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ABSTRACT

Seventy percent of the planet is covered with ocean. To start a story about the heritage and memory from the sea, what first comes to our mind is the image of a giant floating element, of an open vastness, with the exception of ships and boats. In the several thousand years of maritime history, boats got their place in the narrative of 'times gone by', independently of their being related to the sea, the oceans or the river. When it comes to constructing and floating boats on rivers or the oceans – be it for trade, the conquest of a coastal strip or for the discovery of a new piece of land – ancient and medieval times are the most popular field in maritime heritage. Although this is supposed to be only a small story of maritime heritage on the planet, it takes place in a country that has the largest delta of the planet, derived through the sedimentation of the rivers that since millions of years are coming down from the Himalayas (River Ganges) and Tibet (River Brahmaputra). Its name is Bangladesh, previously known as Bengal, crisscrossed by riverbeds, involving people and the land at its margins with their endless streams of water, the huge rivers widening like a sea and surrendering themselves into the mouth of the mighty Bay of Bengal. The ocean in the southeastern region of the subcontinent has been a very potential maritime route since the time of the *Periplus of the Erythraean Sea*. Thus, it is no wonder that boats, rivers, sea and alluvial lands are coming to our mind when we are talking about Bangladesh. Fishing is the primal occupation in its coastal region. The trading in frozen fish is an important economical asset, with the country exporting frozen fish into different parts of the world. The deltaic coastline is about 580 kilometres long. The territorial water of Bangladesh extends for 12 nautical miles (22 km), and the exclusive economic zone of the country is 200 nautical miles (370 km). This explains why the coastal line of Bangladesh is vibrant with fishing tradition and boat crafting, as well as an infinite source for apprenticeship and cultural tradition.

Boat manufacturing and crafting is a traditional practice that is inherent to this area. Particularly the versatile fishing boat of Bengal demonstrates a series of different morphological aspects. The skill of crafting a fishing boat is a not widely known intangible form of heritage, an art that is still practiced and passed on to the descendants of the ancient fishermen. Yes, the

'AFLOAT BEAUTY' OF THE DELTA: STUDY ON TRADITIONAL BOATS OF BANGLADESH

HISTORICAL BACKGROUND

From time immemorial riverine communication played a vital role to commute people from one place to another. The river network captivates the people of this delta land; it is part of their daily life pattern and distinguishes the cultural activities of this region. The largest delta in Bangladesh is crisscrossed by a great number of rivers which surrender into the Bay of Bengal. The 'boat' as maritime transportation has a rapport of thousands of years, not only in our cultural heritage, but already since prehistoric times. In many ways, since ancient times in this delta land, boats have been considered the foremost vehicle, as is evident in old manuscripts, ancient drawings, terracotta plaques (Figures 1–2) and ancient literature. These boats were suitable for different water courses and hierarchically floated on the river to the sea. The history of Bengal is filled with boats, rivers and the lifestyle of its people.

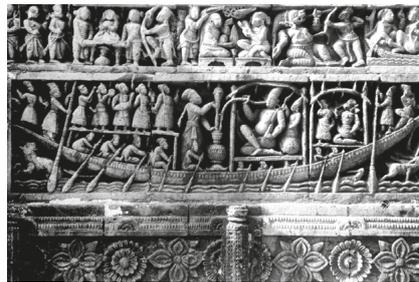


Figure 1 – Historical reference terracotta, embedded into a wall of the famous Hindu temple Kantajeeer (16th century AD)



Figure 2 – Precious terracotta plaque at the Jor-Bangla temple showing the festival with boats (16th century AD)

The deltaic plane has several versatile floating vessels; around 50 different floating elements were available all over the mainland of Bengal. Most of them are now extinct or decaying from lack of interest in crafting these beautiful examples of cultural longing. The different kinds of boats were constructed for a particular purpose and shaped to serve well. For instance, the fishing boat of the river, compared to that of the sea, would have difference in morphology and in the applied scientifically based knowledge of construction techniques.

It must be mentioned that boats have undergone some changes due to the impact of industrial development and its related phenomena. In any case, the traditional way of boat crafting is about to disappear and with it the varieties of boat manufacturing processes in different coastal regions and contexts, even though the contextually embedded 'form of art' of crafting the water vessel was still widely known just about two decades before. Nowadays, due to machine and

legacy of sculpting these traditional regional coast-line boats, together with the scientific knowledge of how to make them float safely in the middle of the river as well as in the sea is still in place, and practiced whilst people go for fishing for a couple of days or months. About 20 or 25 years ago, the riverine Bangladesh still maintained a series of versatile boat types floating along river routes. Then, more than 50 different boats and vessels cruised the rivers and the sea, of which almost 90% are extinct. The aim of this paper is to document some of the beautifully crafted and specialised vessels that still could be seen a few years back, as well as the development of traditional fishing boats particular to certain communities. It intends to analyse how the construction is carried out, what the materials for the building of this floating element are, and how craftsmanship continues to rely on traditional methods, thus documenting the splendour and the beauty of the boats that are the subject of this research. Additionally, the paper will present a scientific analysis in terms of navigation mechanisms and fishing processes in the open sea.

