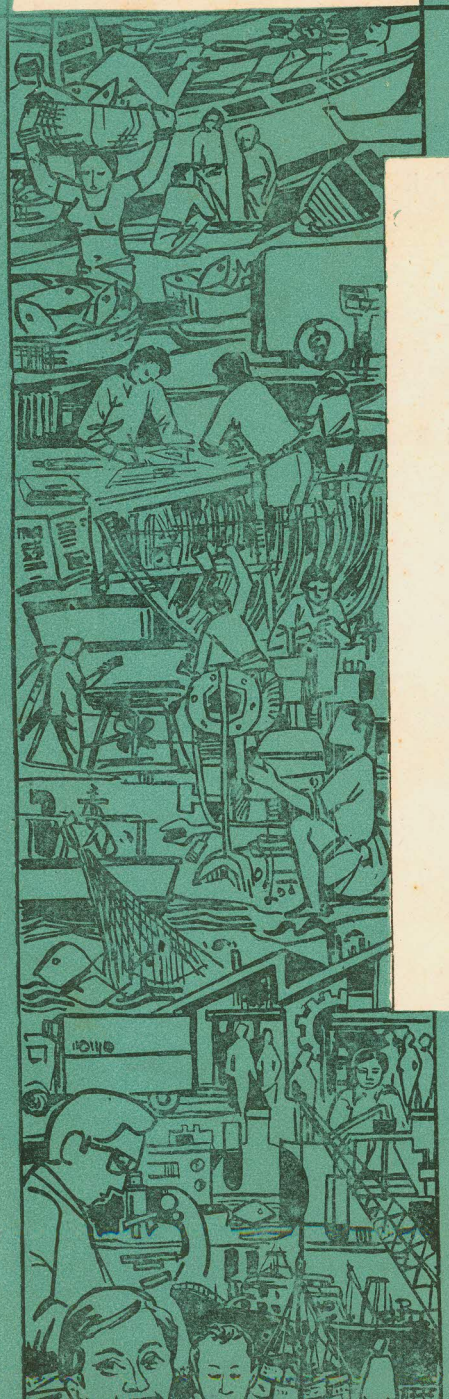
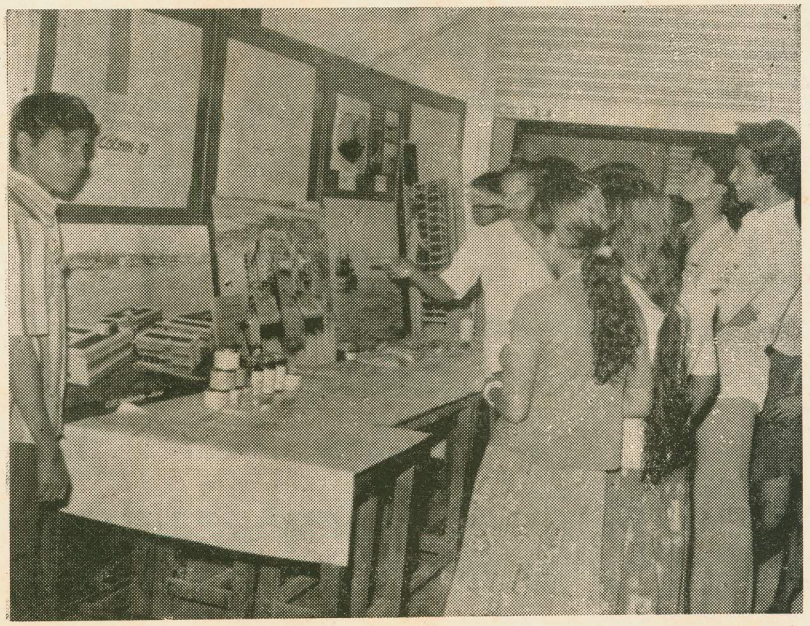
Fish technology newsletter

Vol. III No. 10 OCTOBER-DECEMBER 1983





A view of the CIFT stall at the Exhibition at Valapad
(Report on page 15)

CENTRAL INSTITUTE OF FISHERIES TECHNOLOGY
MATSYAPURI P. O. COCHIN - 682 029

CONTENTS

Foreword

Fish Technology Newsletter is a quarterly intended to bring the fishery industry in India in touch with some of the important developments in fisheries technology resulting from investigations carried out at this Institute and elsewhere. It is not a research publication. Every effort has been earnestly made to express the ideas in non-scientific language. Its ultimate aim is the application of the results of contemporary research for the advancement of our fishery industry.

