễn Dynasty Relied on Qing Ships for Coastal Transportation and Anti-Piracy Operations**

Qing official and private ships won the trust of the Vietnamese Nguyễn Dynasty due to their extensive experience in ocean trade and their familiarity with sea routes. During the Tự Đức Era, in view of the decrease in the number of Vietnamese ships and their frequent shipwrecks due to quality and technical problems, the Nguyễn Dynasty had to rely on Qing official and private ships to carry out official overseas business and official purchases, to help transport food from the north to the south, to escort Vietnamese ships on coastal patrols, and to assist in the suppression of piracy in Vietnam.

##### **4.1 *The Assistance of Qing Ships for Official Overseas Business and Purchase of Goods***

During the Tự Đức Era, the Nguyễn Dynasty had few ships to sail far and had to rely on Qing official ships and private ships to go out on official business. For example, in December 1881, the Nguyễn Dynasty wanted to send people to Britain, Russia, Prussia, France, the United States, Austria, Japan and other countries to study. Due to the backwardness of their own shipbuilding and sailing technology, they “did not get the convenience” ( “未得其便” ) to do so, but “The Qing Empire regularly interacted with various countries and hoped to rely on smooth passage without obstruction” ( “清国有常往来诸国，欲赖搭行无碍” ), requests to board Qing ships to travel to various countries for official duties (Nguyễn Dynasty Bureau of Historiography, 1979a, Vol. 66, 44).

The Nguyễn Dynasty also used the Qing private merchant ships to trade in Vietnam to buy goods on consignment. For example, in July 1864, the Nguyễn Dynasty sent Chen Rushan to return on a Qing merchant ship to buy goods and exempted the Qing merchant ship shipowner from the entry tax

of more than 2,000 min ( 緡 ) (Nguyễn Dynasty Bureau of Historiography, 1979a, Vol. 30, 5). The Nguyễn Dynasty also invited Qing merchant ships to the Mekong River delta region and Southeast Asian maritime countries to traffic grain to be sold in the central regions. For example, in August 1864, the provinces invited Qing merchant ships to buy rice in Siam ( 暹罗 ) or Gia Định and Ha Chau ( 下洲 ) areas and transported it back to central Vietnam provinces for sale, and gave them tax exemptions to solve the problem of food supply in central Vietnam (Ibid., 9). By the late 19th century, Vietnam had become a French colony. As its merchant ships operated “only within the northern and southern regions of the country and never ventured abroad for trade” ( “不过南北两圻等辖而已，未曾往至外国行商” ) (Nguyễn Dynasty Bureau of Historiography, 1980b, Vol. 8, 12-13), Vietnam's foreign commerce remained largely dependent on Qing Chinese merchant vessels.

#### **4.2 Requesting Help from Qing Merchant Ships and Government Ships to Transport Grain**

During the Tự Đức Era, due to the limited sea transportation capacity of Vietnamese official ships, “The transport ships in the southern provinces are not accustomed to navigating the sea routes and repeatedly suffer losses” ( “南省漕船不习海道，屡屡失利” ) (Nguyễn Dynasty Bureau of Historiography, 1981, 6), and small private boats unwilling to venture out to sea, the transportation of food from the north to the south of Vietnam often became difficult to complete, the Nguyễn Dynasty had to rely on the Qing Dynasty's official ships and private merchant ships to complete the task of transporting official goods.

Thus, they hired Qing merchant ships to transport public goods. In the early years of Tự Đức, Ruan Zhonghe hired ships from eastern part of Guangdong to transport official goods, “in order to facilitate the transportation of goods” ( “以俾漕运敏济” ) (Nguyễn Dynasty Bureau of Historiography, 1981, 6). In 1876, since the national ships were unable to complete the transportation of money and rice from the north to the south, the Qing merchants, such as Wu Liande, were allowed to hire Qing ships to carry goods to northern provinces of Vietnam (Nguyễn Dynasty Bureau of Historiography, 1979a, Vol. 55, 1). In January 1881, as merchant ships and fishing boats from Quảng Bình, Hà Tĩnh and Nghệ An provinces were reluctant to transport rice from the northern region to the central part of the country, the Nguyễn Dynasty hired Qing ships to help carry the rice (Nguyễn

Dynasty Bureau of Historiography, 1979a, Vol. 65, 1).