KEYWORDS

afoat, ocean, sea heritage, traditional fishing process, boat, manufacturing and crafting, Bay of Bengal, navigation mechanism, memory of the sea, cultural heritage, workmanship, craftsmanship, intangible heritage

engine adaptations, this fact is obscured and aggravated through the disappearance of traditional knowledge. In a very near future, the definition of 'floating beauty of water, rivers and the sea' will eventually be reserved only to museums.

Since thousands of years people of this delta have been building boats whose variety of shapes reflect both regional inputs and the fact that traditions related to water-based communications have always been rich in Bangladesh. This is all because of the geography of the country, home to a most densely populated nation. About 60% of Bangladesh is fissured into a vast river system.¹ Waterways and boats are thus understandably an integral part of the country's communication system. In the last couple of decades, the fishing boats of Bengal have changed in shape and form: sea vessels from the Bay of Bengal adopted overseas styles due to the influence of foreign merchants. This paper will address this reality by showing the changing pattern of the mother form, or the ancient art form of the fishing boats. The wooden boats of the inland waterways developed their shapes and forms free from foreign influences. Meanwhile, all these boats were appreciated by the local craftsmen communities of the coastal or riverine hinterland of deltaic Bengal.

In the process of building boats, the craftsmen showed scientific reasoning which proved to be intelligent throughout time. Another part of this paper will put emphasis on the cataloguing of the scientific elaborations behind the building of these sea and river bound vessels. At the same time, this beautiful craftsmanship is getting lost; very soon the ordinary people of Bangladesh will no longer partake in the glorious tradition of building and using boats. The tremendously valuable practice of crafting boats, transmitted from generation to generation, is part of the intangible cultural heritage of this riverine deltaic region. These traditional practices are in need of proper documentation so as to preserve the ancient knowledge and this part of Bengali cultural identity. The practice of how to build boats by using the skills and technologies that have been passed down orally by generations of boat builders is a valuable intangible heritage asset.

It should be mentioned that there are a series of other intangible cultural activities related to the act of making a boat: while crafting and building a boat, the craftsmen often sing in order to have a good time at work and to concentrate. On the other hand, the sailor of the boat also sings a song which is group-based, and this song is dedicated to the mighty river named Vatialee² – telling about the river, the sailor and the horizon. All these remarkable traditions and performances are fading day by day from the simple life of rural Bengal.

Until the mid-20th century³ the riverboats of Bangladesh remained the same. But around the 1980s two big technical revolutions took place which suddenly changed the riverscape of Bangladesh from the colourful scenery of hundreds of sails to a bare noisy one. With the advent of cheap diesel engines the first revolution was the sudden

¹ <http://www.friendship-bd.org/>.

² The Bhatiyali folk song is a traditional boat song of eastern Bengal. It is sung by boatmen during the journey on the river. *Bhatiyali* means 'downstream' or 'ebb tide'. Beginning with an endearing address, the voice of the singer uses a strong flight of top notes. Gradually, the tune slides down to lower notes. Bhatiyali songs are also mentioned in Sri Krishna Kirtan.

³ <http://www.friendship-bd.org/page/exhibition-bangladesh-national-museum-2010-75>.



Figure 3 – Delta land; beautiful boats are floating on the rivers, throughout the horizon the sails are dominant. Unfortunately, this picturesque view is now just an image of what remains in our memory. Photo by Dick Durance (<http://mybeautifulbangladesh.blogspot.pt>).

motorisation of traditional boats. This enabled the crew to save on costs of masts and sails. However, this technological change caused the disappearance of marvellous riggings in less than five years. The second one was the change of boat-building material, from wood to tin and welded steel sheets. On account of rural electrification and the political will of preserving the forests, boat builders were encouraged to use these sheets to build their new boats. Wooden boats soon became too expensive and less economically viable. Almost inescapably, these sudden changes are bringing an end to this rich cultural heritage and technological know-how of Bangladesh. A thousands-of-years old tradition that has been passed on from generation to generation is on the verge of being lost. This is also changing the lives and expectations of the families involved in the art and ritual of boat building. It has now become our moral duty to preserve the millenary sailing traditions, technologies and crafts of the carpenters, sail makers, rope makers, bamboo specialists (for the roofs), blacksmiths and many others, involved in the creation of the largest and unique fleet of the world known as ‘the floating beauty’

FLOATING SCULPTURE OF BANGLADESH

Since ancient times, boats have been attached to the life of the Bengali people. Many ancient settlements grew by the side of the river in this delta land, and boats became the only available means for trade and the conquest of new land. Many riverine cities contained facilities for boat anchoring, a scenario that we can come across in historical studies. There is the case of Mahasthan, the ancient capital of Bengal (3rd century BC to 12th century AD), which still has the trestles of a huge landing terrace for boats, an infrastructure so huge it seems that numerous boats used to arrive for trading and the commuting of people. The river Karatoa was known for its many currents and the boats were different in shape and size in order to resist the river.

Old documents show that riverine cities used to be vibrant with a great number of boats in versatile forms. Bengal is blessed with such ample water networks that the river and the sea become deserted without boats; thus, the boats are the floating beauty in an aqua-based landscape. It was an image of picturesque beauty when big sails were raised and blown at in the air, as a big fleet of sailing boats travelled the Turag River in September 1972 (Figure 3). But we cannot see this kind of spectacle nowadays. Rivers became narrower and less navigable, at the same time that the engine-operated boats started to replace the traditional ones.

