

## **FISHERMEN IN MINICOY (MALIKU): THE PRODUCTION OF MALDIVE FISH AS A SUSTAINABLE ECONOMY**

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**Abstract:** The people of Minicoy (Maliku), the southernmost island of the Lakshadweep, produce Maldive fish, a delicacy widely known in India, Sri Lanka and beyond. Maldive fish, locally *hikimas*, is a cooked and dried tuna fillet, that is as hard as wood and can be used for several years after processing. For many centuries it has been an essential part of the diet of seafarers, the pioneers of pre-colonial globalisation in the Indian Ocean. Maliku fishermen catch bait fish in the lagoon and skipjack tuna in the open ocean within a radius of 25 miles. *Hikimas* is produced by local women in their homes for export and partly for their own consumption. Despite the motorisation of fishing boats and other modernisations, fishing with pole and line and the production of *hikimas* proved to be a most sustainable form of catching and processing fish. It remained basically unchanged since it was first documented in the fourteenth century. I shall argue that fishing on Maliku is more than an economic activity, as it is a central aspect of producing home and belonging also for other occupational groups, particularly seamen, the largest professional group. Fishing and *hikimas* production are most inclusive economies with transparent distribution of surplus and wealth, and therefore contributes to a society that is often described as “egalitarian”.

**Keywords:** Indian Ocean, Lakshadweep, Minicoy, fishermen, dry fish production

“... tuna fishing industry is the chief economy of the island (of Minicoy, FH) ... The prosperity of the islanders depends almost entirely on the quantity of the tuna caught and the price that the cured fish or mas min fetches in the export market. It is a well organised industry with a long-established tradition in maintenance of which an unwritten code of observance is rigidly followed by the local people.” (Jones and Kumaran: 1959: 32)

### **INTRODUCTION**

Before I discuss tuna fishing on the Indian island of Minicoy, locally known and hereafter referred to as Maliku, I would like to recall a moment of my fieldwork in a southern atoll of the Maldives in March 2022. An islander told me about his life as a fisherman and later as a sailor. On three consecutive days we had long conversations at the harbour, the next day under a huge banyan tree and the last day in the courtyard of his private house. On the fourth day, he was busy packing for his trip to Mecca, but he insisted on coming to my room to say goodbye. To my surprise, he gave me three gifts. First, a Maldives atlas, which he said is no longer in use as his children use Google Maps, but it could be useful for me. The second and third items he gave to me with much emotional attachment. These items were a coconut and a piece of dried fish, known as Maldive fish, which, he continued,

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represented his lunch when he went out fishing as a young man. These two things would help me understand what his life was like some sixty years ago. Coconuts grew in his garden and fishes were caught by him and dried by his wife. I can only speculate about his attitude to the three gifts. The atlas is a product that was created during his lifetime and has lost its value for him. The coconut and the dried fish represent the land and the sea and are his emotional anchors to the past. Today, tuna is processed in factories or exported in refrigerated containers. An ancient economy that existed before the island nation converted to Islam in the twelfth century came to an end during his lifetime. In Maliku, almost a thousand kilometres north of the southern tip of the Maldives, tuna is still caught and dried fish is still processed, just as in his younger days.

Maliku is the southernmost island of the Union Territory of Lakshadweep and marks India's south-western border. The island was once either part of the Malé Sultanate or a tributary to the Ali Raja of Cannanore, thereafter it became part of British India, and since 1956 the island has been part of the Republic of India. The islanders once owned a fleet of merchant ships and exported products especially dried fish and coir. In the nineteenth century, a growing number of adult males became foreign going seafarers, who today constitute the largest occupational group on the island (Heidemann, 2020). Throughout all phases of their history, the islanders on Maliku have maintained their cultural identity as a Dhivehi-speaking people (Dhivehi is the language of the Maldives), probably also favoured by their separated location, far from the nearest islands and spatially between the other islands of Lakshadweep and the Maldives. Through trade and seafaring, however, they had ample external contacts and were well informed about maritime affairs in South and Southeast Asia.

There are no historical documents to pinpoint the beginning of commercial fishing on Maliku, but the oldest written records suggest that fishing as a technology has already been present since the first settlement of the island. Archaeological findings from the pre-Islamic period, i.e. before 1153, such as Buddhist dagobas and sculptures now kept in the Maliku Museum (Hoon and Mohammed, 2020), are strong evidence of a very long history. Most Maldivian archaeological publications speak of a historical depth of 2500 or even 3000 or 4000 years (Mohamed: 2020:3). We have every reason to believe that fishing is an ancient practice. Considering the limited land mass and abundance of fish, this does not seem surprising.

The crescent-shaped island is just above 11 km long and measures about 400 metres at its widest point. Today, an estimated 11,000 people live on the island, out of which almost one thousand are part-time, full-time or casual fishermen. The islanders live in eleven villages that have grown together and appear as one inhabited unit. Each village owns a piece of land that stretches from the lagoon in the west to the open sea in the east. The islanders of Maliku are Muslims and follow a matrilineal inheritance and matrilocal (or alternatively neolocal) residence.

The four status groups that once divided the island into ship and landowners, then captains and seafarers, followed by seafarers and fishermen, and finally coconut pickers (Kattner 1996; 2010) have lost their effectiveness. It would be wrong to deny the existence of social hierarchies and the unequal distribution of wealth and influence, but compared to other South Asian communities, society on Maluku is rather 'egalitarian', a term used by many of my interlocutors and also in written accounts (Hoon et al. 2020). Many aspects and norms of the earlier social order, according to which the first and last categories were to work on land and the other two on the sea, are almost forgotten. Unlike the case of Indian fishing villages (Ram, 1991), in Maluku the separation of status groups (Kattner: 2007; 2010) was never as rigid or attributed to ritual purity. In what follows, I will argue that in Maluku fishing is a constitutive part of local history and island identity. Fishing is the basis of a maritime tradition that has also given rise to seafarers, today the largest professional group.