The Nguyễn Dynasty requested the Qing Dynasty Merchants Bureau to handle grain transportation on its behalf in order to solve the problem of transporting grain between North and South Vietnam. In March 1881, Nguyễn Dynasty requested Qing Dynasty Merchants Bureau to transport official rice of Vietnam, Li Hongzhang of Qing Dynasty sent Tang Tinggeng, a third-grade official of Merchants Bureau, to Vietnam to discuss matters on behalf of the load, according to the agreement signed by the two sides, the Qing Dynasty annually helps Vietnam to transport 420,000 cubic units of rice, which is loaded in the first month of the year, and finished in July, and is transported from the port of Hải Phòng in the north to the port of Thuận An in the central part, and the transportation of every 100 cubic units of rice pays the shipping fee of 140 min for the Qing Dynasty, and in case of any defaults and failures, the Qing Dynasty pays compensation for all. In order to better fulfill the amount, Qing Dynasty Merchants Bureau also set up granaries in Hải Phòng and Thuận An ports of Vietnam and sent staff to live and manage them (Ibid., 15). In January 1883, the Nguyễn Dynasty, citing the reasons that grain distribution was sufficient and rice was difficult to store for long periods, ordered the Shipping Bureau to modify its annual transport plan of 420,000 cubic units of rice to instead include an equal share of millet and rice (Nguyễn Dynasty Bureau of Historiography, 1979a, Vol. 69, 4).

#### **4.3 *Qing Ships Help Vietnam Fight Bandits***

After the middle of the 19th century, Vietnam's coastal areas were often harassed by pirates, due to the lack of large ships and cannons, official ships in the fight against the pirates often wrecked, the Nguyễn Dynasty had to hire Qing ships to help fight the bandits, and the Qing ships were often victorious.

In May 1864, Peng Tingxiu, from Thanh Hóa Province, hired a Qing ship to patrol the coast of Nguyễn Dynasty and captured 2 pirate ships and received a reward of 200 min (Nguyễn Dynasty Bureau of Historiography, 1979a, Vol. 29, 39). In April 1865, Vietnam's coastal provinces had a lot of pirate ship infestation, and several Nguyễn Dynasty's warships were wrecked, so they hired the Qing ships led by Peng Tingxiu to help round up the Pirates (Nguyễn Dynasty Bureau of Historiography, 1979a, Vol. 31, 31-32). At the time, there were Qing ships moored in Vietnam's seaport,

applying for commerce to buy rice, Nguyễn Dynasty took the opportunity to persuade these Qing ships to help Vietnam to fight the pirates (Nguyễn Dynasty Bureau of Historiography, 1979a, Vol. 32, 7). In August of the same year, the Nguyễn Dynasty ordered the navy to send 12 patrol ships, and the provinces of Thanh Hóa, Nghệ An and Nam Định to send 21 official ships to the sea to jointly fight against the bandits. Considering the fact that the Qing Dynasty's merchant ships and fishing boats were both “well versed in the paths of the islands” ( “諳熟岛屿路径” ) and had “courageous and practical people” ( “勇敢干实者” ), the Nguyễn Dynasty hired 25 Qing ships to take part in the battle, and finally expelled the pirate ships from the distant sea (Ibid., 35-38). In October 1866, the Nguyễn Dynasty exempted 69 Qing merchant ships from departure and entry taxes on the basis of their merit in fighting bandits (Nguyễn Dynasty Bureau of Historiography, 1979a, Vol. 35, 38). In November 1882, the coastal garrison in Thanh Hóa province assisted the Qing fishing boats to round up pirates, captured 2 pirate ships and the gunpowder on board, and arrested 18 pirates, and emperor Tự Đức ordered to reward the Qing fishing boats with more than 1,100 min of money as a reward (Nguyễn Dynasty Bureau of Historiography, 1979a, Vol. 68, 27).