Deeply rooted in the life of the Bengali people, boats have been an inseparable part of the landscape. Numerous poems, literature and folk songs are well known to the ordinary people of Bengal. Rivers, sea, sails and boats are an integral part of studies and subject for painters in the discipline of Fine Arts. The boat has become an image in the mind of the people of this country, even if of fading glory, from a once rich



Figure 4 – A boat has a multipurpose use in the hinterland; it is part of life and culture, embedded into the very pattern of each Bengali's existence. Sketch drawn by the author.

and vigorous cultural continuity. The profession of boat carpenters is almost extinct, and with it the cultural heritage of a core tradition that, in times, created these vibrant floating pieces on the waterways. Their existence is closely related to the life of this particular group of skilled workers. Boats also influence the lifestyle of fishermen in the deep sea, where they are fishing, sailing, or staying – and keep watching and waiting, according to the elements they are facing and the challenge that the big sea currents present.

CATEGORIES OF VARIOUS VESSELS AND FISHING BOATS IN RIVERINE LOCALITIES

Fishing boats vary in form and shape, depending on the context of their usage, the customs of people from different localities and, more importantly, the nature of the river, which ultimately shapes the crafting of the fishing boats. It should be mentioned here that the heritage and the memory of the boat of Bengal is closely linked to the river network and its way to the mouth of the sea, which justifies the order in which the different morphology of the boats will be explained.

Fishing boats on lakes and river are very common vessels for fishermen. More easily controllable surfaces such as lakes and the small branches of rivers are fit for any kind of tiny boats. The *Dingi* (see Catalogue) and other kinds of fishing boats were crafted to great extent, but have become really rare now. In the northwestern, southern, southeastern and western part of Bangladesh, this type of fishing boats could be seen in the smaller channels or in the main course of the river. Besides this, there are some specialised kinds of fishing boats in the most southern and southeastern parts of the mainland, which only had their morphology transformed for the motorised version. But these fishing boats had an original shape of beautiful crafting. Usually this kind of fishing boat does not need a sail, since the waves of the sea make it go faster. In the construction of this boat different wooden patterns are used so that it can resist the strong hits of currents. This kind of boat remains with an open deck which does not have shades.

The *Sampan* (see Catalogue) was the original boat form in the southeastern coastal region. Under the same name it is known as a most common type of small boat in Chinese waters, but has been constructed in Bangladesh in a variety of designs. Some boats have sharp bows, and nearly all have large sterns, with the after portion of the gunwale and deck nearly always raised. *Sampans* are usually rigged for sailing, sometimes with two masts; otherwise they are rowed with large sweep-type oars. They are usually open or partly decked, with a shelter or cabin aft. In Japan, Hawaii; and Taiwan; a powered boat has been developed out of the traditional Japanese *Sampan*, with a flat-bottomed midsection.⁴

The ancient Bengal maintained connections to naval routes from many parts of the world, but the shapes and size of the *Sampan* boat evolved through the craftsmanship of this costal bay. Two types of *Sampan*

⁴ <http://www.britannica.com/EBchecked/topic/520651/sampan>.

could be seen in the region, a small and a big one. The latter is a very different type of boat, fit for heavy waves and able to move across the sea very comfortably. Very specialised and skilled boatmen row these vessels into the sea, loaded with fishing equipments and extra fuel, since these boats have all been transformed into the motorised type.

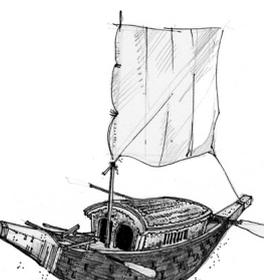
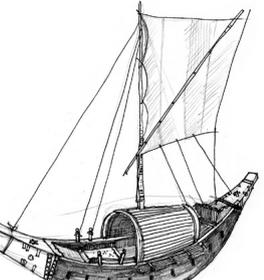
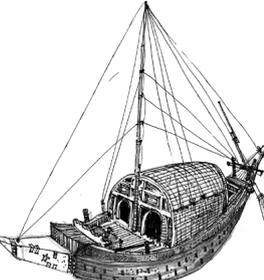
The *Shampan* (small) is a tiny vessel of different qualities. It is a multi-purpose transportation boat that serves to carry people and goods, as well as for fishing. Usually, this small floating element could be seen at the junction of a river and the sea, where the waves are high and serious. Most of these vessels were built out of wood, originating from the jungle of the southern region or sometimes imported from Myanmar. The *Gorjon* wood tree is the best for building and crafting boats in the delta region. It is a strong wood that becomes seasoned in the water before it is painted.