The most important fish product, known as Maldivian fish, locally *hikimas*, is a cooked and dried tuna fillet, as hard as wood that can be used for several years after processing. For many centuries it has been an essential part of the diet of seafarers, the pioneers of pre-colonial globalisation in the Indian Ocean. Today, Maldivian fish is traded to Sri Lanka, South India and parts of Southeast Asia as an expensive ingredient for various dishes. It is thinly sliced or powdered as a condiment to curries and sauces. The export of preserved fish products was already known in times when Maluku still belonged to the Maldivian Sultanate. Ibn Battuta, who visited the Maldives in 1343 and 1344, wrote: "Each population catches the fish of its own island, which they salt and send to India and China." (Battuta: 1829: 178) Battuta also mentions the trade in cowrie shells, which were once used as money in various parts of the world, and expertise in making coir rope, which was used to "sew" ships in Yemen and India. The export of shells and ropes is a chapter of the past (Knoll, 2022). Maldivian fish, on the other hand, is an old product in modern cuisine.

Commercial tuna fishing is done exclusively by men. The number of fishermen on Maluku is fluctuating and difficult to count. In addition to the regular crew of the fishing boats, temporary members of the group include seafarers who stay on the island for a few months between their contracts. According to the 2005 National Marine Fisheries Census, there were a total of 872 fishermen on Minicoy, of whom 290 were classified as active, 353 as part-time and 229 as casual (Government of India, 2005). In the mid-1950s, Jones counted 640 active fishermen, including boys, and about 300 part-time fishermen, when the population was about 4,000 (Jones 1958). For the year 2020, my interlocutors gave different and partly contradictory figures, as the growing number of fishermen who occasionally fish in the lagoon and those who go tuna fishing in the open sea were mixed up. The annual catch has fluctuated between approximately 1886 to 4067 tons between 2010 and 2019

(Government of India, 2019). Considering that the good fishing season is from October to April and a more difficult season during the monsoon months from May to September, an estimated daily catch of 300 to 400 kg per boat seems realistic (Hoon: et al. 2020:55).

The Maluku lagoon and the surrounding sea are a region rich in fish. Jones and Kumaran (1959) list 154 different species of fish found around the island and also mention different types of nets, harpoons and fishing rods. The Malukuns used to catch a variety of fish for different purposes, such as the whale shark for its oil to seal boats. The skin of stingrays, a fish not used for cooking, was used as a substitute for leather. We know from colonial records that turtle shells were among the export items (Heidemann, 2021). Today, however, the focus of the fishery is on skipjack tuna (hereafter referred to as tuna), which usually weighs between 2.5 and 3.5 kg and is ideal for processing Maldivian fish. But yellowfin tuna, a much larger fish weighing 50 and more kilograms, is also among the catches. Shark fishing, which has been banned in the Maldives since the 2010, is still practiced in Maluku; during my stay the largest specimen caught weighed 260 kg. The islanders make a clear distinction between fishing in the open ocean and reef fishing within the lagoon or near the outer coast of the atoll. The reef fish are mainly caught for domestic consumption, but recently some fishmonger from the mainland have started buying various catches from the Maluku lagoon.

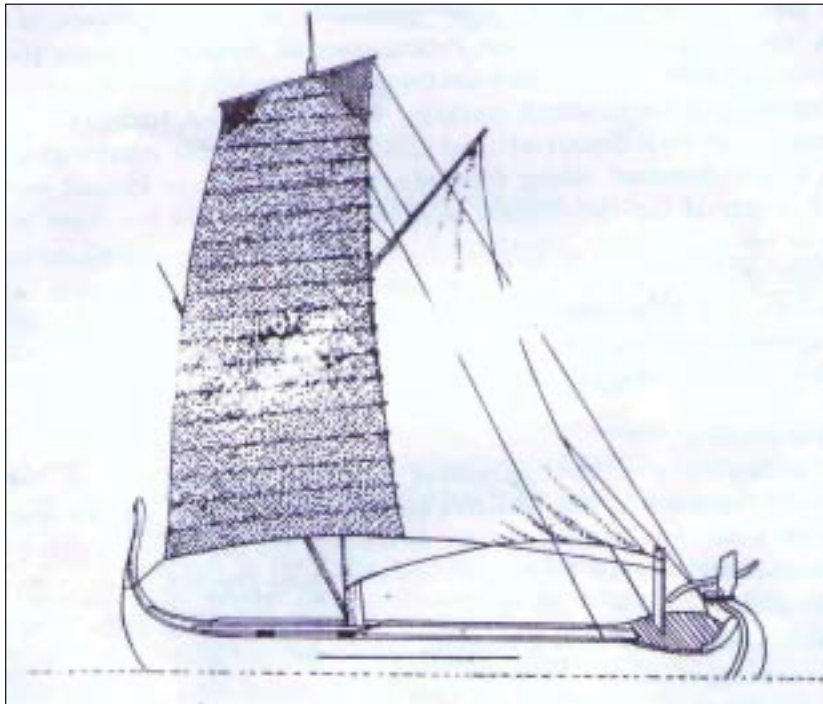
The history of fishing on Maluku is a central aspect of the larger social and cultural change on the island. First, hundred-fifty years ago a clear majority of Maluku men were fishermen and a minority were seafarers, but this ratio has steadily reversed. Second, most of the young men who once learned to sail and fish at a young age now go to school in the morning hours, when the fishermen are on sea. Third, the division of labour that once followed the boundaries of status groups has lost its meaning. All groups strive for a good formal education and can be found among the fishermen as well as among the seafarers. They are respected, hold honourable offices on the island and are successful in political elections. Fishing is a highly respected craft that requires maritime skills, mental and physical fitness, sensory awareness and social competence. Last but not least most obvious aspects of more recent change are a rapidly growing administration cum state-regulation and the emergence of new technologies.

