

# Mechanised Fisheries in Kerala : The Indo Norwegian Project

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**Summary-** Two generations ago, a group of Norwegians fishing boat captains, engineers and scientists in Kerala worked with local fisheries personnel, and transformed the fishing industry in India.

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"The main aim of the Indo-Norwegian project was socio-economic development. It did not feel like an office or establishment, but was a collective of people dedicated to the expansion of the project and providing value to the lives of fisherfolk."

# - K. Ravinath, former deputy director, NIFPHATT

The Norwegian connection to mechanised fishing in India came to the surface when P.R. Saijan, a boat owner at Munambam, said "Sometime in the past, an Indian team visited Norway and learnt their method of fishing." He and others at the boat yard mentioned that the technology and the fishing methods used in Kerala evolved from the Indo Norwegian Project of the 1950s. Intrigued, and learning no further at Munambam, the search led to the National Institute of Fisheries Post Harvest Technology and Training (NIFPHATT), Ernakulam, whose office is tucked away at the end of a small road near the backwaters. This institution, formed seven decades ago as the Indo Norwegian Project (INP), for fisheries and fishermen's community development, was a rich source of information.

# The beginnings

Until 1960, the traditional marine fishery sector in Kerala was technologically determined by non-mechanised locally made crafts, dugout canoes, planks, nets, and gears of people's choice and convenience. In the mid-twentieth century, the customary practice among fisherfolk was to catch fish for daily needs and either dry whatever was left over, make fertiliser out of it, throw it away, or bury the rest. There is no doubt that the lives of the fisherfolk were difficult. The average fish landing for Kerala in the mid-century was around 1,81,000 tonnes which was not much.<sup>1</sup>

The Government of India's modernisation of the fisheries sector (particularly the marine fishery sector) was initiated in the First and Second Five Year Plans (1951-61). Until this attempt, fishing (both marine and inland) was considered a caste or community based economic activity, especially in states like Kerala. Like other socially and economically weaker sections of Kerala's population, fishing groups were characterised by poverty, low educational attainment, and minimum material possessions, including living spaces.<sup>2</sup>

"After agriculture and milk production, the government of India turned towards the fishing sector," said Varghese John, Marketing Officer at NIFPHATT. In respect of marine fisheries development, in the first two Five Year Plan periods (1951-56 and 1956-67) importance was given to introduction of mechanised boats. improvement of infrastructure facilities for preservation, processing, storage, and transportation of fish and fishery products, landing and berthing of crafts and organising multipurpose fisheries co-operative societies (GOI 1956).<sup>3</sup>

The project came about as a result of a tripartite agreement among the UN, Norway, and India in 1952. The INP was the first development project of its kind and part of the UN Expanded Programme for Technical Assistance. For the UN, this programme was about post-war reconstruction and an avenue to provide aid to newly independent developing

<sup>&</sup>lt;sup>1</sup> Kurien, John. 'Technical Assistance Projects and Socio-Economic Change: Norwegian Intervention in Kerala's Fisheries Development'. *Economic and* 

*Political Weekly* 20, no. 25/26 (22 June 1985): A70-88.

<sup>&</sup>lt;sup>2</sup> In an assessment of literacy, income, and health status of marine fisherfolk in India, it was reported that the overall literacy rate for fishers was 79.37% and that among the literates 32.85% have a primary level of education, 53.88% have a secondary level of education and 13.10% have a tertiary (i.e. collegiate) level of education (*CMFRI*, *Newsletter*, *Focus on Artisanal Fisherfolk*, *Vol.27-28*: 1985, pp.8-12).

<sup>&</sup>lt;sup>3</sup> E-Krishi Shiksha. Development of marine fisheries during Five Year Plans

http://ecoursesonline.iasri.res.in/mod/page/view.php ?id=94557

countries. The project was signed in New Delhi in January 1953.<sup>4</sup>

Norway, experienced in fishing, thought it might best be able to give technical assistance in this industry. "In Norway under the leadership of the Labour party in power, there was a consensus and popular pressure to undertake such technical assistance programmes as an extension of the social democratic A73)."5 solidarity ideal Norway (p. contributed the capital, equipment, and personnel for the implementation and the state and central governments paid for the local expenditure. "It was not just Norway that had projects in India. In the dairy sector, India had the Indo-Swiss project that was started in Mattupetty, in Munnar," said Varghese.



