

Exploring Traditional Fishing Crafts and Their Practices Along India's East Coast

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[DOI:10.5281/TrendsInAgri.15369449](https://doi.org/10.5281/TrendsInAgri.15369449)

Abstract

The east coast of India, which includes states like West Bengal, Orissa, Andhra Pradesh, and Tamil Nadu, has a long coastline and a rich marine biodiversity, making it a place with plenty of fishing possibilities. A vital component of the local fishing communities, the traditional fishing boats of India's East Coast represent the region's cultural, economic, and environmental characteristics. These boats are made to specifically cater to the demands of the coastal area and the kinds of fishing that take place there. Fishing boats are vessels particularly designed for collecting fish or other aquatic animals in both freshwater and seawater environments. These boats vary in size, design, and equipment, depending on what type of fishing they are used. The fishing boats can be categorized as Artisanal fishing boats, Traditional fishing boats, Motorized boats, Mechanized boats, fishing related boats.

1. Artisanal Fishing Boats:

Small-scale fishing, usually carried out by hand or with simple, non-industrial equipment like nets, poles, or traps. This type of fishing, which is often carried out by local communities, is less concerned with large-scale commercial



Fig.1 Artisanal Coracle Fishing



production and more with subsistence or selling fish directly to local markets. This type of fishing has a lower environmental impact than that of industrial fishing.

2. Traditional Fishing Boats:

Traditional fishing boats are handcrafted vessels that have been used by fishermen for centuries. The regional and cultural variations in fishing practices around the world are usually reflected in them. According to food and agriculture organization (FAO) traditional fishing boats are integral part of both coastal and inland communities, supporting economic livelihoods as well as cultural heritage. These boats are varies widely depending on region, climate, and the type of fishing involved. In the boats there is no deck equipment such as winch, no insulated or cold storage is available on-board, no wheelhouse and accommodation are provided. There are several types of traditional fishing boats are used in different areas of east coast off India such as West Bengal, Orissa, Andhra Pradesh, Tamil Nadu, and Union Territory of Pondicherry.

2.1 Traditional Fishing Boats of West Bengal:

Different kinds of traditional fishing boats and various sizes and designs are commonly used in West Bengal. These traditional fishing boats are as follows:

i) Dhinghi (Dingi) :

Dhinghi or Dingi is traditional fishing boat mostly used for fishing in rivers, estuaries, and coastal areas. It plays an important role in the local fishing communities, especially in the regions of the Sundarbans and along the Hooghly River of west Bengal. These are relatively small, often used for one or two people. The length and breadth of the boat are varies between 42 and 45 cm. These boats are generally made from wood, with traditional boat builders using local species of timber such as teak or bamboo.



Fig.2 Dhinghi or Dingi Boat



ii) Batchari Boat:

Batchari is traditional type of boat used for fishing and transportation in the coastal and riverine regions of West Bengal. The Batchari and Dhinghi boats are similar but that they have different characteristics in hull. It is also operated in Sundarbans, Hooghly River and Padma River. The length and breadth of the boat are varied between 13.5 and 1.3 m. These boats are generally made from wood and bamboo. It is also operated in Sundarbans, Hooghly River and Padma River. The length and breadth of the boat are varying between 13.5 and 1.3 m. These boats are generally made from wood and bamboo.

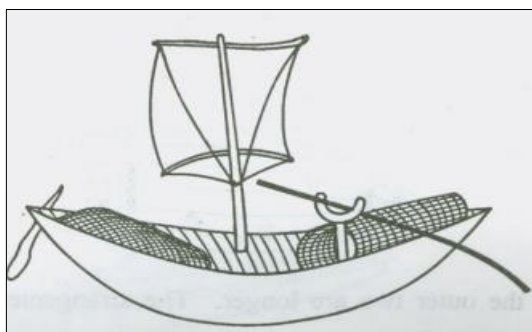


Fig.3 Batchari Boat

iii) Chot Boat:

Chot is traditional type of boat smaller, more compact boat used for fishing and transportation in the shallow waters of rivers, estuaries, and coastal regions. This is also fishing in Sundarban's regions, shallow waters and narrow channels. The length and breadth of the boat are varying between 10.2 and 2.5 m. These boats are made from wood and local varieties of timber like teak or bamboo.