But regardless of these dynamics, I would argue that the basic technological aspects of tuna fishing and processing on Maluku represent the most sustainable form of harvesting of the sea. These are: Fishing with relatively small boats near the atoll, searching for schools of tuna by eye, casting bait fish into the water and using sprinklers to attract tuna, and fishing with rod and line with barbless hooks and making dried fish by cooking, smoking and drying in the sun. This method avoids by-catch and explicitly does not use long lines and nets for tuna. Like in the Maldives, “(e)ssentially, one fisher, using one fishing line catching one fish at

a time” (Holland: 2021:1).

### FISHING BOATS

In a comparison of South Asian boats, James Hornell wrote in 1920, that the boats of the Maldives and of the Lakshadweep cannot be matched for “the neatness of the finish and beauty of line of their smaller craft” (Hornell: 2002/1920: 59). “The most numerous in these islands are bonito fishing boats. These are very handsome and wonderfully speedy boats showing, in the type used at Minicoy, a curious combination of fore and aft and square sails. These boats are of light draft in order to pass through the shoal passage in the encircling reef into the save lagoon.” (Hornell: 2002/1920: 60). In a similar voice of praise Jones and Kumaran almost 40 years later: “The tuna boat of Minicoy is a class by itself and superior to any boat of its size in use on the mainland” (Jones and Kumaran: 1959: 33).



**Figure-1: Fishing boat at Minicoy before 1920 as depicted in Hornell (2002/1920: 60)**

When I talked to an elderly fishing boat owner, he compared the view of the harbour with the boats anchored close to the shore to a visiting card of an island. In the last quarter century, the number of fishing boats has been between 40 and 60, but the average size has increased, making it difficult to compare. According to Hoon et al., in 2004 there were 44 fishing boats (13 village owned, 31 privately

owned) and in 2020 there were a total of 57 fishing boats (10 village owned, 47 privately owned) in Minicoy (Hoon et al 2020: 53). During my last visit in 2020, my interlocutors counted about 50 wooden fishing boats with built-in diesel engines. They were all anchored in the Maluku lagoon to the west of the village, ready for fishing trips on the open sea. Other boats were pulled up for repair or used to transport items. In some cases, the crew was incomplete or the boat owner decided to go reef fishing inside the lagoon or near the outer reef. The western jetty, where small cargo boats and inter-island ferries dock, is not used. The fishing boats, all built on site, are between 40 and 50 feet long, the largest being about 60 feet. They are reached by dinghies large enough to carry the catch to the sandy beach. Before motorisation, the entrance to the lagoon proved too small to be sailed in bad weather and dangerous currents. Almost a hundred years ago, the collector of Malabar wrote about the fishing boats in Minicoy:

*“Special boats are used. These are particular large fast sailing boats, with a broad platform over-hanging the stern. ... The boat carries two sails, a large square sail of matting, rigged to a cross yard which when lowered is rested on a crutch at the stern, and a sprit sail made of cotton fabric. The gun-wales are built up rather high at the bows where they are pierced for the oars. The crew consist of 15-20 men and a number of boys. Twelve of these boats belong to the attiries (villages, FH) and for each, one muppan (headman, FH) and three men are appointed for the year. Twenty per cent of the catch goes to the attiri fund, the rest is distributed among the crews. The remaining six boats belong to single individuals who maintain a standing crew of four, responsible to them for the management and manning the boat: the rest of the crew are volunteers secured by these four for each trip.”* (Ellis: 1924: 84)

Today, not a single sail can be seen in the Maluku lagoon. The fishermen still remember well the transition from sailboats to motorised vessels. The older generation was worried that the fish would be driven away by the noise of the engines. Initially there was resistance, but with the support of government programmes, the motorisation of fishing boats progressed well in the 1960s. The earlier shape of the sail and row boats can be seen at models kept in the Maluku Museum and are depicted online (Hoon and Mohammed, 2020). The shape has been modified, the stern was enlarged into a small platform where half a dozen fishermen could stand almost shoulder-to-shoulder and catch fish in the flowing water behind the boat. Next to the fishing platform, still at the stern, the captain, *keylhu* (in standard Dhivehi *keyolhu*), stands behind his steering wheel. Most of the boats have no cabin, so no protection from the sun or rain. Only two boats have a small cabin and the advantage that the fishermen can stand on the roof to have a better view. The *keylhu* uses a compass and a minimum of electronic equipment: a GPS and a mobile phone. Some boats have fixed lights, but on the boats I have been on, the *keylhu* uses a large torch to show other boats that he is approaching.



In front of the helm is the open area of the boat, the spars are visible. This is where the catch can be stored. In front of the open space is the engine, and further forward is the large basin for live bait fish. Seawater is fed into the basin to keep the bait fish alive. At the bow of the boat there are storage spaces for ropes and the anchor.

### FISHING IN THE LAGOON

The Maluku Lagoon is a rich and complex ecosystem that has been studied by a number of scientists in the past (Gardiner, 1901). (Among them is the Muraduganduvar Ali Manikfan from Minicoy, a famous marine biologist, agriculturalist, ecologist and boat builder (Severin, 1982), who discovered a new species of fish that was later named *abudufdufmanikfani* after him.) But most of the possible products are not used by the Malikus. Octopus, lobster, crabs, prawns, sea cucumbers and turtles were either never caught or are now protected by law. Reef gleaning is hardly practised today. A minority of fishermen and temporary residents of Maluku fish from the jetty or shore, wade or go out in country crafts, and a growing number of small boats with outboard motors can be seen in the lagoon. Most men (and a few women) fish with line and hooks, some own professional fishing gear, and a few use nets. They catch a variety of reef fish for their own kitchen or give them away to family and friends, and only about 25 % market their catch locally (Hoon et al.: 2020:45).