Fish Technology Newsletter does not owe allegiance to any manufacturer, patent, product or development agency unless otherwise specified. Its purpose is to open up a communication channel through which useful ideas can be exchanged, problems discussed and success shared. The process of exchanging views and opinions makes it easier to identify the real issues and that is where problem-solving begins.

We welcome contributions from any source which will help to achieve our above-mentioned aim. The sources of all such contributions will be acknowledged. We sincerely hope that the current events and informations contained in the columns "GLEANINGS FROM OTHER JOURNALS" and "LET'S TALK IT OVER" will be of interest to the Indian fishing and fish processing industries.

We also welcome suggestions from our readers for improvement in the contents and get-up of Newsletter. Any part of this publication may be reprinted in any language if the translation is true and the source is acknowledged.

Abbreviation: Fishtech News

Editorial Committee.

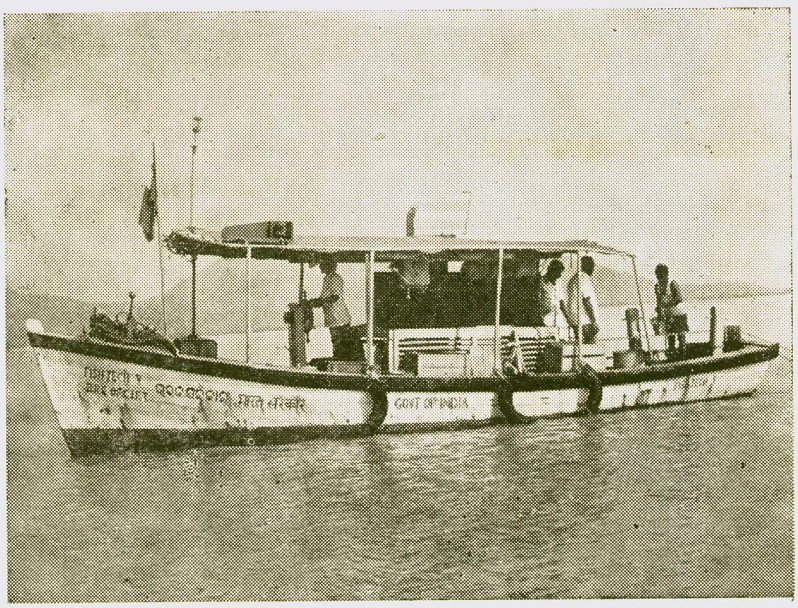
Cheaper Boat Lasts Longer

FISHTECH No. 5, the prototype mechanised fishing boat measuring 30 feet (9.4 M OAL) which was constructed and launched during 1963 at CIFT is still rendering useful service after having covered a period of 20 years of operation.

The boat was constructed departmentally in its own yard using exclusively Venteak wood (Lagerstroemia lanceolata), galvanized iron fastenings throughout and aluminium- magnesium alloy for the underwater. hull sheathing in lieu of the conventional costlier building materials like Teak or Aini wood, eopper fastenings and copper sheathing.

The newer materials introduced and tried in the prototype boat have behaved well in the field and the over all cost of the boat was 35% cheaper than its counterparts. The periodical annual maintenance schedule recommended and followed has given excellent results.

The boat had its maiden launching on 4-10-1963 and the project was successfully executed under the leadership of Sri. R. Balasubramanyan, a senior scientist of this Institute.