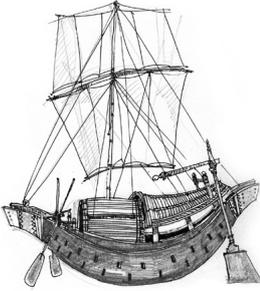
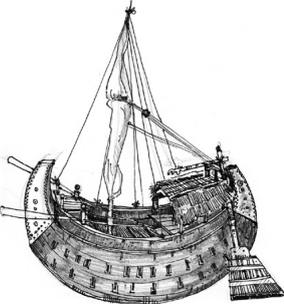
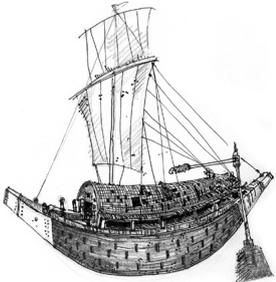
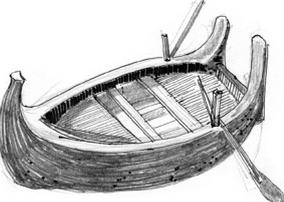
The *Shampan* (big) is a huge vessel which is extinct now. This giant vessel used to operate in the junction of the river mouth and the sea in the southeastern and southwestern navigation route. Designed for the purpose to float on the sea and on the river, it was used to carry goods and for trading. A big *Shampan* was built with a giant deck, used to stock goods and fishes. The upper deck exhibited eye-catching curved, thatched and bamboo built canopies. The huff part was higher and the frontal shade was shallow in size. A huge triangular sail testified to the glory of the sea and the river. It is really tragic that this boat is no longer floating on the waters. Where once localities of craftsmanship and maintenance were, people either migrated from their land or shifted to other occupations. About 15 or 20 years ago this beautiful, colossal fleet used to be a part of Bengal's landscape.

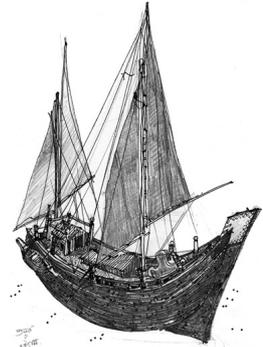
The *Shuluk* (see Catalogue) is another kind of gigantic vessel of the sea and the river. At times it was a sort of trading boat on the Bay of Bengal and the nearby naval route. It also served as fishing boat. Its huge hull deck used to carry frozen fish and other goods for trading. This was one of the quickest boats of the sea and the river. This vessel was designed with double sails, both triangular in shape to control the wind flow at sea. The front mast is higher than the other one. Sometimes this vessel contained two decks for multiple purposes. This gigantic boat is also extinct, because of its weight and the quantity of material that was needed to build it.

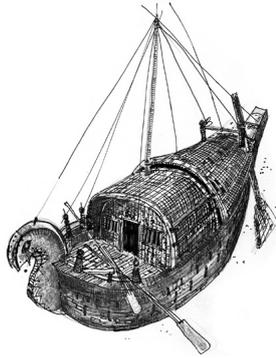
The fishing boat at the southern fringe of the coastal island (Chittagong) has no sail, but this vessel floats easily at sea. The single-layer deck contains storage room for fish. This kind of vessel allowed for the catching of fish in the sea just for one day. The original morphology of the boat has changed; it became much more curved and less wide during the practice of boat crafting.

CATALOGUE OF SOME TRADITIONAL BOATS, INDICATING THEIR CONTINUOUS EXISTENCE OR CIRCUMSTANCES OF EXTINCTION

local name of the boat	dimension and material	locality and navigation route	purpose	presence of sail and status of existence
 <p>DINGI</p>	<p>L: 5.5–6 m W: 1.2–1.5 m <i>Gorjon</i> wood with girder ribs, nails and bamboo</p>	<p>Northeastern riverine route of Bangladesh (Pabna, Sirajgonj)</p>	<p>Especially for fishing and sometimes for carrying people and goods Rivers Padma, Meghna and Yamuna</p>	<p>Single, rectangular Still exists</p>
 <p>Fishing boat</p>	<p>L: 7.39–9.10 m W: 1.55–1.80 m <i>Gorjon</i> wood, wooden nails and bamboo. Very common type of vessel on the rivers of Bangladesh. Crafting this boat is popular almost everywhere in the southern part</p>	<p>Central south and southeastern part of the river routes and at the mouth of the Bay of Bengal (Barisal)</p>	<p>Prominently fishing in waterways of the interior</p>	<p>Single post, rectangular sail Still exists</p>
 <p>PALKI</p>	<p>L: 9.2–12.2 m W: 3–4 m A medium-size, beautifully decorated vessel, with a comparatively wide lower deck. The most attractive part of this boat was its hood, with a well-ornated frontal and side facade. It was just like a floating sculpture on the rivers of Bengal</p>	<p>Upper southern and southeastern part of Bangladesh Used on the major routes of the rivers. Especially crafted for members of the elite or for other personal use (Chandpur)</p>	<p>For carrying people, personal use and special purposes</p>	<p>Single slender mast, holding the inclined, rectangular sail that makes the boat float faster Extinct</p>
 <p>CARPAI</p>	<p>L: 12–15.2 m W: 3.6–4.5 m <i>Gorjon</i> wood with nails, well crafted by skilled carpenters</p>	<p>Upper southwestern part of Bangladesh. (Gopalganj) Mostly floats on the river Padma and its river branches</p>	<p>Special type of decorated upper deck arrangement for passengers. Sometimes this boat is used for individual purposes</p>	<p>Single post with additional inclined spar and rectangular sail Exists</p>
 <p>GHASTI</p>	<p>L: 12.3–18.5 m W: 4.5–6.5 m <i>Gorjon</i> wood, wooden nails. The front upper deck is decorated with ample wood crafting</p>	<p>Upper south and southeastern part of the river routes of Bangladesh (Chandpur). This locality is part of a trade network that links the river to maritime routes, but unfortunately this vessel is disappearing from the riverscape of Bangladesh</p>	<p>Prominently for hire and personal use</p>	<p>Single post, rectangular sail Nearly extinct</p>