Baitfish, indispensable to catch tuna, is found mainly in the lagoon, sometimes on the eastern reef flat, a limited space and today a contested area. Fishermen describe the availability of bait as the bottle neck of their fishing operation. The practice of locally managing the limited marine area still continues. Under the leadership of the local pilot (*aarukatti*) and in hand with the Minicoy Fishermen Society, the people of Maluku regulated the fishing process, especially in terms of the mesh size of the nets and a ban of the use of artificial lights to attract bait fish at night. (They also organise the annual cleaning of the entries into the lagoon and fixing lights at the narrow passages.) I could hear many concerns that the population of the baitfish was declining, but this was already reported by Jones and Kumaran based on their research in the 1950s. They were concerned about the shortage of bait and suggested to build ponds and tanks on the island to breed baitfish (Jones and Kumaran: 1959: 53). However, the “natural limitation in regard to baitfish resources might tend to prevent indirectly, any outside enterprise encroaching into these waters” (Jones and Kumaran: 1959: 52-53). When I talked to fishermen half a century later, they described the shortage of baitfish as a new phenomenon, presumably due to global warming, El Niño, coral bleaching or overfishing. Another new problem that was rarely mentioned is the fact that the growing number of public servants are using different fishing methods, including drag nets with smaller mesh. Some of them engage in set net operation and also reef gleaning disturbing the ecosystem. Such activities might not be necessary illegal though destructive and non-sustainable.

Maliku fishermen have excellent knowledge of the ecosystem of the lagoon. They distinguish 27 types of baitfish, know about their habitat and daily movements, and adopt different methods of catching. *Bodhi* (*Ostorhynchus apogonides*) moves away from the reef at night and needs to be caught before sunrise, therefore the boats go out at 4 am. *Rehi bodhi* (*Archamia sangiansis*) and *dandifeemaru* (*Herklotsichthys quadrimaculatus*) can be caught in the early morning hours. The fishermen catch the bait a day before they go for tuna fishing, or on the same day, as the life time of the little fish in the traps is limited. In search of the baitfish, one or two men of the crew dive with masks, sometimes they are towed from the boat. The divers locate the exact site where the operation can begin. They hang on the ropes tied to the platform until they spot sufficient baitfish. Once the schools have been sighted, the boat is anchored, the net is cast, and on the signal of the divers the nets are hauled in. Thousands of small fish are brought into the live bait tank in the middle of the boat. The divers make sure, that only one variety of fish is caught, because mixing of bait fishes affects the life span of the catch. *Rehi, rehi bodhi* and *dandi* are a favourite choice because they are “liked” by the tuna. (See tables and lagoon maps provided by Hoon et al.: 2020: 50-52).

In 2019, I spoke to a few elderly fishermen in Maliku and was invited to go out with them for a casual pleasure fishing trip to the lagoon. We went out in the late afternoon and returned after sunset. The catch was not extensive, but we enjoyed a few relaxing hours on the boat. The fishermen realised that I had no expertise in fishing and that many things were new to me. My interest in the sociology of the island and the matrilineal order was obviously greater. They were happy to teach me the basics of how to catch without a fishing rod, just using a fishing line, a hook and a small bait fish. In February 2020, a small group of younger fishermen were kind enough to take me along on their day trip, which started at 3 am. They were fishing for bigger fish on the outer reef with quite an economic interest. They took some pieces of yellow-fin tuna out of their freezer at home, each weighing over a kilogram, and set them out with a weight and a large hook at a depth of 80 metres, fitted with buoys. They anchored about 200 metres offshore and kept three of these buoys in sight. For the next few hours, they fished for predatory fish with modern fishing rods, both for their own consumption and for sale. My impression is that only a small part of the daily catch is sold for cash, but the possibility to earn money instantly from the daily catch seems to be a great incentive, especially for the part-time fishermen, mostly seamen on home leave.

### **TUNA FISHING ON THE OPEN OCEAN**

The oldest detailed description of deep-sea fishing in the Dhivehi speaking world is from Francios Pyrard de Laval from the first decade of the seventeenth century. Since his account shows amazing parallels with what I could observe recently, I will quote at length from his book.



*“Fishing is done at the Maldives in several ways. The chief fishery, that of the fish which is the greatest trade (i.e. tuna; FH), is pursued beyond the reef and atolls in the deep sea ... (T)hey are caught ... by a line of a fathom and a half (i.e. nine feet, FH) of a thick cotton cord, fixed in a big cane, which is a wood of great strength. The hook at the end is of different sort from ours. It is ... without barb or tongue, ... No bait is attached, but the day before, they provide a lot of little fish of the size of a little roach or whitebait, which are found in great abundance on the reefs and shallows; these are kept alive in net-bags ... When they get to the deep sea to the fishing ground they cast abroad these little fish, and at the same time they put in their line. ... (The white hook) is mistaken for a small white fish. They have then only to draw the line into the boat, where the fish drops at once, being hardly hooked; the line is speedily put back into the sea, and thus a marvellous (sic.) quantity are taken, in such wise that in less than three or four hours their boats are nearly full; and this, be it remarked, while they are going full sail.” (Pyrard: (1611) 1887: 189-90)*

On a few occasions I had the opportunity to accompany fishermen on their day-trips to catch tuna. They leave the lagoon in the early morning and return when they have caught enough, sometimes in the afternoon or early evening. Some trips last from 4 am to 9 pm. The crew gathers on the beach long before sunrise, and row by small dinghies to their fishing boats. Most of the fishing equipment is stored onboard. The engine is started by hand. There is no battery onboard except for those in the mobile phone, the GPS and the torchlight. At moonlight or dawn the boat leaves the lagoon, usually through the widest entrance, which is to the north. In the month of February when I could join the crews, the water in the lagoon is calm and reaching the fishing boats easier. This is not the case at the time of the south-west monsoon from June to October, when the entry through the narrow channel into the lagoon is extremely risky. I was told that in the pre-motorization era, about half a century ago, fishing came almost to a standstill during these months; some fishermen kept smaller rowing country crafts at suitable locations on the eastern shore where they have some protection from the wind and where the waves are endurable. Since some couple of decades, fishermen make use of outboard engines for easy and fast movement. During these months, catches were low, navigation was difficult, and fishing was mainly for subsistence.