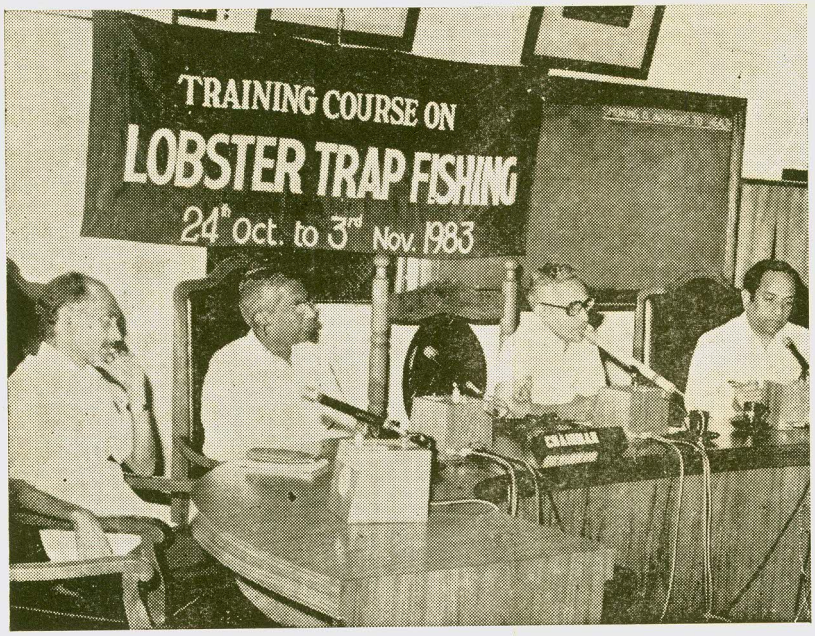


The 9.14 m fishing vesssel of CIFT design constructed out of cheaper materials

Lobster Fishing with CIFT Traps - A Training Course

A two week ad-hoc training course on the improved methods of lobster trap fishing was conducted at the Central Institute of Fisheries Technology, Cochin from 24th October to 3rd November 1983. Organised in collaboration with the Marine Products Export Development Authority, (MPEDA) Cochin, the course was attended by flsheries officials from the maritime states of Gujarat, Tamil Nadu, Pondicherry and Kerala.

Inaugurating the training course, Shri. M. R. Nair, Director-in-Charge, CIFT, said that though frozen lobster tails constitute only one percent of



Shri M. R. Nair, Director-in-Charge CIFT, inaugurates the training programme

our fish export, its unit value realisation was high, earning nearly five crores of rupees every year. Shri R. Balasubramanyan, Project Leader and Co-ordinator welcomed the gathering and highlighted the importance of lobster fishing and the need for training courses for operatives and officials engaged in the actual fishing operations and management of that fishing respectively.

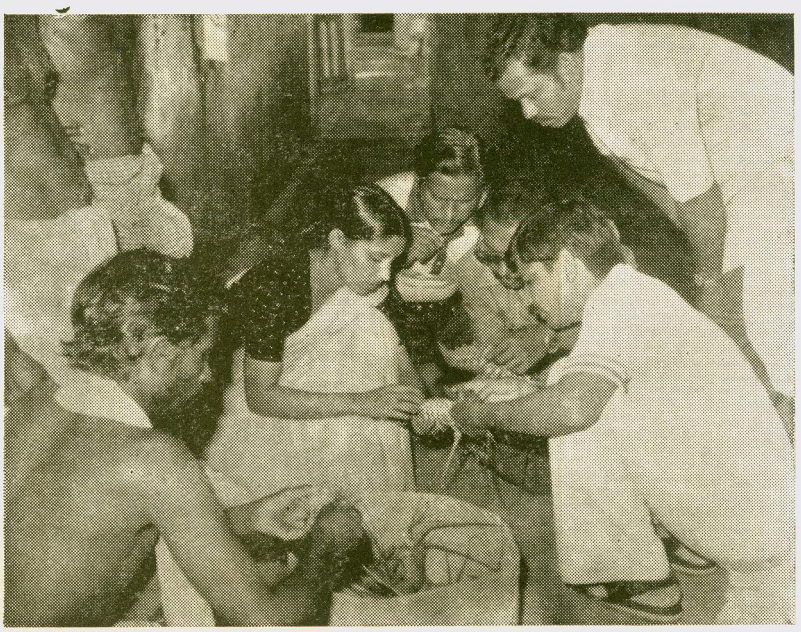
COURSE CONTENT

3 days of theory classes held at CIFT, Cochin covered aspects on lobster resources of India; biology and behaviour of the Indian lobsters; importance of lobsters and their fishing methods; export potentials and the present trade; design and development of modern lobster traps, choice of materials for the fabrication of the traps and their maintenance besides processing technology.

As an integral part of the above training course, the participants spent maximum time in the field operating lobster fishing gear in different locations along the coast of Kanyakumari District of Tamil Nadu.