#### ***4.4 Qing Ships Helped Patrol the Vietnamese Coast and Escorted Official Ships Transporting Public Goods***

After the mid-19th century, Vietnamese ships transporting goods from north to south frequently fell victim to pirate attacks. The official ships assigned to escort these convoys often encountered accidents, prompting the Nguyễn Dynasty to hire Qing ships to assist with coastal patrols and escort missions for Vietnamese vessels carrying goods and food.

For instance, in July 1865, the Nguyễn Dynasty hired Qing ships to patrol the coast and escort grain convoys from the northern regions. Five Qing ships, organized by Qing merchant Peng Tingxiu, were employed for this purpose. Initially, the agreement was to hire the ships for a half-month term with 1,050 taels of silver (Nguyễn Dynasty Bureau of Historiography, 1979a, Vol. 32, 31). In December 1866, Emperor Tự Đức observed that the provincial naval forces escorting grain transport boats were “scattered and sparse, lacking unified command, and thus ineffective” ( “零星希疏, 不相统掇, 难期得力” ) making them susceptible to pirate attacks. As a result, in addition to deploying Nguyễn court vessels for joint escort duties, he requested the Qing merchant Peng Tingxiu to help hire two

or three Qing ships to assist in escorting the Nguyễn grain boats and to cooperate with government troops in joint suppression of pirates, in order to “restore security at sea” ( “以清海氛” ) (Nguyễn Dynasty Bureau of Historiography, 1979a, Vol. 35, 61).

## **5. The Reasons for Vietnam’s Limited Shipbuilding Capacity and Reliance on Qing China for Maritime Transport During the Tự Đức Era**

The main reasons for the decline of Vietnam’s shipbuilding capacity and its reliance on Qing China for maritime transport in the mid-to-late 19th century were:

### ***5.1 Premodern and Early Modern Vietnam’s Weak Maritime Consciousness Limited the Development of its Shipbuilding and Maritime Industries***

As a coastal nation, premodern and early modern Vietnam possessed a coastal consciousness but lacked a broader maritime or oceanic outlook. Several scholars have explored this issue in depth. Vietnamese researchers such as Thanh The Vy and Dao Duy Anh believed that ancient Vietnam feared the sea, and its navigation was largely confined to waters close to the shore (Thanh, 1961, 182; Dao, 2002, 79). Anthony Reid similarly noted that Vietnamese men traditionally looked down upon trade and commerce, and were even less inclined to engage in coastal or ocean-going trade (Reid, 2015, 24-25). Yu Xiangdong argued that Vietnam’s maritime activities were primarily limited to nearshore sailing along the coast. Under the Nguyễn Dynasty, maritime awareness was largely restricted to coastal defence and the protection of harbours and maritime gateways (Yu, 2008, 2012, 2015). This fear of the open sea and the absence of a true oceanic vision significantly hindered the development of Vietnam’s large-scale shipbuilding and long-distance maritime trade.

### ***5.2 Vietnam was Plagued by Internal Turmoil and External Threats, Leading to a Rapid Decline in National Strength***

Between 1858 and 1885, Vietnam faced successive French invasions that led to the loss of its southern provinces, the occupation of northern territories, and eventual colonization. Treaties such as those of *Saigon* (1862, 1874) and *Hue* (1883) forced Vietnam to cede land, open trade routes,

and accept French protectorate status. The end of the Sino-Vietnamese tributary relationship after the 1885 Sino-French War marked the loss of Vietnam's independence. These internal and external crises strained state finances, weakened shipbuilding and coastal transport, and left Vietnam vulnerable to piracy fuelled by regional colonial disruptions. At the same time, Western colonial expansion forced some coastal populations in East and Southeast Asia to turn to piracy, leading to frequent pirate disturbances along Vietnam's coastline. Although some Vietnamese elites sought reform and the Nguyễn Dynasty began learning from the West—purchasing several Western-style steamships—it still failed to effectively carry out north-south grain transport and suppress coastal pirate disturbances.