Figure 1. The first INP Director, Mr D.H. Lund and the first Indian Counterpart Official, Mr P.T. Koshy. Image: *Silver Jubilee Souvenir of The Integrated Fisheries Project, Cochin, India* (SJSIFP) 1977.

#### Why Kerala?

The project started in Kerala because the state had existing fishing villages and a

long length of shoreline. Moreover, attempts had already been made in Travancore state to develop fishing earlier in the 20th century as part of its larger reformation policies.

Several initiatives were carried out by the government to support this goal including fishermen providing wood to for constructing their boats and canoes, as well as giving them cotton yarn for creating fishing nets. Fish curing yards overseen by fishery officers were established to ensure the proper supply high-quality salt and hygienic of Additionally, processing. phased а mechanisation programme for existing boats was established. To expand fishing activities beyond traditional areas, a large trawler was employed to tow local fishing boats to and from offshore fishing grounds. A fishing company named 'West Coast Fisheries Ltd' was started in which the government had a stake, to handle exports and other business ventures. Cooperatives where fishery officers were involved in the day-to-day operations were established, and the cooperatives began supplying fishermen with food, clothing, and other essentials. As early as 1938, they attempted to introduce freezing technology by installing a refrigeration plant for preserving and storing fish in cold storage.<sup>6</sup> However, modernisation efforts were neither widespread cutting-edge nor used technology like those available in developed countries.

Following the tripartite agreement, a supplementary agreement was made specifically for the development of fishing communities in the then state of Travancore-Cochin (1953).<sup>7</sup> This project

<sup>&</sup>lt;sup>4</sup> Kurien, 1985.

<sup>&</sup>lt;sup>5</sup> Kurien, 1985.

<sup>&</sup>lt;sup>6</sup> Kurien, 1985. Pillai, T.K. Velu. *The Travancore State Manual.* Vol. II. Trivandrum: The Government of Travancore, 1940.

<sup>&</sup>lt;sup>7</sup> Gnanadoss, D.A.S, and B Krishnamurti. 'The Concept and Philosophy of the Integrated Fisheries Project'. In Souvenir: Issued on the Occasion of the Silver Jubilee Celebrations of The Integrated Fisheries Project, Cochin, India. Kochi: Integrated Fisheries Project, 1977.

had four main goals: (a) To help fishermen earn more. (b) To make sure fresh fish was distributed efficiently and to improve fish products. (c) To better the health and sanitary conditions of people in the fishing communities. (d) To raise the overall quality of life in the project area.

### **Planned Development**

The INP began in Neendakara. Sakthikulangara, and Puthenthura in Kollam and two fishing communities on both sides of the Neendakara Project area, which covered about 25 square kilometres. were chosen. These communities had a combined population of around 12,000 people and approximately 400 fishing vessels.8 The villagers were poor but fit the criteria of requiring socio-economic development.



Figure 2. Boatbuilding yard established by INP at Kollam. Image: SJSIFP 1977.

The INP moved to modernise the fisheries as an industrial rather than as an artisanal activity. At first, in Kollam, the project concentrated on motorising the boats, where engines were attached to existing canoes (valloms) to give mechanical propulsion. Sixty new boats were made for the project at Kollam taking into account the breakers at the Kollam beach. The boats could now reach the fishing grounds faster. Nevertheless, the method of fishing remained the same.

Motorisation, mechanisation, and new fishing crafts were introduced by the Norwegians as part of the project. Mechanised boats had engines fitted inside the hull of the boat, while net hauling was also modernised, using motorised winches and trawling instead of pulling the net by hand. These introductions allowed offshore fishing. The INP established boatmaking yards and a harbour as these new types of boats had to be operated from small harbours or estuaries, unlike earlier canoes that took off from the beach and through breakers. The fishermen in the area were trained for six months and provided with various financial options to buy the new boats. The cotton nets used were replaced with synthetic nets and supplementary gear was also developed over the years.9



Figure 3. Synthetic nets were introduced and their manufacture and repair were taught. Image: SJSIFP 1977.

According to Varghese John, "For the Norwegians, more than fishing, it was a community development programme." The initial ten years of the project had mainly on developing the focused Sakthikulangara-Neendakara region. They started a pipe factory called Primo Pipes for the distribution of potable water and laid pipeline was between а Sasthamcotta to Kollam. The sanitary conditions in the villages were inspected

<sup>&</sup>lt;sup>8</sup> Gnanadoss and Krishnamurti, 1977.