Newly designed modern lobster traps were operated from the traditional fishing craft Katamarams in shallow waters and from small mechanized boats in deeper waters.

At the valedictory function specially organized on 3-11-1983 at Kanyakumari, a large number of traditional lobster fishermen also participated who were made to understand the importance of the lobster fishery, the conservation measures that the present fishery requires and the future development programme. The trainees freely



Explaining the collection of morphometric data

The participants being briefed on the operation of the gear

expressed their reaction on the training course. Rev. Father Bromeo of the local parish presided over the function and Shri R. Balasubramanyan, welcomed the gathering. The function came to a close with a lively and free discussion in which scientists Shri. K. V. Mohan Rajan (Team Leader), Miss Meenakumari (Associate), Shri Jasu Nazarane, Asst. Director of Fisheries (Kanyakumari), local fishermen and the trainees participated. Shri. M. K. Kandoran (CIFT Extension Scientist) proposed the vote of thanks.

The officers who have completed the above training course and had the required field exposure are expected to organize and develop the lobster fishing operations in their respective states on modern lines. □

The trainees with CIFT Scientists

Quality Control Training Course on Frozen Lobster Tails

A training course on Quality Control of Frozen Lobster Tails jointly organised by the Marine Products Export Development Authority (MPEDA)and Central Institute of Fisheries Technology(CIFT) was inaugurated on 3-10-1983 at the Central Institute of Fisheries Technology, Cochin by Dr. C. C Pandurangа Rao, Director, CIFT. Dr Rao in his inaugural address stressed the need for maintaining strict personal hygiene in the processing of lobster tails so that a bacteriologically sound frozen product meeting the strict requirements of the importers can be produced. He also stressed the need for scruplous control over processing parameters to prevent decomposition and other defects met with in frozen lobster tails. In his Presidential address, Shri Ouseph D. Attokaran, Secretary, MPEDA, mentioned the compelling circumstances which have led the country to adopt strict measures in the processing particularly in the wake of blocklisting the imports from India in the U.S., one of the important importers of frozen lobster tails.

The training was held in two batches, each of four days duration, from 3rd October to 21st October 1983. About thirty technologists representing fish processing establishments in and around Cochin attended the training programme. The programme included lectures and demonstrations. It also imparted practical training to the candidates in processing quality lobster tails meeting the exacting requirements of the importers.

In his valedictory address, Dr. C. T. Samuel, Dean, Faculty of Marine Sciences, University of Cochin, stressed the need for strict quality control measures so that quality products are exported to foreign markets.

Shri. Om. P. Dhamija, Additional Director, Export Inspection Agency, in his talk, highlighted the problems encountered in the frozen lobster tails submitted for inspection and certification. He said that the trainees should be the real Ambassadors of quality control. Earlier, welcoming the gathering, Shri M. R. Nair, Joint Director, CIFT highlighted the need for organising such a course and stated that frozen lobster tails is the second largest earner of foreign exchange among all the processed fishery products exported. Exporting 724 tons in 1982 India earned a foreign exchange worth Rs. 5.947 crores thus realising the highest unit value for lobster tails.

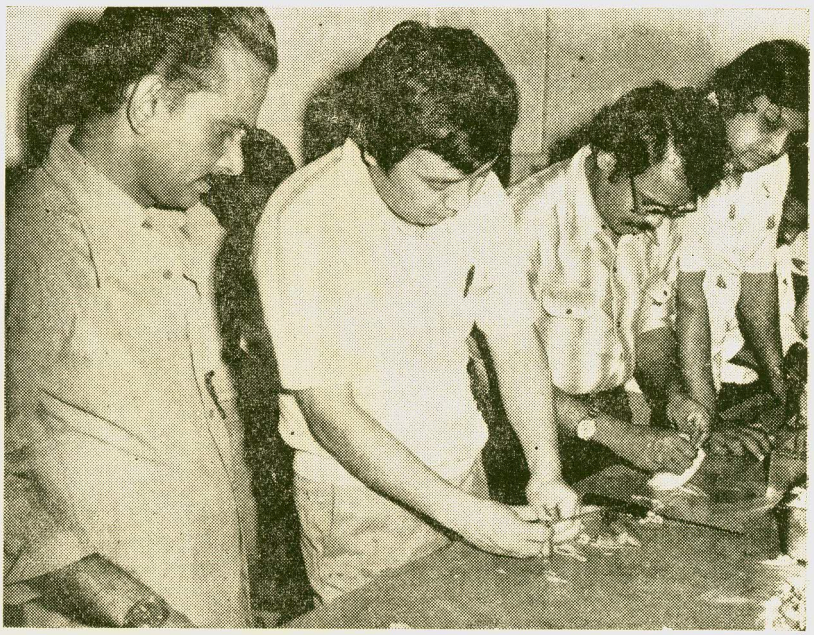
The function concluded with a vote of thanks by Shri. G. N. Panicker, Joint Director, Marine Products Export Development Authority.