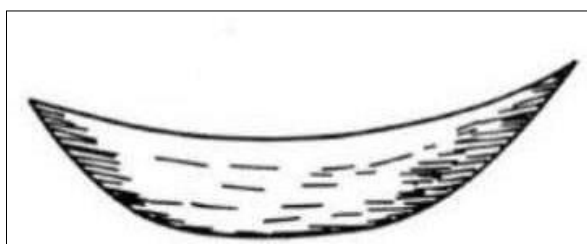


Fig.4 Chot Boat

2.2 Traditional Fishing Boats of Odisha:

Odisha is situated along the eastern part of the country with a 480 km long coastline; a several rivers that originated from Odisha and neighbouring states, flow through it. Traditional fishing boats of Odisha can be differentiated into two regions i.e. Northern and Southern due its varied seabed morphology, wide shelf, tidal range, etc. The Northern traditional fishing boats is mainly sandy



bottom and Southern traditional fishing boats is mainly surf beaten. There are following traditional fishing boats of Odisha:

i) Catamaran:

The catamaran or kattumaram locally it is called as teppa. This is a long and narrow raft made of variable number of logs (mainly five), which are fastened together, manoeuvred by paddles and sometimes a triangular sail may be used. These boats are made up of timber, locally available timber known as alibizzia and *Erithryna indica* are used. The length of catamaran varies from 4 to 5.5 m and 3 to 5 people are engaged in each catamaran. Catamarans are ideally suited to surf beaten beaches and extends up to 8 to 10 km offshore for fishing during fair weather.

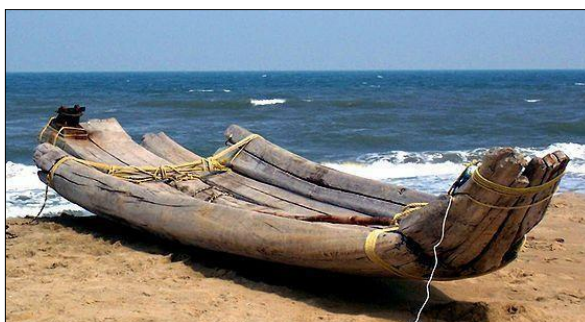


Fig.5 Catamaran Boat

ii) Nauka:

Nauka is also known as Danga, is the only traditional boats found in Chilika Lake and found suitable for the environment of Chilika. For years the traditional boat builders of Chilika Lake region have been involved in built of Nauka. These boats are used for carrying passengers, cargo and fishing and have the capacity to carry five to six quintals of cargo. Nauka is a clinker type of craft without stem, stern, ribs and frame. The length of these boats is 13.50 m.

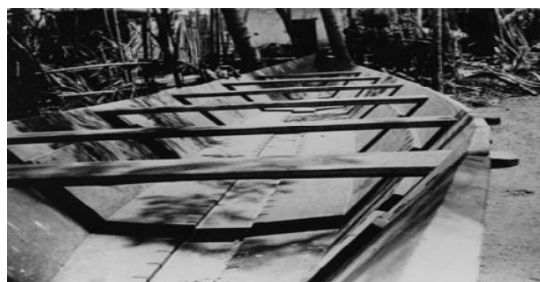


Fig.6 Nauka Boat

iii) Masula:

The masula is plank-built boat, locally known as padhua. These are prevalent between the Odisha coast and Karaikkal. These boats are used for beach seining during the fair-weather season. The Masula boat are provided wood, preferably teak.



However, due to scarcity and high cost of teak, the builders prefer mango (*Mangifera indica*) and sal (*Terminalia tomentosa*), for these are considered strong and durable in sea water. Its carrying capacity is 8 to 10 quintals in terms of fish load. Masulas typically measure 8.0 meters in length.



Fig.7 Masula Boat

xvii) Patia:

Patia is also known as botala. This boat is used in the Northern parts of odisha. This is a reverse clinker sailing boat, found between Bhadrak, Balasore and Subarnarekha River, close to the border of West Bengal. These boats has been used along the coast of Odisha and West Bengal for centuries and this is represented on the wall of the Jagannath temple at Puri. These are made of sal wood and a thick coat of tar is applied on both, the inboard and outboard to protect them from worms. Because of cost and unavailability of sal wood, patia owners use other timber namely babla (acacia tree). The length, width and depth of patia varies according to the size of these seaworthy boat. Generally, the length of these boats 6 m.



Fig.8 Patia Boat

2.3 Traditional Fishing Boats of Andhra Pradesh:

Traditional fishing boats have played a significant role in the coastal communities of Andhra Pradesh for centuries. With its long coastline i.e. 975 km along the eastern coast of India. Fishing boats of Andhra Pradesh are as follows:



i) Catamaran or Theppa:

Catamaran or Theppa is one of the most iconic and traditional fishing boats used along the state's coastline where there is strong wave action. These boats have a distinct design and are essential to the fishing culture in the region, particularly in shallow coastal waters, estuaries, and backwaters. This boat is 6.6 meters long and mostly built from 4 logs.