<sup>&</sup>lt;sup>9</sup> Larssen, Kare. 'Indo-Norwegian Project Develops Indian West Coast Fisheries'. Fishing News International 5,no. 3 (March 1966). <u>https://web.archive.org/web/20150412105735/http://k</u> <u>arelarssen.com/art1.pdf</u>.

and around 1,200 latrines were constructed.

Under the INP, doctors and health practitioners were brought in from Norway and а health centre was established in Kollam. There were two clinics where children and pregnant women were counselled and trained midwives and public health nurses were sent on home visits. Medicines, milk powder, and vitamins were given away for free.<sup>10</sup> Vaccinations for smallpox and tuberculosis were also given. The hospital which earlier known as the was Foundation Hospital is currently under the Trivandrum Medical College and called the Neendakara Taluk Hospital. One of the staff at the hospital mentioned, "The hospital ran well when the Norwegians were here. I know because I am from this area and have heard about this. There were specialists for children and women. Training and treatment were given for other diseases also."11

# A Problem of Plenty

"The Norwegian techniques increased fish landings. There was excess fish, and to teach the fisherfolk how to handle this, the project was moved to Kochi where there was already a fishing research institute and harbour," mentioned Varghese. Consequently, in April 1956, another agreement was signed to expand the project by setting up the Centre at Kochi. The presence of a harbour would also permit fishing experiments with bigger boats. The lack of harbours along the coast had prevented development of modern fisheries. A second fishing centre was to be established in the city of Cochin, the only natural port in the area.<sup>12</sup>

There were other reasons for the change of venue. The INP attempted to introduce a fishing cooperative system in Kollam, but it encountered difficulties.<sup>13</sup> There were conflicts of interest between fishermen and fish merchants. Earlier. merchants paid for the catch when it suited them, they controlled the price. With the motorised boats, the fishermen required cash as working capital every day. Without it, the boats could not go fishing. Therefore, some boat owners established themselves as middlemen in the business, breaking the monopoly of the traditional merchants, leading to tensions between the INP representatives and fish merchants.



Figure 4. Fish catch aboard an INP vessel Image: NIFPHATT

Moreover, issues cropped up between fishermen with motorised boats and canoes (*valloms*). The fishermen with canoes alleged that the sound of the motorised boats was driving away shoals.<sup>14</sup> Scholars mention that the sight of trawlers brimming with seer fish and other delicacies when the canoes could barely make enough for subsistence added to the hostility. There were several

<sup>&</sup>lt;sup>10</sup> Gerhardsen, G.M. 'The Indo-Norwegian Project'. Fisheries of the West Coast of India. Calicut: Central Marine Fisheries Research Station, 1 October 1958. http://eprints.cmfri.org.in/5574/1/21.pdf.

<sup>&</sup>lt;sup>11</sup> Interview with anonymous staff at the Neendakara Taluk Hospital on 19 September 2023.

<sup>&</sup>lt;sup>12</sup> Larssen, 1966.

 <sup>&</sup>lt;sup>13</sup> Klausen, Arne Martin. 'Technical Assistance and Social Conflict: A Case Study from the Indo-Norwegian Fishing Project in Kerala, South India'. Sage Publications, Ltd 1, no. 1 (1964): 5–18.
<sup>14</sup> Klausen, 1964.

instances when 50–60 hostile canoes surrounded the new trawlers on their way back to the shore.

Another challenge in Kollam at that time was with the first trainees from the Araya community. Some scholars trace this to the members of the Araya community struggling to adapt to the new fishing methods as they were hesitant to abandon their traditional subsistence-based fishing practices. Other scholars have linked this reluctance to the broader issue of limited to formal schooling access and education. With the introduction of modified boats that could be refuelled, fishing expeditions could take place at any time of the day. The flexibility in departure times became feasible due to advancements in both storage and boat construction technology introduced by the INP. Scholars have identified this change in schedule as one of the factors that deterred the Araya community from adopting new fishing methods.

The training provided by the project focused on fishing techniques and did not prepare the fishermen for the changeover to a profit-oriented system, including aspects like financial management. Hence, within a few years, many Araya fishermen either sold or leased their mechanised boats to the Catholic fishermen.

Additionally, tensions flared between the Nairs in administrative roles and the Latin Catholic fishermen which was connected to the larger politics of the area involving political parties and caste positions. Scholars mention that the Norwegians who came early in the project were not aware of the difficulties in implementing a system in a developing economy with different social values.<sup>15</sup> The story of boat-making changed when the project was moved to Kochi—a melting pot of various cultural, religious, and social influences.