Processing of lobster tails

Training Course on Processing Dried Squids

Squid being processed for drying

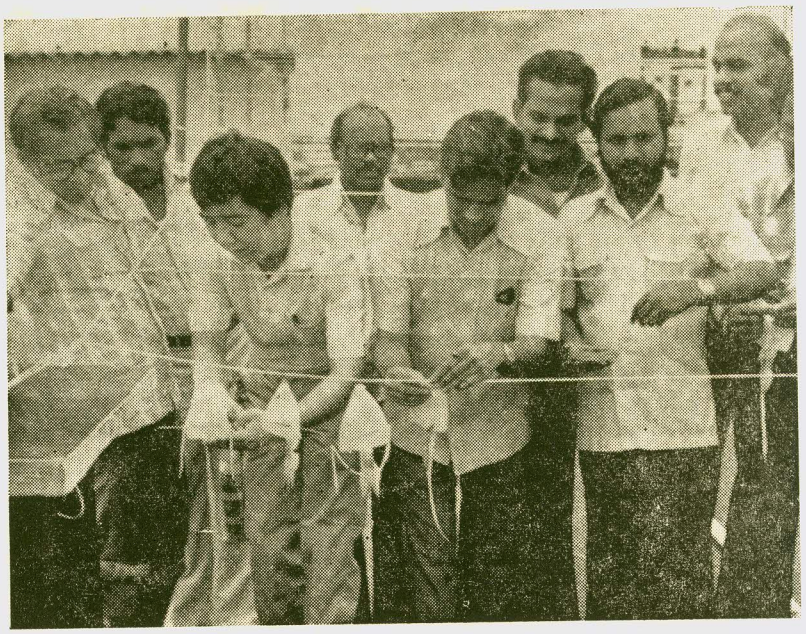
A training course on processing dried squids was organised by the MPEDA under the ITC/SIDA Programme of Technical Co-operation in Export Promotion with Govt. of India. In the programme which was conducted in collaboration with CIFT, from 2-5 September 1983, Mr. Junichi Takahashi, the Japanese fish processing expert, demonstrated the techniques of processing dried squids to the participants. Processing Technologists, Supervisors and Quality Control officers from the seafood industry and personnel from Govt. Institutions were given detailed training on the preparation of dried squids as required by the Japanese market.



Mr. Junichi Takahashi, the Japanese Expert demonstrates processing of the squid

Process details in brief

* Cut open the squid and remove entrails, eye ball and beak without bursting the inksac.
* Wash off all adhering dirty materials on the surface of the squid, first with sea-water, then with fresh water.
* Remove skin, leaving 10% length at tip of tail.
* Dry for about 3 hours. Spread the tentacles to facilitate easy drying.
* Dry again the next day. Stretch out by roller the deformed squid before it gets too hard to reform.
* Spread the squid on any clean flat surface for further drying. Again reform if necessary.
* Continue drying till moisture content is less than 18%.
* Tie up in bundles of five using tentacles of one of the squids.
* Pack in 10 kg boxes and store under chilled storage.



