



# Subsistence fishing methods of Nicobari tribes using traditional knowledge



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**Abstract** Nicobarese are one of the six aboriginal tribes inhabiting Andaman and Nicobar Islands. They account for over 95% of the total tribal population in the islands and majority of them inhabit at Car Nicobar, which is the capital of Nicobar district and popularly called as Coconut Island. The Nicobari tribes are hunters and gatherers who use their indigenous knowledge for exploitation of marine fishery resources using locally available materials. The common fishing methods in vogue are *tamatu* (trap), *thanam kak* (spear with rope) *chok/linreny kak* (spear with rubber), *kinyav* (ichthyotoxic seed), *thakua kak* (line), *kel thakua kak* (hand line), *tamarotha thakua kak* (long line), *Hanak Inhal Kak* (shore seine), *Inruon thakua kak* (troll line) and *Inhal* (gill net). The Nicobari tribes have inherited the skill for designing and operating these gears from their forefathers. This paper summarises the traditional knowledge existing and commonly practiced among the Nicobari tribes for exploitation of marine fish at Car Nicobar.

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## Introduction

The Andaman and Nicobar islands lie in the eastern part of India in the southeast part of the Indian Ocean in the Bay of Bengal with an overall length of 700 km north to south and a geographic area of 8249 sq.km. There are 572 islands of

which 38 are inhabited. It is home for six different tribal communities *viz.*, the Great Andamanese, Onge, Jarawa, Sentinels, Shompen and the Nicobarese. Among these tribes, Nicobari and Shompen are restricted to Nicobar group of islands, while the rest are restricted to Andaman group of islands, who are essentially primitive and still gather their foods. These tribes practice fishing for food and survival purpose since time immemorial. The skill and knowledge of the fishermen communities for fish harvesting pass over the years from one generation to another (Tynsong and Tiwari, 2008). Though the adoption of traditional methods yield relatively less fish catch, it helps in maintaining the nutritional status of the indigenous people (Ulman et al., 2008). Though the fishing communities

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are known to have acquired traditional knowledge, they are specific according to structure, size of stream, season and species of fishes harvested (Adikant et al., 2011).

The traditional fishing implements used by the Nicobarese are bow and arrow, spear, harpoon, *dao*, trap, ichthyotoxic plant and hook and lines. Notwithstanding their educational and socio-economic status, the Nicobarese regard and sustain their indigenous knowledge (Chauhan et al., 2004). Operation of fishing nets by the Nicobari tribes commenced before the arrival of British occupants in these islands and it is believed that they were introduced by the Malaysian and Burmese merchants (Victor-Rajamanickam, 1997). The Nicobari tribes blend their traditional life style with the contemporary methods. They are well versed in meeting their basic needs such as food for survival and house for living by employing the locally available materials from this island. The Nicobarese work patiently and mostly in team and their craft work boasts elegance and endurance. It is true in case of fishing materials too as they make their fishing requisites such as fishing hook, spear, harpoon, needle and gauge used for making of webbing, snorkeling gear, sinkers, floats, fish trap, etc using locally available or waste materials. The *Hodi*, cot (machan), chair, table, hut and handicraft items that they make testify the imaginative and creative mind of these tribes. The Nicobari tribes attach immense significance to their traditional calendar which they use for all significant personal and social events from fixing of traditional festival such as pig festival, *bada dhin*, *Hodi* race, etc. to determining climatic/weather condition, tide cycle, fishing season and sea voyage days.

The indigenous knowledge of Nicobarese on traditional medicine and their uses are reasonably well documented (Gupta et al., 2004; Verma et al., 2010). There have been many reports on the fish harvesting methods of tribes and fishers in the mainland (Dutta and Bhattacharjya, 2008; Gurumayum and Choudhury, 2009; Kalita et al., 2010; Manna-Ranjan et al., 2011), whereas the Nicobarese fishing practices is not well documented (Zamir Ahmed et al., 2013). This study aims at documenting the traditional knowledge of the Nicobari tribal fishers in making of fishing accessories and in understanding the marine environment.

## Material and methods

An exploratory research was conducted at eight out of fifteen coastal villages *viz.*, Tamaloo, Mus, Big Lapathy, Teetop, Kimious, Perka, Kinyuka and Small Lapathy in Car Nicobar Island, the capital of Nicobar district during April to September 2012. These villages were purposefully selected, where the majority of the tribal fishermen resides and taking up fisheries on subsistence basis. In the selected villages 10 from each village were contacted with participatory research tools such as group discussion, semi structured interviews, key informant survey, apart from on-site observation to get hands-on information on their subsistence fishing methods and traditional knowledge in making fishing accessories.

Fisheries in Car Nicobar Island is in infant stage for the reason that still they are harvesting fishery resources for sustenance purpose and seldom sell the excess fish harvested from sea. Their attitude towards sea is very modest, primitive, Indigenous and diverse. This leads to poor exploitation, importing fishes regularly from nearby islands such as Hut

Bay, Campbell Bay and Port Blair and ultimately increases the cost of fish.

Since the traditional knowledge was passed over many years from their fathers and fore fathers hence, the definite information on origin of fishing tool, and when it was established are vague. The fishing and its accessories similarities of Car Nicobar tribes was found in other part of Nicobar group of Islands, where the Nicobari population resides. Wherein the Car Nicobarese traditional fishing practices was not followed in South Andaman district (except in Hut Bay, a small group of Nicobari tribes' lives in) and North and Middle Andaman where more mainlanders (settlers from mainland India) lives.

The current study provides insight knowledge on the details of the fishing implements currently under use by this tribes, essentially derived from the traditional wisdom and improvised based on the contemporary knowledge.

## Results and discussion

Car Nicobar island has fifteen villages and fisheries in this Island is still in juvenile stage and developing in a slow phase of manner. This island possesses many traditional out rigger canoe (*Hodi*), and a few motorised crafts while there is no mechanized fishing vessel in this island. The Nicobari tribes harvest a wide range of marine resources such as fishes, octopus, lobster, mollusks, etc. (A&N, 2012). Fishery resources harvested from this island include, sardines, carangids, seer fish, tuna, mackerel, grouper, sail fish, parrot fish, sea bass, barracuda, mullet, lobster, octopus and sharks. The fishes fetch Rs.100–150 per kg in the local market based on species and size. The fishing gears used and the respective catch details are summarised in Table 1. The choice of fishing gear depends on their fishing crafts *viz.*, outrigger canoe (*Hodi*), motorised outrigger canoe, motorised plank built boat (Table 2). The Nicobarese design *Hodi* in different sizes *viz.*, the larger ones are exclusively used for their traditional race and the smaller ones for fishing.

Their major fishing grounds are restricted to the near shore waters, jetty and rocky, reef areas and they venture into high

**Table 1** Fishing gears and its common fish catch.

Fishing gears	Major fish caught
Spearing	Carangids, seer, parrot fishes and octopus
Harpooning	Sail fish, tuna, seer fish, small bait fishes and shark
Hand line	Mullet, milk fish, mackerel, seer, tuna, sail fish, terepon, barracuda, and shark
Cast net	Shoal fishes such as sardines, anchovies and carangids
Gillnet	Sardines, anchovies, milk fish, tuna, seer, mullet and barracuda
Ichthyotoxic plant	Slow moving and small fishes, octopus
Shore seine	Sardine, anchovies, mullet and carangids, which have shoaling behaviour
Trolling	Fast moving fishes such as tuna, seer fish, sail fish and barracuda
Fish trap	Mullets, milk fish, carangids

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