When the INP moved to Kochi, the buildings at Kollam were given to the state government. "The ice factory there has been repurposed as a shark fin extraction unit," added Ravinath.

#### Project moves to Kochi



Figure 5. The INP office at Cochin / Kochi. Image: SJSIFP 1977.

In Kochi, it was decided that the project would be housed at an existing fishing hamlet in Ernakulam near the port. The fisherfolk living in the village were relocated to another site quite close to the waterfront and the INP offices were built on the shore. With the headquarters now in Ernakulam, the project pursued a more ambitious plan to create a modern, integrated fisheries complex. This involved introducing larger fishing vessels, establishing onshore facilities like ice plants and refrigeration units, creating maintenance infrastructure for large vessels, organising marketing and operations. The Kochi base focused on offshore fishing activities and conducted scientific studies on the area's fishery resources. To support fisheries research, Norwegian fishing schooners three equipped with automatic pilots, radios, telephones, echo sounders, fish finders, and cold storage arrived in January 1955.

Cochin port offered excellent anchorage for these vessels. The schooners surveyed the coastline from Cape Comorin to Kozhikode, collecting data on weather conditions, surface temperatures,

<sup>&</sup>lt;sup>15</sup> Kurien, 1985.

currents, and fish availability. The knowledge and experience gained from this project led to its expansion, both in terms of its functions and geographic reach, in subsequent years. In April 1956, when the new agreement was reached among the UN, India, and Norway, it was decided to explore opportunities for expanding the fishing industry in both the domestic and export markets.

In late 1956, four medium-sized boats known as M-Boats were brought from Norway to Kochi. These boats played a crucial role in training Indian fishermen and assessing the feasibility of fish and prawn trawling operations. Initially, Norwegian fishermen operated these boats, but as Indian fishermen gained expertise, the number of Norwegians on board decreased.<sup>16</sup>



Figure 6. M4 boat, one of the medium-sized boats (36 ft) brought from Norway to Kochi to train Indian fishermen and assess the feasibility of trawling, 1956. Image: NIFPHATT

A dock was constructed at the Kochi office and the INP vessels started using this dock. The project also built a dry dock with a slipway to repair vessels. "The dry docking and repair yard constructed during the INP is still working. The rails, the winch, and the dredging machine have been maintained and are in use in Ernakulam. This is because of the quality of the materials that the Indo-Norwegians used and also because the central government ensured that they were maintained," said Varghese. "Until the INP, there was no slipway here. The slipway at the Shipyard came later. The ships had to be lifted through some other difficult mechanism. The slipway at the INP had a 250-tonne capacity with eight berths. It was shared with the fishing industry. It was useful for boat builders and boat owners at that time," added Ravinath.

#### Locating Offshore Fishing Grounds

One of the schooners brought from converted Norway was into а fishing-cum-research vessel, Varuna, and conducted numerous research the Malabar expeditions off coast. including the Laccadive. lt could accommodate a crew of 17, including four scientists. Three different laboratories were available on the ship: two analytical laboratories and one sampling laboratory. Additionally, there was a small room designated for fish processing. All laboratories were equipped with electric power and hot and cold water, with one laboratory having access to seawater.<sup>17</sup>

During her four years of operation as a research vessel, the Varuna covered a total of nearly 135,000 nautical miles and took some 3,000 oceanographical stations during her 300 days at sea every year.



Figure 7. Varuna was the main research vessel of the INP Image: NIFPHATT

<sup>&</sup>lt;sup>16</sup> Menon, A. Sreedhara. *Kerala District Gazetteers: Ernakulam*. Trivandrum: Kerala Gazatteers, 1965.

<sup>&</sup>lt;sup>17</sup> Menon, 1965.

"The size of the boat and the shape is determined by the shore. The net used for demersal (bottom of the sea) fishing would be 1-2 km away. It is dragged through the bottom and if there is any rock, it may break the net or tilt the boat. The project did the necessary experiments, and established which kind of boats needed what kind of net and gear. The establishment of ice factories, freezing plants, and processing units were also done under the supervision of the Norwegians," said Ravinath.

#### **Developing New Markets**

The larger catch by the newly introduced trawlers brought tonnes of newer varieties of fish for commercial sale. These fish did not have market value, especially varieties like anchovies, pink perch, catfish, shark, and tuna. "These did not fetch much money in the market. They were stockpiled in our storage. There was a limit to how much could be sold through the INP stall at the project office, and at most about 3 to 400 people would buy 1–2 kg of fish.