The squid being hung on hooks

Drying in progress

Deep Sea Fishing Trawlers

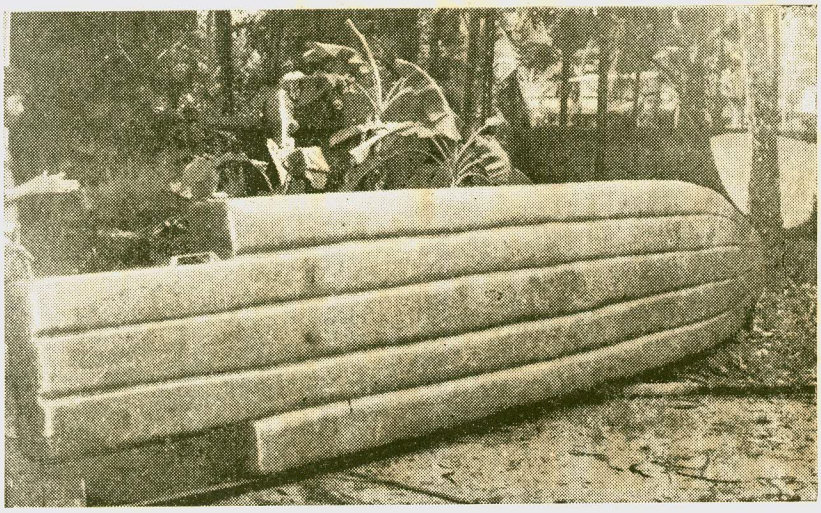
Shri. P. V. Venkatakrishnan, Joint Secretary, Ministry of Shipping, while inaugurating the first meeting of trawler operators and builders convened at Madras on 12-9-1983 stated that the Union Government is planning to set up an organisation to look after the needs of fishing trawler manufacturing yards. Its tasks will include supply of ship-building steel and the required components, production of designs, managerial and skilled man-power training, preparation of trawler offers, marketing and research and development.

The Joint Secretary also expressed that indigenous trawler construction has hardly made any headway, despite the encouragement officially given to the indigenisation programme and despite the fact that we have over 50 building yards, with 24 yards registered for trawler construction. These 24 yards have a capacity of nearly 100 trawlers per annum. Even though our yards produce over Rs. 100 crores worth of craft every year, employing about 25,000 persons, only 15 per cent of our deep-sea trawlers are indigenous. The meeting was mainly organised to focus attention on the building yard/user interface and to arrive at a Project Plan for the indigenous construction of fishing vessels.

38 invited members attended the above meeting at Madras and Shri R. Balasubramanyan, Senior Scientist/ Head of Division (Craft) of CIFT, Cochin of the I.CA.R. as a representative actively participated in the deliberations. □

Catamaram With a Newer Material

Consequent on the recommendations of CIFT on the application of fibreglass-reinforced plastics (FRP/GRP) as a building material in the manufacture of lighter marine crafts, especially in the traditional fishing sector, a large number of "Malabar Canoes' have come out from different manufacturers for field use. FRP canoes supported by sail and/or out-board motor are gaining popularity among the coastal fishermen for operation with gill nets, hooks and lines, traps etc.



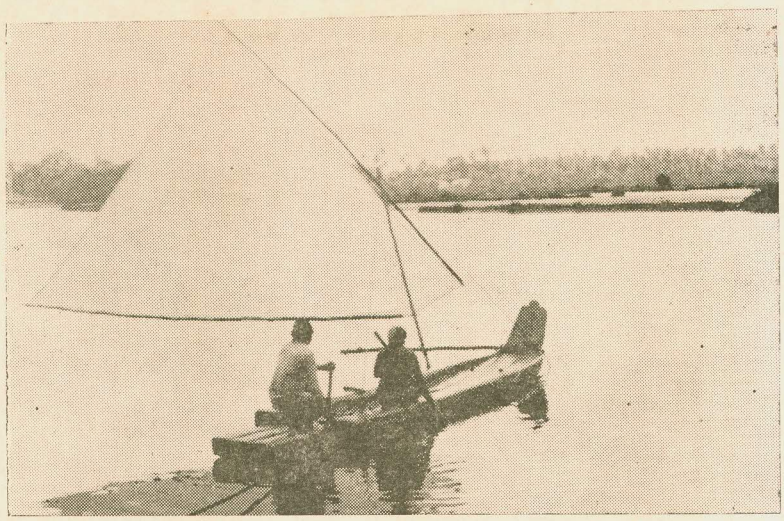
Bottom side configuration of the hull

M/s. Fibro Plast Pvt Ltd of Cochin has now developed a counterpart to the traditional catamaram (ie. wooden craft where 3 to 5 logs are lashed together) using rigid polyurethane foam as a core material with a wrapping of fibreglass reinforced plastic around it as an external sheathing material.