The fishing operations take place within a radius of about 12 to 14, maximum 25 miles off the island. They try to keep eye-sight to the Minicoy lighthouse, the iconic building of the island, built in the 1880s by the British. Regular destinations are two buoys now used as FADs (Fish Aggregating Device). They were installed by the NIOT (National Institute of Ocean Technology) and left there at the same locations, 18 nautical miles south and 8 nautical miles north west of Maluku, on request of the Minicoy Fishermen Society. They attract small fishes, followed by larger ones, especially the skipjack tuna. All eyes are on the surface of the water or

on birds indicating a school of tuna. Experienced fishermen have told me that the appearance of tuna on the surface depends on the current and the water temperature. There are no exclusive spots, but a number of sites considered more favourable than others. The *keylhu* communicates wireless with other fishing boats about the fish status and collectively try to find good fishing spots. When tuna come to the surface, there are plenty of fish, more than enough for the few boats near the spot. I could not sense any competition among the crews. On the contrary, they act extremely cooperatively and stress the need for solidarity as men on small boats on the ocean.

We circled the buoy and started the sprinkler. In the days of sail boats, the water was manually sprayed with an implement made by attaching a dry sheath of coconut flower to a wooden handle. Today, pumps from the diesel engine feed water through PVC pipes to the rear of the boat and sprinkle water. The swirled water confuses the tuna following the boat. The hook, when dragged along the surface of the water, appears like small fish swimming forward to escape from predators. Up to a dozen of fishing boats from Maliku meet at the 18-miles buoy, move in circles until they spot tuna, or proceed to another fishing spot. When a swarm reaches the surface, one person, or two men each on one side, start throwing bait fish from the central part of the boat into the water. The *keylhu* slows down the speed of the boat and within seconds all fishermen gather at the stern with their gear. They use bamboo poles and prefer improved hooks, which are popular in the Maldives. Five or six men cast the fishing rods to the school of tuna and within seconds swing the line with the catch overhead towards the boat. The wriggling fish falls off the hook usually before hitting the wooden floor of the boat. Barely do the lines get tangled, a miracle for the untrained observer. This procedure takes a few minutes until the school leaves the surface and the *keylhu* searches for a new spot.

When the *keylhu* decides to stop fishing, either because of sufficient catch or declining opportunities, he takes the quickest route back to Maliku. The maximum capacity of the largest boats is around 5000 fish, each weighing 1.5 kg, i.e. app. 7500 kg. On the trips which I joined the catch was 200 to 300 skipjack tuna with 1.5 to 3.5 kg each. A few days later, one of the boats with a crew of 7 caught 400 tuna, each 5 kg, i.e. a total of app. 2000 kg - a great economic success, because the rate was INR 70 per kg, but – as the men mentioned – only half the price they would have earned in the mainland. On other days, the catch earns hardly more than the cost of some 40 litres of diesel and other running costs, in some cases the re-payment of a bank loan for the construction or major repair of the boat. Occasionally yellow-fin tuna or other bigger fishes are caught, but they are not the prey the fishermen are looking for and are difficult to be sold or processed.

On the fishing trips the mood of the men might change according to wind, rain, humidity and temperature, currents and waves, and of course the availability of fish. At times, the men crack jokes or sit in silence in the boat. But there is always a sense of duty. No one gives orders, each man knows what needs to be done and

acts accordingly. The crew observes the weather, the ocean, and the boat. At all the time, everything is in order. Ropes, poles, anchors or other equipment are stored immediately after use. Special attention is paid to the cleanliness of the boat. After fishing, the planks are treated with a brush and broom. I found this kind of attending needful action without any order at one's own discretion and careful observation also at larger rituals on the island and even in seamen's hostels in Mumbai. I experienced the fishermen - like the sailors from Maluku - always alert, helpful, and humble, but never loud nor passive.

### **DISTRIBUTION OF CATCH AT THE WESTERN SHORE**

In the afternoons, many islanders, most of them women and children, wait for the boats at the western shore. The catch is loaded in dinghies and taken to the sandy beach. Onlookers comment on the quantity and size of the tuna. The *keylhu* or one of the senior fishermen, who is not necessarily a member of the crew, takes over the distribution of the catch. From the main pile, he reorganizes the fish on other heaps, each reserved for one of the participating partners.

Each catch of the day is divided among the boat owner, the crew and others. There are slight differences in the distribution key between the villages, but also between private boats of the same village. In general, the first half of the catch is reserved for the boat owner. In this case, he looks after all costs to make the fishing trips. He buys diesel fuel and takes care of the transport to the shore, he pays the mechanic and the carpenter usually INR 1000 per working day. He takes charge of renewing or repairing poles, lines and nets, and gives 2% of the catch to the village headman and 2% to the village community for hauling the boat when needed. I would like to mention in passing, that each village owns thick ropes and a framework to pull boats to shore, which is a celebrated public activity in which men and women of all ages participate – a community act which is purposefully not substituted by the mechanical power of a tractor. The other half is shared by the crew, usually seven to nine persons. A regular distribution key is that all fishermen get the identical share, and the *keylhu* gets two shares. In some cases, the distribution key leaves the owner with fewer fish as a relief from his duties and respective costs in providing the ready-for-the-trip boat. I was told of other or former sharing systems that included a regular allowance for the carpenter, the net-maker, and the provider of the sails. In 2002, Vineeta Hoon noted the following distribution system. Out of a catch of 107 tuna, the crew received 56 (=52%) and the boat owner got 35 (=33%) fish, and the following persons or institutions received two fish each: hook maker, carpenter, net-maker, wake-up person, village house, village headperson, and two fish were given for hauling the boat (Hoon et al.: 2020: 42).