Figure 8. Anchovies and other catches from an INP trawler. Image: NIFPHATT

The then Director Devidas Menon decided to diversify fish sales. Smaller fish like anchovies and perches were sorted, the bigger fish were sliced, dried, packed in smaller packets, and taken to places where it was needed or not available. It was a great success." Ravinath mentioned that the fish was taken to Thodupuzha and Kattapana in the hinterland. "I accompanied my colleagues to the markets and we used megaphones to announce. We would demonstrate—fry the fish and eat in front of them; especially fish like the catfish which did not have acceptance in the market. We emphasised its nutritive value." The fresh fish was sent in one truck and the processed fish was sent in another truck to far-off markets. A drier was installed just to preserve these products.

"The INP developed the infrastructure for fish processing. They also developed several fish products and took measures to take these products to the people. People still prefer fresh fish. Though frozen fish was being exported from India, people in Kerala were reluctant to use frozen fish products. NIFPHATT and the INP played a role in overcoming that reluctance to some extent. They also started canning," said Varghese. Later, units were started in Karwar, Kannur, and Mandapam (TN). Sales units were started in Bengaluru and Chennai.



Figure 9. Sorting of fish at the INP Image: NIFPHATT

#### **Processed Fish Awareness**

Alongside building up the fish catching and processing abilities, the hesitancy in acceptance of processed fish required that the INP create awareness among the people about the project and the diverse products developed. In the initial years of the INP and the Integrated Fisheries Project, several exhibitions were held in the Kochi office and other locations in the city.



Figure 10. The entrance of one of the fisheries fairs held by the Integrated Fisheries Project Image: NIFPHATT

Other fisheries-related departments were invited to put up their stalls at these exhibitions. Machinery and equipment-making firms would also have stalls showing products used in the fishing industry. The community development aspect of the project was also highlighted.

#### The Vikings in Kochi

"There were about eight to nine families stationed here, at a time, in the late sixties. They were engineers, fish processing experts, scientists, technical men and women and lived in a colony made especially for them. Houses built specially for them are now occupied by Indian officials of the project. There was a mess, a hall, tennis court and rooms for bachelors in their gated compound, on the road opposite the Kerala Fine Arts Hall in Kochi," says K Ravinath, who began working there in 1964.

When the Norwegians were in residence, they were given separate living quarters near the INP office in Kochi. The buildings are still in existence and used by NIFPHATT as a Living Centre, Guest House, and Conference Facility. "It was a wonderful time. There would be parties for every occasion, Christmas Eve, and so on. They would invite us," reminisced Ravinath. The parties were either held in the ballroom of the guest house or the tennis court within the compound. "It is said that the tapping sound could be heard when they danced on the wooden floor. When I joined the floor had been replaced with mosaic and the current floor was laid recently," said Varghese. Most of the children of the Norwegians used to study in places like Ooty. They would come to Kochi during vacations and programmes were arranged for them.



Figure 11. INP living quarters at the NIFPHATT campus. Image: JANAL Archives, 2023

The Norwegians came here on one to two year tenures and returned to Norway after that period. They were sent to India on deputation by the UN. A new person would arrive when an existing scientist or technician left.

T.K. Madhav, retired MD of J. Thomas & Co Private Limited, a tea broking firm, remembers a crowd outside the Hotel Casino in 1966 peering curiously inside. As he and a friend watched, a chair came flying out followed by crockery and cutlery. Apparently the Norwegians had got into a brawl with a "few shippies" from the ships that berthed in the port on Willingdon Island.<sup>18</sup>

<sup>&</sup>lt;sup>18</sup> The Hindu, Kochi, 01 April 2016. Society.

A few of the Norwegians passed away while in India. Their bodies were taken back after embalming. "The embalming process was a bit difficult because, in the 1960s and 70s, the process could be done only in a few places in India," said Varghese.

Some of the children who were in India with their parents still visit the NIFPHATT office and pay their respects near the plaque commemorating the Norwegians who passed away during the project. They lav down flowers there. Varghese mentioned that some of them would leave money with the staff asking them to give it to the ayahs that had taken care of them as children. The staff at NIFPHATT do tell them that it would be impossible to track down the ayahs, but the Norwegians ask them to find them somehow.