### ***5.3 China Placed Great Importance on the Development of Modern Shipbuilding and Maritime Transportation***

At the same time, the Qing Dynasty was also grappling with internal and external crises. Following the Opium Wars, the Qing government faced heavy indemnities and frequent domestic uprisings. In the 1870s, the Self-Strengthening Movement emerged, during which Li Hongzhang advocated for the Qing government to prioritize coastal defence, leading to the establishment of the Beiyang Fleet and the founding of the China Merchants' Steam Navigation Company in 1872. The company acquired Western-style steamships and operated under a “state-supervised, merchant-managed” model, fostering China's modern maritime industry and opening domestic and international shipping routes. During this period, a significant number of Chinese merchant and fishing vessels sailed south to Vietnam, leveraging advanced deep-sea navigation technologies to operate actively in the South China Sea and along Vietnam's coasts.

### ***5.4 The Qing Dynasty and Vietnam Still Maintained a Relatively Close Suzerain–Vassal Relationship***

The Nguyễn Dynasty maintained a relatively close suzerain–vassal relationship with the Qing Dynasty, which did not come to a definitive end until after the Sino-French War in 1885. Due to Vietnam's inferior shipbuilding technology and maritime capabilities compared to China, it had to rely on both official and civilian Chinese vessels to carry out tasks such as transporting grain and government goods between the north and south,

suppressing piracy, and purchasing supplies.

## 6. Conclusion

In summary, during the reign of Emperor Tự Đức, Vietnam faced mounting internal and external crises and severe fiscal constraints. To counter foreign invasions, pirate attacks, and ensure north–south transport of grain and official goods, the Nguyễn court endeavoured to build and acquire various vessels—including steam-powered copper-clad ships, fire-powered boats, patrol boats, and warships—while provinces and civilians relied on traditional wooden and bamboo boats. However, shipbuilding technology had significantly declined, vessel numbers dropped sharply, and the official fleet’s transport and combat capacities were limited. Lacking trained naval personnel, the court had to rely on Qing and Western sailors to operate new steamships. Persistent financial hardship also meant poor maintenance, leading to frequent problems such as rust, leakage, grounding, and hull damage. Small civilian boats, with low transport capacity and weak maritime defences, were prone to accidents and pirate threats during their annual missions.

Given the relatively close tributary relationship between Vietnam and China at the time, the Nguyễn Dynasty increasingly relied on Qing official ships, as well as civilian merchant and fishing boats, which were equipped with modern ships and had experience in coastal and long-distance navigation. These Qing ships assisted Vietnam in completing essential tasks, including transporting grain and goods between the north and south, coastal patrols, escorting transport fleets, combating pirates, purchasing goods from China and other parts of Southeast Asia, and carrying officials on overseas missions. This reliance on foreign support reflects the comprehensive decline of Vietnam’s maritime capabilities during the reign of Emperor Tự Đức.

## Note

- <sup>1</sup> This work was supported by the National Social Science Foundation Project under Grant No. 21&ZD244.