Most fish, more than 80% or even 90% of the catch, is distributed in this way at the shore. There are a few transactions in cash, when someone wants to buy fresh fish but has no claim to a certain share. However, the public distribution is a

common scenario each afternoon - except on Fridays, the prayer day. There is no real alternative to marketing and processing the fish in Maluku. All other islands are too far away, very limited cold-storage facilities are on the island and the Government run canning-factory with a limited capacity offers a rate of Rs 36. The maximum capacity is 2 tons of tuna per day, making up 500 kg of canned fish, and a freezing capacity is limited. A new development, also with a limited capacity, came into being in 2018. A trader from Kochi began to operate two ships with a large ice-chamber, one shuttling to Kochi and the other anchoring in the lagoon for about two weeks. He buys all kind of fish, including reef fish and sharks, and pays in cash. But these vessels and the canning factory cannot be considered as an alternative to the procession of dry fish. By and large, tuna remains the staple food and the economic basis for the production of the main export commodity, the Maldivian fish.

The western shore, where the distribution of the catch takes place, is much more than a place of economic transaction. In geographical terms it is the momentum where landed space becomes maritime space. In economic terms, exactly here the jointly owned catch is transformed into individual property. Sociologically, it must be regarded as a common property to which all persons of the island have access. (But in social practice villagers use their own stretch of beach and hardly go to other beaches without a purpose.) On the beach boats are hauled up and repaired, children play and learn to swim, men and women chat in the evening hours, people of all age fish with lines, barbed hooks and bait, and on festival days bulls are slaughtered according to Islamic rules. As in other public places, the rules of conduct are closer to a normative ideal behaviour. What can be observed here is a model *of* and a model *for* society. Unlike in Southern India, where the shore is described as a marginal space and Mukkuvar women are not permitted to be (Ram, 1991), in Maluku the western beach appears as a central space.

### **MAKING AND MARKETING OF MALDIVIAN FISH**

While the process of distribution is still in progress, a few men and children begin to gut the fish right on the beach and dispose the unwanted parts in the sea. Though most villages have a separate spot with a water tap near the shore, cutting and cleaning of almost all individual shares including that of the boat owner take place in their respective houses. The women carry the fish from the shore to home in large aluminium bowls as head loads. Nowadays women also use locally made trolleys for transporting large quantities of fish. A brief description of what follows can be found in the small book by Oliver Bartholomeusz, who served on the island as a medical doctor in the 1880s. He writes:

*"On being brought ashore they (the fish, FH) are immediately deprived of their heads, tails and internals, and the trunk being quartered, the pieces are thrown into the cauldron of boiling water to which a quantity of salt water has been added. In*

*this they are placed over the fire for about half an hour, and then taken out and spread on a sort of shelf made of sticks, and dried over embers till next morning. They then undergo a process of sun drying for about eight or ten days, and are stored for exportation.*" (Bartholomeusz: 1885: 175)

The basic steps of processing are still in practice. From what I learnt in Maliku, the boiling of the fillets takes much longer than described by Bartholomeusz. The cooking of the fish is done under a shelter in the courtyard of the private houses. Large copper vessels are fired using firewood comprising of dry coconut leaves, shells, sheaths and husks, part of screw pine and other locally grown trees. This process lasts long in the night. The next step, smoking of the cooked fish, also takes place in the same shelter. The tuna fillets are spread over a wooden or metallic grill, hung over the kilns. Until half a century ago, when houses were built with coconut trunks and mats made from coconut leaves, all kitchens were in a separate building for fear of fire. In those days, most households in Maliku were engaged in the process, but today one finds many abandoned grills for smoking tuna in private houses. A major reason for this is that the female labour force went down in size. More families living on the salaries of seamen are reluctant to continue this work. Female members in the fishermen families are pursuing higher education and taking jobs in Government departments or public schools. Some families process the tuna from boat owners and other fishermen's share and receive two or three pieces of Maldive fish for each 10 pieces they process.

The final step in the production of Maldive fish, locally called *hikimas*, is sun-drying. A walk through the villages passes many open spaces where tuna is dried under wire meshes or old fishing nets to protect from crow, rat, cat, and hen. Only a few drying places are protected from rain, as the main tuna fishing, and therefore the production of *hikimas*, take place in the fair season. A big advantage of dry fish is its long-lasting quality and the producer's choice for the time of marketing. A total of four local traders buy dry fish from the households. The traders have limited storage and prefer to buy the stocks on the day when a cargo ship leaves. Depending on the demand and subject to availability of space on the ships, the local agents ship well packed 50 kg parcels of *hikimas*. The agents have contact persons on the mainland harbours, mainly in Bepore, and communicate with them by phone. Depending on demand, they make sure that they can collect, pack and ship the dry fish in the required quality and quantity. Payment on the island is made in cash and the traders receive their money by bank-transfer. The traders which I met tell that the transactions and payment are without obstacles, despite the fact that they hardly see the mainland traders. Agents and producers from Maliku tell that their products are in great demand in South India and Sri Lanka, but they have no knowledge nor interest in the further trade routes of their product.

Another product of less economic importance but of great culinary value is *rihaakuru*, a thick paste from the liquid in which the fish has been cooked. It is used

to make a spicy sauce (like *thelulirihaakuru* or *foreppirihaakuru*). After cooking the tuna for a few days in the same solution, the liquid is filtered into another copper vessel. It is boiled further until a thick dry paste is generated. Finally, some pieces of the cooked tuna are added to the paste before storing them in jars. *Rihaakuru* is eaten with rice or added to the fish dishes and used to refine curry dishes. Fishmongers also trade in *rihaakuru*, but there are no fixed prices and less wholesale demand. Most of the locally produces *rihaakuru* is consumed on the island or distributed through informal networks. While I was on Maliku, also other initiatives to process tuna and to market the products came up. One locally most respected man built a small canning factory at the eastern shore and introduced his own label. He sold “light meat tuna in vegetable oil”, “dried tuna fry”, “tuna fish pickle”, “dried tuna chutney” and “tuna fish papad”. These products are made for the large market on the Indian mainland and the only obstacle seem to be strict Government regulations, all of which are good in themselves, but difficult to meet in their totality.