As can be seen from the accompanying photograph, the newly developed craft is a mirror copy of a typical east coast catamaram with all the conventional outfittings. The finished craft is light, weighing about one third of its wooden counterpart and is more buoyant. The craft can be operated with a small and light sail besides oars and paddles. Provision has also been made for the mounting of an out-board motor, in case of need. The prototype craft has to undergo comprehensive tests and trials in the field for assessing the operational efficiency, cost economics, service life and above all the final acceptance of the coastal fishermen.

Further details can be obtained directly from:

M/s. Fibro Plast Private Limited,
Post Box No. 1369,
M. G. Road,
Ernakulam,
Cochin - 682011



The completed craft undergoing field trials

(Foot Note:

The catamarams are the traditional fishing craft of the fishermen of the east coast of India with a very wide distribution from Puri coast (Orissa) down to Kanyakumari (Tamil Nadu) also covering a part of Trivandrum coast (Kerala) on the west. Conventional species of timber logs for catamarams (Melia sp; Albizzia sp; Enterolobium sp; Bombax sp and the like) have become scarce. Alternate timber species as well as alternate materials are being explored. The possible use of high density polythene pipes for catamarams is published elsewhere in this issue.) □

I. C. A. R. Publications Sales Counter at Krishi Bhavan, New Delhi

The opening of a sales counter for I.C.A.R. Publications was inaugurated by Hon'ble Rao Birendra Singh, Union Minister for Agriculture and President of I. C. A. R., on September 14, 1983 in the main foyer of Krishi Bhavan, New Delhi.

The counter will also be used for providing valuable information on the new technologies developed by research institutes and projects of I. C. A. R. □

Demonstration in Fish Pickling

A demonstration in pickling low cost cat fishes, Rita chrysea and Eutropiichthys vacha and sun drying of Gudusia chapra and Rohitee cotio was held at the Tamdai Primary Fishermen's Co-operative Society Ltd., Sambalpur Dt., Orissa. About thirty nine fishermen from four fishing villages participated in the demonstration programmes. The products demonstrated were greatly appreciated both by the fishermen and representatives of the Orissa State Fisheries Department. Some of the participants evinced keen interest in adopting the technology for production of fish pickle which was a novel product to them. They have requested that more such programmes be held for them to get a better idea of the methodology developed for production of the product.

Hand-outs in oriya on the improved methods of drying and pickling of fish were distributed to the participants.

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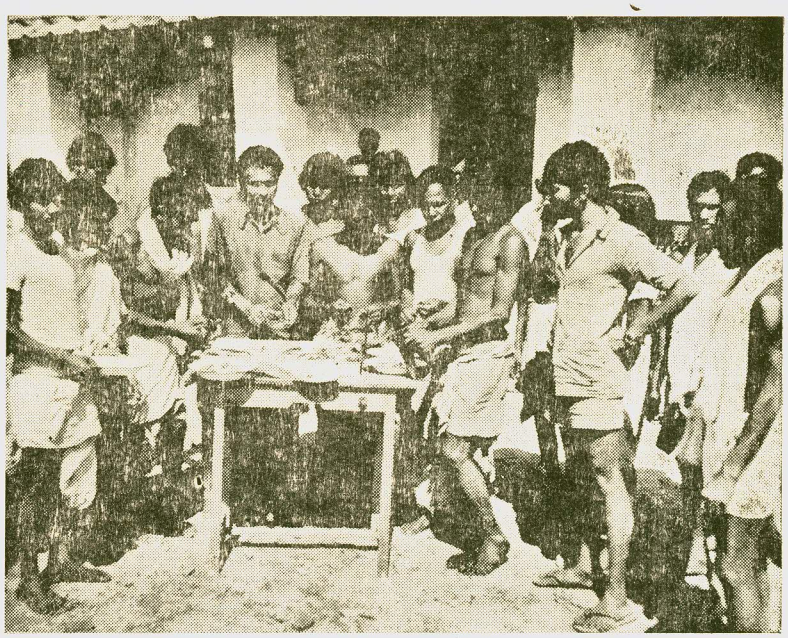