## Reference List

- Cabinet of Nguyễn Dynasty (2015), “漕政–漕运二 (Caozheng-Caoyun 2) [The Grain Tribute System - Water Transport of Grain 2], 钦定大南会典事例 (Qinding Danan Huidian Shili) [The Supreme Court Rule on Adoption]” (Photocopy), Principal Records, Vol. 257, Beijing: People’s Publishing House.
- Crawfurd, John (1820), *History of the Indian Archipelago*, London: Cambridge University Press.
- Do Van Tam (1907), “大南典例撮略新编–工部 (Danan Dianli Cuolue Xinbian – Gongbu) [The New Compilation of the Excerpts from the Grand Regulations of Dai Nam -- Ministry of Works]”.
- Dao, Duy Anh (2002), *Việt Nam văn hóa sử cương* (Outline of Vietnamese Cultural History), Hanoi: Nha Xuất bản Văn hóa Thông tin Hà Nội.
- Li, Guimin (2016), “越南阮朝明命时期 (1820-1841) 海防体系的改革与运作 (Yuenan Ruanchao Mingming Shiqi (1820-1841) Haifang Tixi de Gaige yu Yunzuo) [The Reform and Operation of the Coastal Defense System in the Minh Mệnh Period of the Nguyễn Dynasty (1820-1841)]”, *亚太研究论坛 (Yatai Yanjiu Luntan)* [Asia-Pacific Research Forum], No. 62, pp. 101-134.
- Li, Tana (1998), *Nguyễn Cochinchina: Southern Vietnam in the Seventeenth and Eighteenth Centuries*, NY: Cornell University Press.
- Li, Tana (2003), “Thuyền và kỹ thuật đóng thuyền ở Việt Nam cuối thế kỷ 18, đầu thế kỷ 19 (Maritime Routes and Shipbuilding Technology in Vietnam During the Late 18th and Early 19th Centuries)”, *xưa và nay*, so 131.
- Li, Tana (2003), “十八世纪末十九世纪初越南的船舶和造船业 (Shibashiji Mo Shijiushiji Chu Yuenan de Chuanbo He Zhaoshuiye) [Ships and Shipbuilding in Vietnam in the Late Eighteenth and Early Nineteenth Century]” (Yu, Xiangdong and Yang, Chaoqin, Trans.), *中国东南亚研究会通讯 (Zhongguo Dongnanya Yanjiuhui Tongxun)* [Journal of the Southeast Asian Studies Association of China], No. 1.
- Li, Tana (2024), *A Maritime Vietnam from Earliest Times to the Nineteenth Century*, UK: Cambridge University Press.
- Nguyễn Dynasty Bureau of Historiography (1971), “圣祖仁皇帝实录 (Shengzuren Huangdi Shilu) [The Annals of Emperor Minh Menh]”, *大南实录 (Danan Shilu)* [The Annals of the Dai Nam] (Photocopy), Principal Records, Part II, Tokyo: Institute of Language and Culture, Keio University.

- Nguyễn Dynasty Bureau of Historiography (1979a), “翼宗英皇帝实录 (*Yizongying Huangdi Shilu*) [The Annals of Emperor Tự Đức]”, 大南实录 (*Danan Shilu*) [The Annals of the Dai Nam] (Photocopy), Principal Records, Part IV, Tokyo: Institute of Language and Culture, Keio University.
- Nguyễn Dynasty Bureau of Historiography (1979b), “附废帝 (*Fu feidi*) [The Deposed Emperor]”, 大南实录 (*Danan Shilu*) [The Annals of the Dai Nam] (Photocopy), Principle Records, Part IV, Tokyo: Institute of Language and Culture, Keio University.
- Nguyễn Dynasty Bureau of Historiography (1980a), “简宗毅皇帝实录 (*Jianzongyi Huangdi Shilu*) [The Annals of Emperor Kien Phuoc]”, 大南实录 (*Danan Shilu*) [The Annals of the Dai Nam] (Photocopy), Principle Records, Part V, Tokyo: Institute of Language and Culture, Keio University.
- Nguyễn Dynasty Bureau of Historiography (1980b), “景宗纯皇帝实录 (*Jingzongchun Huangdi Shilu*) [The Annals of Emperor Dong Khanh]”, 大南实录 (*Danan Shilu*) [The Annals of the Dai Nam] (Photocopy), Principle Records, Part VI, Tokyo: Institute of Language and Culture, Keio University.
- Nguyễn Dynasty Bureau of Historiography (1981), “诸臣列传二十 (*Zhuchenliezhuan 20*) [Biographies of Twenty Ministers]”, 大南正编列传 (*Danan Zhengbian Liezhuan*) [The Principal biographies of the Dai Nam] (Photocopy), Part II, Vol. 30, Tokyo: Institute of Language and Culture, Keio University.
- Nguyen, Van kim and Nguyen, Manh Dung (2007), “*Truyền thống và hoạt động thương mại của người Việt - thực tế lịch sử và nhận thức* (Traditions and Commercial Practices of the Vietnamese - Historical Context and Perceptions)”, *NCLS*, so 8.
- Pham, Charlotte, Blue, Lucy, and Palmer, Colin (2010), “The Traditional Boats of Vietnam: An Overview”, *International Journal of Nautical Archaeology*, Vol. 39, No. 2, pp. 258–277.
- Reid, Anthony (2015), *A History of Southeast Asia*, West Sussex: Wiley Blackwell.
- Thanh, The Vy (1961), *Ngoại thương Việt Nam thời thế kỷ XVII, XVIII và đầu XIX* (Vietnam's Foreign Trade during the 17th, 18th Centuries and the Early 19th Century), Hanoi: Su hoc Publishing House.
- To sang tac Bo Giao thong van tai (2002), *Lịch sử giao thông vận tải Việt*