#### **MALIKU FISHERIES IN A WIDER GEOGRAPHICAL CONTEXT**

Maliku fishing is undoubtedly part of the cultural heritage of the Maldives and has preserved and developed much of what Clarence Maloney observed in the 1970s (Maloney: 1980: 17-18, 278-80). But today, fishing boats in the Maldives are much larger and have a wider radius of action, which is not possible in Maliku due to the international border of the Indian state. In the Maldives, the fibre boats are equipped with cooling facilities for the catch and radar, including bird radar to locate schools of fish, and often specialized in yellowfin tuna. Baitfish are caught with the support of scuba divers including huge underwater lamps up to the depth of 40 metres. Crews of 16 to 20 men catch tuna with pole and line, a remarkable continuity in the face of other drastic changes. The catch is sold to large canning factories or international direct exporters. The insular inclusive economy for the production of Maldivian fish - and thus the participation of women in this basic economy - has collapsed since the 1970s due to an import ban of dry fish in Sri Lanka. Recently, the fishing industry in the Maldives suffered setbacks from the new taxing system of Great Britain after Brexit in 2020 (Holland, 2021). In this respect, the tradition of fishing and the production of *hikimas* on Maliku occupies a unique position. Malikus sell their products to Indian fish traders and are not directly affected by international trading restrictions.

Compared to other coastal districts on the Indian mainland, Maliku might seem like one of the many fishing communities in Tamil Nadu or Kerala. In Maliku, as on the mainland, drastic changes have altered the social fabric, the economic and political integration into larger contexts. The general development from a colonial to a postcolonial condition is present in both places, access to medical care and to formal education has contributed to emancipation. Advanced technologies have led to more efficient fishing methods and contributed to increased exploitation



of natural resources. On the island as on the mainland, fishermen complain of an increasing problem with succession. Many young men - mostly with a good education - aspire to office or apply for government jobs. It is not always the hard work, but also a diminished ascription of status, and occasionally the desire for skin that is not sun-tanned from the work on the open sea. But in both places, the fishing communities have found their own way through new contexts, contributing to a world of multiple modernities with their unique and specialized backgrounds.

At a second glance there are significant differences from fishing communities in other places. Compared to South India and Sri Lanka, where strict spatial and social differentiation once separated most specialized craftsmen from higher classes, people in Maluku lived together in close proximity and had to extend help to each other, especially in times of scarcity or natural calamities. The last cyclone that hit Maluku raged in 2018, the islanders were cut off from external help and showed the greatest extent of solidarity with the result that nobody died. Another crucial difference is the marketing of fish. Most mainland fishermen sell fresh fish, they depend on local markets and interact with buyers and other specialized castes. The main fish product in Maluku is long-lasting, there are no local markets and the islanders live in a face-to-face society. The spatial - and to a limited extent also social - proximity of the islanders had an impact also on local politics and political representation on larger scale. On the island, the fisherfolk did not compete with other groups for a political office. In retrospect, local society in Maluku underwent a long transformation for at least two hundred years from a trading, seafaring and fishing society to an island-society supported by money orders from seafarers with a substantial fishermen population.

Historically, the other nine islands of the Union Territory of the Lakshadweep were more involved in farming, coir rope making and reef fishing. All these islands are located in the north of Maluku and have more cultural and linguistic links with Kerala, from where they had once migrated. In the 1960s expert fishermen from Maluku were hired to propagate deep sea fishing with pole and line. Until present, the fishing methods differ, since drift nets are used in Kadmat and seine-nets in Kalpeni, Androth, Amini and to a limited extent also in other islands of the Union Territory. In Kalpeni and Amini also troll lines and gill nets are used (Hoon, 2020). The fishermen and their families in Maluku see themselves in the great tradition of Dhivehi speakers and bearers of a Maldivian culture. Until today, Maluku fishermen live in extended matrilineal families, a kinship form which once existed all over the Maldives but was abandoned in the wake of growing Islamic influence from the Near East and Egypt. They also maintained other cultural and religious practices which are lost in the Maldives, for example the reciting of the *thaufeedhu* (Dhivehi *thaaheedhu*, a religious text which once was known all over the Maldives).

## DISCUSSION

The significance of Maldivian fish has been underestimated in historical writings. For

centuries, most likely for more than a millennium, skipjack fishing and producing dry fish was a central economic activity for both, the people of Maliku and the inhabitants of what is today the Republic of the Maldives. By way of cooking and drying, the fish was made durable and offered proteins to islanders during the monsoon months, when fishing was difficult or even impossible. Other export items have received much more attention, because they had a higher impact on trading or are among archaeological findings until today. Ropes made from coconut fibres were indispensable to build ships in pre-colonial times; cowries were used as currency in many parts of the world, wooden handicrafts and textiles are stored in anthropological museums worldwide, but the Maldivian fish is conspicuous by its absence. This product, known with the indication of its origin in South Asian kitchen and beyond, was a popular staple food for the pre-colonial seafarers. The crews who laboured the first phase of globalisation, long before the sea route via Cape of Good Hope was found, fed on the Maldivian fish. It is time to recognize the work of generations of Maldivian and Maliku women, who prepared it, and the men who caught the tuna.