local name of the boat	dimension and material	locality and navigation route	purpose	presence of sail and status of existence
 <p><i>GOSTI</i></p>	<p>L: 9.2–12.2 m W: 3–4 m</p> <p>Heavily wood-crafted vessel with seating facilities. A classical type of maritime vessel that served members of the elite, including feudal landowners</p>	<p>This boat was mostly seen in the upper eastern part of Bangladesh (Sylhet), on the major river routes of this region. It used to navigate the big Haor wetland, as well as the river Surma and adjacent river branches</p>	<p>Specially crafted for carrying people, such as members of the elite or other individuals, and additional specialised utilisation</p>	<p>No sail added as the vessel could float gently by rowing</p> <p>Extinct</p>
 <p><i>CHANDPUR</i> (fishing boat)</p>	<p>L: 9.15–11.85 m W: 2.80–2.95m</p> <p>The construction of this special type of vessel required craftsmen with artistic skills, who used to build this heavy boat with giant joists of <i>Gorjon</i> and other hard woods</p>	<p>The Chandpur region is still famous for trading in fish and frozen fisheries. During the Monsoon season, fishes used to come to the river for reproduction and could then be collected by this kind of boat, fully equipped with fishing accessories and instruments</p>	<p>This fishing boat is big, the lower deck is like a bowl and huge to contain fishes. The boat is hooded with twin shades and only purpose of this vessel was fishing</p>	<p>Single mast with vertical twin sails used to cruise in the river as well as in the sea. Having a huge lower deck and big sail it used to float in the sea</p> <p>Extinct</p>
 <p><i>PODI</i></p>	<p>L: 15.25–21.35 m W: 3.65–7.65 m</p> <p>The crafting of this huge traditional vessel and its scientifically based morphology is related to its use by a particular group of people who were cruising the sea in the southern region of Bangladesh. For this strongly built vessel, <i>Gorjon</i> wood was the material of choice</p>	<p>The southern region is full of crisscrossing rivers that empty into the Bay of Bengal. So most of the time this boat was used at sea and also at river mouths.</p>	<p>Mostly carrying goods for trade in the southern coastal region. Its deep huge lower deck helped to store goods for import and export</p>	<p>Heavy single mast supported by strings and a vast rectangular sail</p> <p>Extinct</p>
 <p><i>POTOL</i></p>	<p>L: 9.10–15.25 m W: 2.30–3.90.5 m</p> <p><i>Gorjon</i> wood, wooden nails. The front upper deck is embellished with heavy wood crafting. The continuous hooding with heavy bonding is what gives identity to this giant vessel which – with its deep and curved lower deck – comfortably floated on the river and in the coastal area</p>	<p>Lower southern and southwestern riverine region of Bangladesh (Faridpur). This vessel used to roam close to the nautical route</p>	<p>Specially used for the trading of goods</p>	<p>Single-loaded mast, framed with two rectangular sails</p> <p>Extinct</p>
 <p><i>BIK</i></p>	<p>L: 12.20–15.25 m W: 3.30–3.80 m</p> <p>The entire hull of the vessel is curved on both sides. The ornamental and strongly built lower deck has wooden jumpers. Both the front and rear parts of the hull are well ornated with copper coating. The identifying part of the vessel is its hooding, which is bended parallel to the hull curvature</p>	<p>Lower southern and southwestern riverine region of Bangladesh (Faridpur). Frequently, this vessel cruised the mouth junction of wide rivers, and sometimes it appeared on the sea.</p>	<p>The primarily purpose of this vessel is to take passengers from one place to another. In times it belonged to feudal elites</p>	<p>Vessel with well-proportioned and heavy mast supporting the big sail.</p> <p>Extinct</p>
 <p><i>SHAMPAN</i> (small)</p>	<p>L: 5.40–6.10 m W: 1.40–1.55 m</p> <p>Wooden plaques and nails</p>	<p>The <i>shampān</i> is popular both in the southeastern and southwestern parts of Bangladesh (Khulna, Chittagong). Special high ribs exposed from three directions, and the main frame is held by a tripod structure</p>	<p>To commute people and carry goods. For multipurpose activities</p>	<p>No mast and sail</p> <p>Still exists</p>