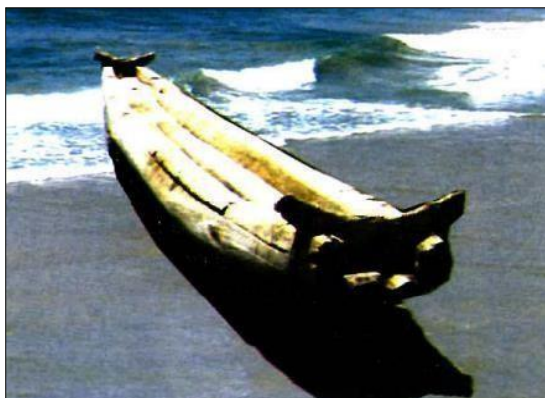


Fig.9. Catamaran or Theppa Boat

ii) Nava:

It is also known as Kakinada Nava. The Nava is another traditional type of fishing boat used in Andhra Pradesh, particularly well-known for its role in coastal and deep- sea fishing. It has a longer and more slender shape compared to traditional catamarans and for handling rougher conditions farther from the shore. It is used by larger groups of fishermen, particularly for catching a variety of fish, including tuna, sardines and prawns.

The length of this boat is 10 m.



Fig.10 Nava Boat

iii) Masula:

These boats are part of the maritime culture of the region, and they have been used for centuries for fishing, transportation, and even trade along the coast of Andhra Pradesh and nearby areas. These boats are originating particularly in the town of Machilipatnam (historically known as Masulipatnam) in the Krishna district. The boats which can withstand heavy waves are 3 to 12 m in length and are operated in inshore waters.



Fig.11 Masula Boat

2.4 Traditional Fishing Boats of Tamil Nadu:

Fishing boats in Tamil Nadu are an integral part of the state's coastal economy and cultural heritage. The state, which has a long coastline stretching 1076 km along the Bay of Bengal and the Arabian Sea, has a rich tradition of fishing. Fishing boats of Tamil Nadu can be differentiated into four regions on the basis of coast of Tamil Nadu these are as follows:

2.4.1 Colachel to Cape Comorin:

The southernmost part of India is located to the coastline that stretches from Colachel to Cape Comorin. The Colachel to Cape Comorin coast is famous for its fishing activities. The coastal waters here are abundant with marine life, making it an important fishing zone for both traditional and modern boats. The region is rich in fish species such as tuna, sardines, mackerel and various types of shellfish, contributing to the local economy and the livelihood of fishermen. Colachel to Cape Comorin coast mainly traditional fishing boat is catamaran boat.

i) Catamaran:

Catamaran in Tamil Nadu consists of three logs or wooden beams that serve as the base of the boat. The logs are often made from locally available wood such as mango or jackfruit wood, chosen for their strength and buoyancy. These are typically small, with a capacity of 2 to 4 fishermen. The length of this boat is 7.5 m long.



Fig.12 Catamaran boat



2.4.2 Gulf of Mannar:

The Gulf of Mannar is coastal region located along the southern coast of Tamil Nadu, and is known for abundant biodiversity, pristine beaches, and thriving marine ecosystem. It is situated between the Tamil Nadu coastline and the northwestern part of Sri Lanka, encompassing the area from Tuticorin to Dhanushkodi near Rameswaram. This Gulf is rich in marine resources such as different species of sardine, mackerel, shrimp, and cuttlefish, which are important to the local fishing economy. Gulf of Mannar coast contains traditional fishing boat such as Canoe, Tuticorin and kilakarai boat.

i) Canoe:

Canoe boat is known as vallam boat. These boats is a small, lightweight boat, typically used in shallow waters and estuaries, canoes are primarily made from wood, and the most commonly used types of wood include mango, jackfruit, or mangrove wood. The length of boat is 13 m.



ii) Tuticorin:

Tuticorin type of boat is mainly found in the region of Thoothukudi hence, is also known as Thootukudi boat. These boats are well known for design to suit the local coastal and maritime needs. The boats are typically built with local materials, including wood from trees like mango and tamarind. The length of these boats is 9.6 m.



Fig. 14 Tuticorin Boat

iii) kilakarai:

Kilakarai type of boat is well suited for the rough and calm seas around the region. These boats are crafted using wooden logs tied together, providing excellent balance and stability, which is essential for fishing in shallow coastal waters. The length of boat is similar to tuticorin boat i.e.10 m.



Fig.15 kilakarai Boat

2.4.3 Palk Bay:

Palk Bay is a body of water located between the south eastern coast of India and the northern coast of Sri Lanka. Palk Bay and Gulf of Mannar to its south are connected by a narrow passage called Pamban Strait which is about 1.2 km wide and 3 to 5 m deep that separates the Island of Rameswaram from the mainland. The bay is known for its shallow waters, sandy islands, and coral reefs. It plays an important role in the fishing industry, particularly for the communities living along the coasts of Tamil Nadu and Sri Lanka. In Palk Bay Fishing Canoe, Adiram Patnam Fishing Canoe, Three Masted Plank Built Canoe and Kalla Dhoni these traditional boats are found.

i) Fishing Canoe:

These canoes are narrow and long, with a low draft to navigate through the shallow waters. They are often manually paddled or equipped with small motors for propulsion.