Maliku fishermen have preserved what is ecologically sustainable from the time of Pyrard in 1609 and most likely much earlier. They fish with pole and line only a limited, in total small number of fishes from large schools of tuna. The means of work, most boats, were made from material grown on the island, especially coconut palm trees (*ruh*), Indian almond tree (*midhili*), sea trumpet (*kauni*), and Alexandrian laurel (*funa*). All materials, including sails which once were mats made from woven coconut leaves and later from cotton, were eco-friendly. For centuries the boats were literally “sewn” with coir ropes without the use of iron nails. Today, copper nails are used to fix the planks. The modern diesel engines are long-lasting investments, well maintained and locally repaired. The imported diesel fuel is costly and used without waste. *Hikimas* is a durable product that leaves no unwanted waste on the island. The leftovers are disposed in the lagoon, where they are eaten by other fish or decomposed. Fishing provided both, basic and nutrient rich staple food and principal export commodity.

The fishing economy also contributed to a transparent economic system. The prices of fish and the distribution of the catch are common knowledge. The catch is a visible result of the day’s labour. Fishes are counted and distributed according to a publicly known key among the islanders. The principal means of production, the fishing boats, are anchored near the sandy beach in the lagoon. There is no hidden ownership and the value of the boats could be estimated by every fisherman. My reference to the transparency of the economy is directed also to the domestic forms of production. As with the ownership of boats, the ownership of coconut palms is always public and visible. The land on which the palms stand - like the lagoon - is not tied to private individuals. The work on the sea and the land did not produce unequal distribution of wealth. Inequalities were produced by trade

and the ownership of trading vessels; today they result from differences in income generated in the merchant navy. Fishing was and is counterforce to the production of inequality in the insular society.

The fishing industry is what must be called today an inclusive practice. Young men from teens upwards up to older men, often retired seamen, work shoulder-to-shoulder on the boats. Men with disabilities work on the shore. They go from house to house to wake up the crew in the morning, they take care of the fuel supply and clean the beach after the distribution of the catch. Then as now, the division of labour is regulated by gender. Basically, men work on the boats and women in the domestic sphere, but also women can fish from the shore or jetty and men participate in the production of dry fish. I would like to add here that women had and have a high status in society, which is expressed in the matrilinear and matrilocal system and their participation in ruling the island in the past. Women can and do own fishing boats, and manage the fishing operations. They assume public responsibilities and gather in women houses, which exist in each village. Most of them are married to seafarers and therefore the sole responsible persons at home. In short: the division of labour should not be evaluated from a perspective of the Global North.

Fishing is hard physical work but also a hobby that men in particular enjoy. Judging from the photos stored on the Maluku men's mobile phones, the image of family members is followed by fishes and boats. In many conversations, it took only a few minutes for my interlocutor to illustrate his narrative with pictures of boat trips and caught fish. But the spirit of fishing is difficult to substantiate with objective facts or statistics. Two encounters, one with a young man and one with an older man, may give an idea of what I mean. I once asked a young man who had returned from the mainland to Maluku about his motives. He replied: "Here you can do everything!". I asked what he means by "everything"? He: "Fishing, and ... (pause), fishing, that is enough!" The elderly man I like to quote was building a large wooden boat with the shape of a fishing boat. I asked him if it was meant for tuna fishing? He replied that this will not be a commercial fishing boat, but for his private use, for fishing, to go to other islands, or even to the mainland. I asked about his proposed trips to the mainland and he replied: "It will be my private fishing boat". The way the young man and the older person responded, the way they talked about fishing as an intrinsic activity and the way they explained moving a residence and making a major financial investment, suggests that fishing is about more than catching fish as such.

The attitude towards work and being in the world appears to me fundamental different from mainland India. The fishermen I met in Kerala and in Tamil Nadu are familiar with land-based wage work. Some have been employed in industries or in road construction. Many of them had humiliating experiences, were treated unfairly or had their wages withheld. They have a direct, a physical and psychological embodied experience of the worst form of capitalism (after the abolition of slavery

and the indentured labour system). This is inscribed in their self-perception and in their view of the world. The experiences of the adult males in Maluku differ in this point. Almost all men are either seafarers, fishermen, self-employed or Government employed. The seafarers work for registered, often internationally active companies, and bad experiences seem to be exceptions (as far as I can tell). The self-employed work in their usual social environment - often running a workshop or a provision store. Those, who earn their living in transport or drive their three-wheelers, do not work for the owner of the vehicles, as many do on the mainland. Finally, government employees struggle at times with their offices or wait for outstanding salaries, but do not see themselves as being at the mercy of anyone. I see the historically conditioned autonomy of the Malukuns and the attitude to work as fishermen, which promotes both a responsible insertion into the community of the crew and a self-reliant attitude, as being echoed in other professions. Even if today the majority of the family income is generated by seafarers, I still see their mental and embodied foundations in the centuries-old tradition of fishing.

Last but not least, fishing is central to the production of home and belonging. Beyond fishing, which mainly concerns the male world, the product of their activity is ubiquitous throughout the residential area. The front page of socio-economic survey (Hoon, 2004) depicts three women in a residential street with large bowls on their heads, out of which the tail fins of the tuna fish stick out. A similar photograph is on the cover of the reprint of an ethnographic monograph on the Maldives (Maloney, 2013), and the author has no idea why a photograph of Maluku found its way on his monography of the Maldives (personal communication, February 2020). In the collection of my photos, many two-wheelers have fish hanging from the handlebars, and pictures taken from rooftops of new three-storey houses show other house roofs covered with fishing nets to protect the dried fish from the crows. The aura of fish is omnipresent and there is hardly a meal without tuna. Fish is the most common gift sent by islanders to their relatives on the mainland. The production of *hikimas* connects the male and the female members of a family, and it is the materialized link from ocean to Maluku, and from Maluku to continental South Asia. With or without official recognition, fishing is a central value as an intangible cultural asset of the island, worthy of protection in all respects, socially, ecologically as well as historically.

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