local name of the boat	dimension and material	locality and navigation route	purpose	presence of sail and status of existence
 <p><i>BALAM</i></p>	<p>L: 15.25–18.25 m W: 3.25–3.35 m</p> <p>Specially designed for the sea. Boat building was taken care of by skilled craftsmen whose different schooling depended on the region where this kind of boat was built. Based on scientific calculations, the well-designed, proportionate curvature is embellished with magnificent carpentry</p>	<p>Kutubdia, which is located at the extreme end of southeastern Bangladesh, is one of the biggest costal islands in the Bay of Bengal.</p> <p>This sea floating vessel can navigate in a wide range of junctions at the mouth of the Bay of Bengal</p>	<p>Mostly for carrying goods and to trade on navigation routes. Its deep and huge lower deck helped to store goods for import and export in the riverine landscape of the southern region</p>	<p>Heavy single mast, secured with ropes and equipped with a vast rectangular sail</p> <p>Extinct</p>
 <p>Fishing boat</p>	<p>L: 15.10–22.25 m W: 4.30–4.90 m</p> <p>This fishing boat combines exotic stylistic appearance with a deep curvature of its front hull, so that it could cross the sea even among steep waves</p>	<p>Skilled carpenters are in charge of building this kind of vessel. The huge, lower container of the double deck is usually designed for storing big fish. This boat has an extra ice storage room where the fish is kept fresh, since the fishing expedition can take more than a month</p>	<p>Fishing in the deep sea</p>	<p>No sail</p> <p>Exists</p>
 <p><i>TEDI BALAM</i></p>	<p>L: 15.25–18.25 m W: 3.30–3.35 m</p> <p>This kind of boat is like a small ship, constructed by skilled, specialised carpenters and workforces. This mighty vessel used to have a central hull gutter to strengthen its body properly. Constructed totally out of wood, it had wooden plaques applied to the strong frame of the structure</p>	<p>This vessel sailed on the extreme southern navigation route, on the mouth of the Bay of Bengal. It was also used on river junctions for trading and for the export and import of goods</p>	<p>To commute people, carry goods, personal use, and touristic purposes</p>	<p>Two triangular sails. One is attached to the central hull by a strong mast; the other is based on the front hull and pushed backwards by strong ropes</p> <p>Extinct</p>
 <p><i>SULUK</i></p>	<p>L: 15.25–18.25 m W: 3.5–4.5 m</p> <p>This is the heaviest among all of the boats that are discussed here. This vessel used to navigate the sea and river routes. The central rib is designed with a heavy frame of <i>Gorjon</i> wood and constructed according to similar patterns of other heavy boats with a deep hull</p>	<p>The extreme southern coastal region (Chittagong) was the territory where this giant vessel was in use</p>	<p>Carrying passengers and goods, trading in the costal belt</p>	<p>Heavy double masts secured with ropes and equipped with a vast triangular pair of sails</p> <p>Extinct</p>
 <p><i>BALAR</i></p>	<p>L: 12–19 m W: 3–5 m</p> <p>Traditionally designed with bulbs and deep hull, in order to obtain a different type of in-between storage under the big deck. The upper deck is covered with a beautiful bamboo thatch roofing, bended to follow the hull's curvature</p>	<p>Central upper south part of Bangladesh (Kustia)</p> <p>The rivers Padma and Yamuna were the main route where this huge vessel has been afloat</p>	<p>Transportation of people and various goods for trading</p>	<p>Single solid mast with two huge sails</p> <p>Nearly extinct</p>

local name of the boat	dimension and material	locality and navigation route	purpose	presence of sail and status of existence
 <p style="text-align: center;">TEDI BALAM</p>	<p>L: 10.65–18.25 m W: 2.65–4.55 m</p> <p>This unusual form of giant vessel was built with traditional local craftsmanship. The shape and width of the boat was rather different from others, with its heavy wooden joists, reinforced with solid wooden beams in some special cases. The deep hull had an elaborated double hood, exhibiting a frontal ornate figure which created the ambience of a glorious, ceremonial boat</p>	<p>This elegant vessel used to cruise on the eastern part of Bangladesh (Sylhet) and to float on the river Surma and its adjacent branches</p>	<p>Used by the well-situated families, and sometimes to carry people or goods for trading</p>	<p>Single heavy mast with two rectangular sails</p> <p style="text-align: center;">Extinct</p>

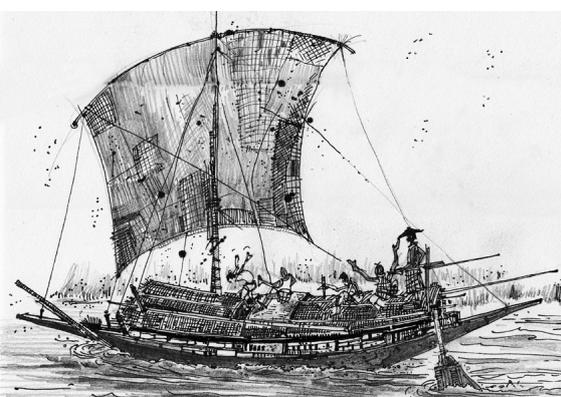


Figure 5: The Bedi-Bashori is a fine vessel that is no longer to be seen on the river Padma, Rajshahi. Sketch by the author.