Figure 12. The plaque commemorates the Norwegians who passed away during the project. Image: JANAL Archives, 2023

#### Afterlife of the INP

In 1972, the project with its headquarters in Ernakulam was completely taken over by the Government of India and the Indo Norwegian Project was renamed Integrated Fisheries Project (IFP). The management of the Neendakara Project was transferred to the Kerala State Department of Fisheries, While the agreement involving direct Norwegian involvement in the project ended in 1972, Norway continued to support India's fishing industry through the supply of equipment, machinery, and expertise to aid in the development of the fishing industry.



Figure 13. The dredging machine from the INP is still in use at the slipway. Image: JANAL Archives, 2023

The project was named the Integrated Fisheries Project and had three divisions—Fish processing and marketing, experimental fishing and gear, and dry docking and repair. After the INP ended, in collaboration with the Food and Agriculture Organisation (FAO) and the Norwegians, a survey of the pelagic (open sea) resources was undertaken for five years.

"Pelagic fish are those that stay close to the surface of the water. Knowing the temperature was important because it would tell you at what temperature a particular kind of fish could be found. The Integrated Fisheries Project did a comprehensive survey of the ocean from Goa to Cape Comorin. They even used helicopters to survey the flow of the fish shoals," said Ravinath.

In the deep sea where bottom trawling nets cannot be used due to the presence of rock formations or other obstacles, other kinds of fishing methods were introduced by the project. One such fishing gear is the *kalava* or perch trap. The fish enters through a small opening on the side to eat the bait left inside and once inside the fish cannot escape.



Figure 14. Measuring the ocean temperature was an important aspect of the pelagic survey in the Integrated Fisheries Project. Image: NIFPHATT

The INP and the Integrated Fisheries Project saw the simultaneous entry of private entities in the field of fish processing and export. One such company was called Kerala Sea Foods which was located near the Neendakara bridge. Kings Retail, as it is called now, is the same company that was established in 1963.

The department focused its activities more on fish processing, post harvest technology, and training, and the name was changed to NIFPHATT in 2008. NIFPHATT has retained the original building at Kochi and some of the equipment. Students who study food technology and fisheries-related courses are given hands-on training on product development and processing of fish products. "These students study the theory at college, but they do not get practical experience. Private industries do not allow in students, so NIFPHATT provides the required training to students. The training calendar at the

institute is pretty full throughout the year," mentioned Varghese John.<sup>19</sup>



Figure 15. Learning about Fish sorting and processing at the Integrated Fisheries Project. Image: NIFPHATT

The idea of training continues from the INP, as K Ravinath added. "The Norwegian scientists who came were mainly biologists. Then, there were processing technologists. There were skippers and bosuns. Every section had a training unit. The processing field has six months of training. There was training in the ice plant, refrigeration, slipway, gear, and so on. We also had training for the life rafts. We had a servicing centre and no one else had a service centre in Kerala. Earlier they used to be serviced in Madras. The INP had trade experts too. If we lacked any, people were sent to Norway for training or to South Korea, Japan, and the UK."20

# Conclusion

The traditional artisanal pattern of the Kerala marine fishery sector was transformed by the introduction of the Indo Norwegian Project (INP) which was a

<sup>&</sup>lt;sup>19</sup> Interviews with Mr. Varghese John, Marketing Officer at NIFPHATT 21 July and 11 September 2023. He also arranged for photography and access to the older photographs from the INP.

<sup>&</sup>lt;sup>20</sup> Interview with Mr K. Ravinath, former Deputy Director of Fish Processing and Marketing at NIFPHATT, on 11 September 2023. He joined the INP as a Marketing Assistant in 1963 and worked with the Norwegians on many of the smaller projects within the INP. He is in touch with a few of the Norwegians who worked in Kochi . One of the Norwegian project directors, Mr Steinar Olsen, used to visit him every two years until COVID-19.

turning point in the history of marine fisheries in Kerala. This Indo-Norwegian collaboration transformed both Kochi and the fishing industry throughout India. The technical expertise gained by this project spearheaded fisheries advancement in the country-in the acquisition of fishing trawlers, construction of slipway, mechanised fishing, handling of bulk fish landings, identification of new shores and such—and it began with fisherfolk community development.

The trawl vessels introduced by the Indo-Norwegian project were small, and

fishers were not yet accustomed to the technology, but they were lucky: the fishing grounds of Kerala (previously Travancore and Cochin) contained very rich shrimp fishing grounds, and the export market for shrimp was opening. This shifted the orientation of the project to the export industry, instead of focusing the primary objective, on using sophisticated technologies for more harvesting and processing. It was the Indo-Norwegian Project that announced a struggle between tradition and modernity in the fisheries of Kerala.

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