Fig.16 Fishing Canoe Boat

ii) Adiram Patnam Fishing Canoe:

This type of fishing mainly found in the coast of Adiram Patnam 12 km south of Pattukottai in Thanjavur district and 40 km from Thanjavur. This area is known for its traditional fishing communities and these canoes are specifically built for the shallow and sheltered waters of the coast, making it easier for fishermen to use handlines, cast nets, methods to catch fishlike mackerel and sardines.

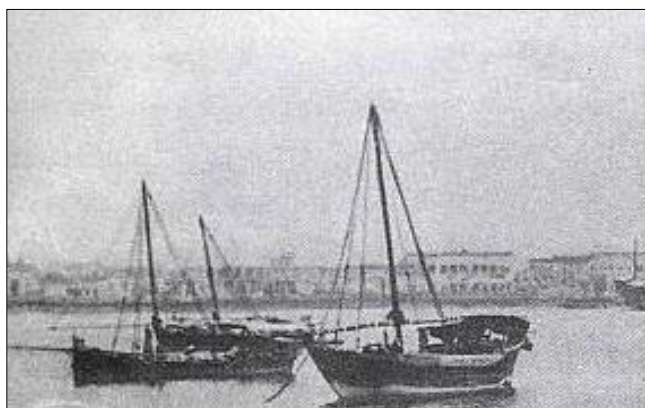


Fig.17 Adiram Patnam Fishing Canoe Boat

iii) Three Masted Plank Built Canoe:

Three Masted Plank Built Canoe would be a unique and rare type of traditional boat. Canoe is made of using wooden planks, a method that provides strength and durability. In this type of boat three masts are present. These planks are crafted from hardwoods, such as teak, mango, or coconut timber, materials known for their resistance to seawater.



Fig.18 Three Masted Plank Built Canoe

iv) Kalla Dhoni:

Kalla Dhoni boats are small to medium sized wooden fishing vessels, the boat's design is simple but effective for maneuvering in narrow, shallow areas.



Fig.19 Kalla Dhoni Boat



2.4.4 Coromandel Coast:

The Coromandel Coast is a stretch of coastline along the South eastern edge of India facing the Bay of Bengal. It is known for its rich cultural history, natural beauty, and economic importance, particularly in fishing, agriculture, and trade. It contains Catamaran and Masula boat.

i) Catamaran:

Catamaran is a light watercraft, which was named from the Tamil language word kattu (tie) and maram (wood, tree) two trees tie together hence, in this coast it is known as *Kattu Maram*. It is made up of timber mainly by *Matha* tree timber. Generally length of this boat is 6.0 m.



Fig.20 Catamaram Boat

ii) Masula:

The masula is large, wide and flat-bottomed wooden boat that is primarily used for fishing in shallow coastal waters and near shore regions. This boat is made of local hardwood such as teak and mango wood. The construction involves joining wooden planks with iron nails, providing strength and flexibility. Length of this boat is 9 m.



Fig.21 Masula Boat



3. Motorised Boats:

Motor is used for the propulsion of these boats 2 hp to 65 hp inboard and outboard engines are used.



Fig.22 Motorized Boats

4. Mechanized Boats:

These boats are uses mechanical/hydraulic/electric power for fishing gear handling. These are insulated or cold storage or freezer storage on board. Accommodation, galley, toilet facilities are available for multiday fishing. Also, communication, life-saving, fire control, light and sound signals, etc. are required in these boats. Trollers, Trawlers, Seiners, Gill netters, Dol netters, Liners these types of commercial mechanised fishing boats are used in India.

5. Fishing Related Boats:

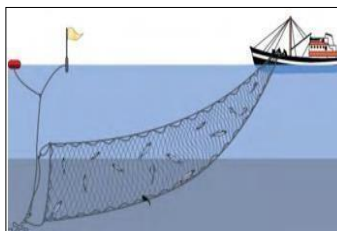


Fig.23 Mechanized Boats

Boats which are used in the Research, Training, Ambulance are often called as fishing related boats. Research vessels are mainly engaged experimental fishing using various gear experiments. Training boats used for training future fishermen and students in navigation, seamanship, fishing operations and fish handling. For sea rescue marine ambulances are used. These boats require high speed and essential medical facilities.



Fig. 24 Fishing Related Boats

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