VERSATILITY – DIFFERENT KINDS OF BOATS IN LOCAL TERMINOLOGY

Dingy (Pabna), Bazipuri (Barisal), Podi (Khulna), Fishing boat (Barisal), Palki (chandpur), Potol (faridpur), Ghashi (Chandpur), Bik (Faridpur), Kosha (Barisal/Pabna), Fishing boat (Chandpur), Carpai (Gopalganj) Tedi Balam (Kutubdiau), Balam (Kutubdiau), Cargo boat (Chittagong), Shampan, (small, Chittagong), Shampan, (big, Chittagong), Shuluk (Chittagong), Fishing boat (Chittagong), Tempo, (Chittagong), Gosti (Sylhet), Tabori (Manikgonj), Kosha (small, Manikgonj), Baidar boat (Savar), Palowari (Savar), Paltai (Savar), Dinghy (Savar), Donga (Gazipur), Raptani (Narayangonj), Raft, (Pabna), Goina (Rajshahi), Pinash (Rajshahi), Bedi (Sirajgonj), Balar (Kustia), Melli, (Kustia), Goina (Kishorgonj), Mayurponkhi (Mymensingh), Goghi (Sylhet), Tabori (Manikgonj), Patam, (Kishorgonj)

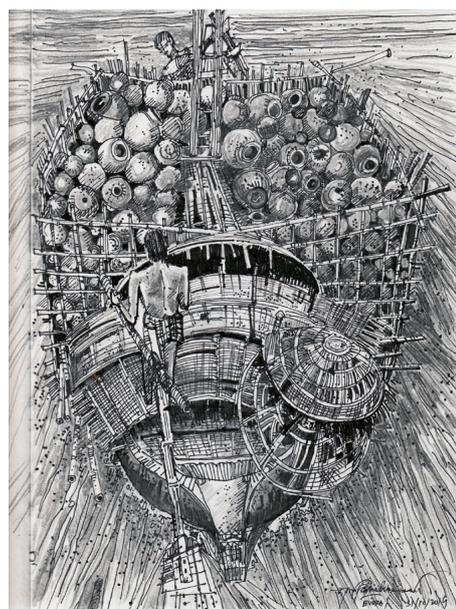


Figure 6: The name of this boat is Roptani. It used to float with heavy goods for trading on the river Sitalaksha, Narayangonj, Dhaka

On the open sea, one can come across another kind of fishing boat, which is now carrying a motor engine. Before this modern assemblage it was another traditional fishing vessel without sail, where fishermen occupied the upper deck of the boat and used the lower deck for the preservation of the fish. This gigantic fishing boat used to stay for several weeks in the sea, but after having been powered by an engine, it was able to stay for a couple of months with all infrastructural supports. It is still carrying the powerful design that it exhibited during previous decades.

There are also the fishing boats from Kutubdia Island, at the farthermost south to southeastern coastal fringe, bounded by the Bay of Bengal on the north, south and west. The name of this traditional type of fishing vessel, used by the local community of fishermen, is *Balam* (see Catalogue). The boat is heavy and the hull is spread towards the girth to keep unremitting balance while fishing in the deep sea. The strongly built structure, with a single triangular sale, allows it to float quickly in the sea as well at the junction of rivers and open sea. Based on scientific principles, the hull of the boat is deeply curved to crossover the current and to remain stable in the heavy, deep waves. This ‘applied physics’ – since thousands of

years improved and practiced by the craftsmen of this coastal region – is usually enhanced with artistic shape and rationality.

Fishing boats have greatly changed these days, since they have been subject to much technological and other contemporary advancement. Identical considerations apply to the changes in art form. Traditional fishing boats like *Balam* and *Shampan* have not only been adjusted in shape and form at their particular localities, but also in relation to the traditional spirit. The craftsmanship changed and with it the passion of carpenters insofar as more fishes were needed to satisfy the demand of the markets. Fishing is a challenging occupation in the deep sea. Certain communities, like those of the fishermen, would like to protect their own life and that of their family from any disaster or undesired situation. Since a couple of decades, fishing boats have been changing their recognised expression and taken up the shape of contemporary mass products, suffering from the lack of coordination between traditional craftsmen and contemporary boat builders.

THE DILEMMA OF IMPLEMENTING POWER ENGINES INTO THE TRADITIONAL BOATS OF BANGLADESH

This is an eminent socio-cultural issue. Whilst the crafting and building of boats by a particular community was previously carried out with traditional techniques, this building process was challenged by the contemporary need to accommodate cheap diesel engines. So, in this situation, are older carpenters ready to face this adaptation? Is there any possibility to preserve and maintain the actual methods of crafting boats? Are these boats felt as being part of our cultural heritage, as linked to our reputation as a nation since immemorial times? When are new adaptations and incorporations appreciated? One might think that their appreciation will come when the changing pattern is aligned with the skills of the carpenters and their community, as well as with the neighbourhood's stylistic tradition. In this the adaptations might find some buffer to orient them under present circumstances.

TRADITIONAL BOATS TOWARDS THE CULTURAL HERITAGE

Boats of deltaic Bangladesh gained the status of 'inner meaning' in respect to cultural heritage. They are an eternal part in ordinary people's lives, a shining cultural gist in the lively pattern of riverine life. A rich tale of vestiges and endurance, these boats are still floating on the river and the sea, where they have been serving since prehistoric times. The lifestyle pattern of the delta region used to depend on these floating elements that still are a prominent attraction for the rich and vigorous art and literature of Bengal. The ancient terracotta plaques in historic temples remind us of our glorious past with its river culture and boats. At the Bengali New Year festival, celebrations take place in association to boats, and then there is the popular boat race during the rainy season, a game that evolves alongside the river banks with interactions on the landing steps where crowded people gather and watch the gigantic



Figure 7 – A popular riverine boat race in Bangladesh. Photo: Courtesy of Sudipto Das.