- Nam (History of Transportation in Vietnam), Ha Noi: Nxb giao thông van tai.
- Vo, Nhuyen Giap (1987), *Kinh tế biển và khoa học kỹ thuật về biển ở nước ta* (The Marine Economy and Marine Science and Technology of Our Country), Ha Noi: Nxb Nong Nghiep.
- Yu, Xiang Dong (2008), 古代越南的海洋意识 (*Gudai Yuenan de Haiyang Yishi*) [Maritime Consciousness of Ancient Vietnam], Doctoral Dissertation, Xiamen University.
- Yu, Xiang Dong (2012), “西方入侵前夕越南阮朝的 ‘外洋公务’ (*Xifang Ruqin Qianxi Yuenan Ruanchao de 'Waiyang Gongwu'*) [The ‘Official Overseas Business’ of Vietnam’s Nguyễn Dynasty on the Eve of Western Invasion]”, *历史研究 (Lishi Yanjiu)* [Historical Research], No. 1, pp. 124–142.
- Yu, Xiang Dong (2015), “试析越南阮朝明命帝的海洋意识 (*Shixi Yuenan Ruanchao Mingming Di de Haiyang Yishi*) [On Maritime Consciousness of Emperor Minh Mang in the Nguyễn Dynasty of Vietnam]”, *史学月刊 (Shixue Yuekan)* [Historical Monthly], No. 12, pp. 72–78.
- Zheng, Yongchang, and Li, Guimin (2014), “瞬间的光芒：越南阮朝裹铜船之制作与传承 (*Shunjian de Guangmang: Yuenan Ruanchao Guotong Chuan Zhi Zhizuo yu Chuan Cheng*) [The Glimmer of a Moment: The Making and Inheritance of Copper-Clad Ships in the Nguyễn Dynasty of Vietnam]”, *南方大学学报 (Nanfang Daxue Xuebao)* [Journal of Southern University], No. 2, pp. 65–89.
- Zheng, Yongchang (2022), “越南阮朝明命帝 (1820-1841) 海洋强国梦：以造船和出洋公务为中心 (*Yuenan Ruanchao Mingming Di (1820-1841) Haiyang Qiangguo Meng: Yi Zaosheng he Chuyang Gongwu wei Zhongxin*) [The Maritime Power Dream of Minh Menh Emperor (1820-1841) of the Nguyễn Dynasty: Focusing on Shipbuilding and Foreign Maritime Affairs]”, *人文及社会科学集刊 (Renwen ji Shehui Kexue Jikan)* [Journal of Humanities and Social Sciences], Vol. 34, No. 3, pp. 589–624.