Figure 8 – Alongside the crowded bank of the river, vibrant participants are watching the traditional boat race. Photo: Courtesy of Sk.Kabirul.Hashan.

vessels while boatmen sing the heart touching *Vatialli* song, a joyful chant invoking our memory, full of respect for our motherland.

The floating beauty of the sea and the rivers is now fading into a black hole, leaving our familiar water landscape day by day. Apart from being a widespread means of communication in the coastal area, these boats are a distinctive category of cultural heritage and their crafting is closely linked to the intangible cultural heritage of this society. A great number of intangible cultural heritage issues are associated with boats, such as the songs of the river, the boat race, the New Year festivals, social interactions, fishing, etc. Boat crafting has been a secondary occupation in agrarian Bengal, often alongside with agriculture and, as elsewhere, with fishing. Each region has had its own characteristic boat types, adapted to local conditions. It is imperative to keep the traditional know-how in crafting the vessels open to present-day requirements. The skilled carpenters are required to be in tune with new technological advancements while crafting their beautiful traditional fishing boats. However, the process of preserving the maritime cultural heritage of Bangladesh is still very much behind. With regard to traditional boat industries, almost 20 years of erroneous policies have passed, and if these practices continue, we might lose our precious cultural heritage and nothing will be left for our future generations. We also will have to face the story of a pathetic historical miscalculation. Almost all the year round, this society is directly confronted with the riverine topography of this country, where high tides and floods grab settlements; a country that is a victim of climate change and which, above all, is a land where settlements and civilisation grew along river banks. Again, this is a land where transportation routes have always been closely linked to riverine environments, a land with a rich maritime knowledge and sailing heritage which the nation should take the necessary steps to preserve and enhance.

The maritime industry of Bangladesh is famous and has a glorious history. In times, the country's large delta was home to a great number of vessels, on rivers and at sea, and it is astonishing how a series of boats are still surviving in Bangladesh's waterways despite neglect and uncoordinated efforts in their preservation. Because no one is taking care of cataloguing the boats and of recording the knowledge of their crafting, there is a real danger that valuable know-how will be forever lost.

CONCLUSION

Since ancient times, boats have contributed to the growth of small villages, neighbourhoods, trading hubs and beautiful riverine cities. Boats influenced the way of living in a settlement and on the maritime routes of Bengal. Through the passage of time and industrial development this valuable cultural heritage is disappearing. Now it is time to secure it at any cost. A great number of intangible issues are related to boats, their crafting, usage and occupation. The song of the boatman, fishing, boat manufacturing and wood crafting on the boats are precious intangible heritage matters belonging to the riverine culture of Bangladesh.

Here are some measures that could be applied to secure traditional practices:

- **Ensuring that only intangible cultural heritage recognised by communities or groups is inventoried.** Here an inventory with an exact listing of the boats of Bangladesh is required. Field visits should be carried out by a special team in charge of the preservation of these boats, with the task to document still existing ones and to produce video documentation on the cultural longing experienced by those who were/are actively involved in their making and use.
- **Ensuring that free, prior and informed consent of the communities or groups is obtained for the process of inventorying.** Throughout this process the local and traditional communities should be able to participate in a workshop where older craftsmen pass on their knowledge and important advice regarding the traditional ways of constructing a boat. At the same time, the community should also receive instruction on industrial advancements that could easily merge with the traditional know-how of crafting.
- **Ensuring the consent of communities when non-community members are to be involved.** During the workshop sessions it is necessary to involve the traditional craftsmen, in order to record the process of building and its results, as well as members of other communities which are not directly linked to the process, so that both tangible and intangible heritage issues can be communicated from one group to the other and thus be preserved in memory.
- **Respecting customary practices regarding access to intangible cultural heritage.** Customary practices are defined as practices inherited from the past that are accepted and respected by the members of a community. In this case, the boat crafting tradition represents a sort of training, a knowledge transmitted from ancestors to successors, which could be received by newcomers who are mainly involved with industrial production, in order to introduce them to the traditional context of boat crafting.
- **Actively involving local or regional governments.** Adopting and following a code of ethics that should take into account the lessons learnt from good practices worldwide:
 - provide general orientation to the mass of people living at the boat landing areas of the rivers about the value of their cultural heritage, about local boats and the merit to retain their originality;
 - pass a regulation on the traditional boats of Bengal, establishing that no manually crafted boats should receive a motor engine, and defining admissible adaptations, such as a steel hull;
 - ensure that the traditional boatman receives a subsidy from the ministry in charge;

- prepare a list to authenticate all kinds of traditional boats of Bangladesh, and implement a marine museum where people could find both replicas and ample information on the glorious ‘floating beauty’ of the Bengal;
- create a boat museum where people can see and participate in the building of traditional vessels.
- **Research into the development of boats.** A proper source of reference is needed to uphold the cultural heritage mater on the traditional boats of Bangladesh. In-depth research by interested specialists from various fields should be supported immediately, so that these floating vessels can return to the river and the sea. The Bangle Academy, the Shilpakala Academy, the Archaeological Survey of Bangladesh, the Asiatic Society of Bangladesh and, last but not least, the Ministry of Cultural Affairs and Tourism have plenty of capabilities to raise pertinent research issues among interested scholars and researchers. A research centre in sea heritage might have the capacity to support the communities linked to traditional boat building and to create awareness among the general population.

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