The participants being trained in dressing and cutting of fish

Dressing ginger, garlic etc. for fish pickling

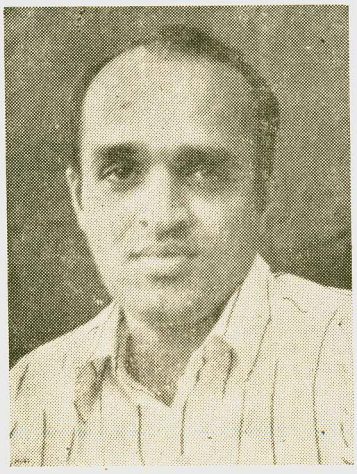
Minister Visits CIFT

Shri U. C. Dey, Minister of Fisheries, Assam, accompanied by the Additional Director of Fisheries visited the Institute on 24th October 1983. He was taken around the different laboratories where the activities of the Institute were explained to him. The Minister evinced keen interest in the various achievements and programmes undertaken. □

Shri U. C. Dey, Minister of Fisheries, Assam in the gear laboratory

Doctorate Awarded

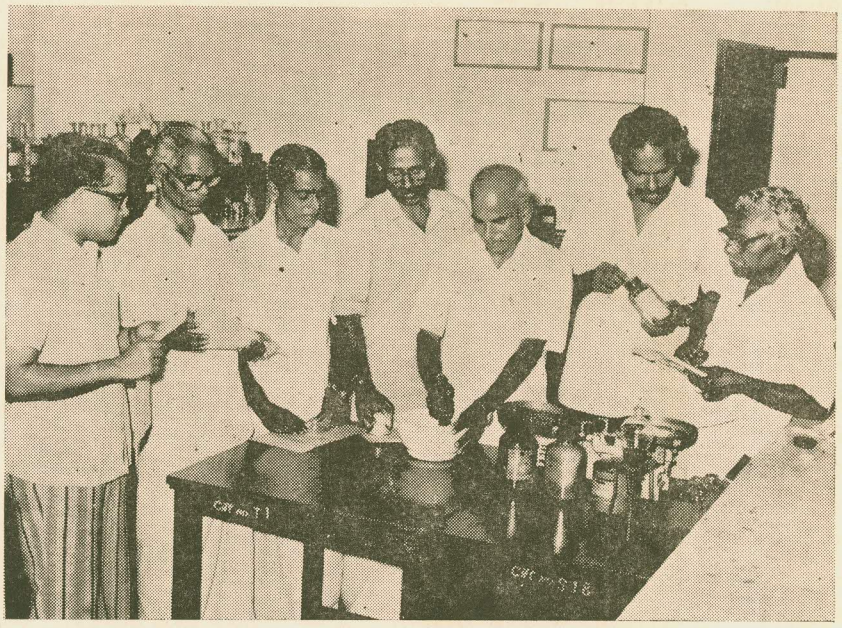
Shri K. Devadasan, Scientist S-2 of CIFT has been awarded the Ph. D by the University of Cochin for his thesis "A comparative study of the muscle proteins of fishes and shell fishes of tropical waters". Shri Devadasan conducted his studies under the guidance of Dr. K. Gopakumar, Scientist S-3, of CIFT.



Shri. R. Balasubramanyan, Scientist S-3 has taken charge as Vigilance Officer of this Institute (CIFT) with effect from 10-10-1983 as per Council's office order No. 1-6/83-Vig. dated 29-9-1983.

Ex-Servicemen Get Trained

At the request of the Rajya Sainik Board, Trivandrum, six ex-servicemen were given special training from 14 to 19 November 1983 in the techniques of production of various fish products. The trainees had practical training in production of fish wafers, fish soup powder, extraction of shark fin rays, preparation of fish pickles, antiseptic ointment etc. The training, it is hoped, will enable them to start individually or in groups, cottage or small scale industries based on the products.



Training in preparation of antiseptic ointment

At the group discussion the trainees had with the concerned scientists on the final day, they expressed their view on the benefits of the training course and their satisfaction on the usefulness of the time spent at CIFT. □

Staff Research Council, CIFT, Meets

The Staff Research Council of the Institute met on 21st September 1983 to review the progress of the on-going research programmes of the Institute. Dr. C. C. Pandurangga Rao, Director, CIFT, presided over the meeting. Dr. P. S. B. R. James, Asst. Director General (F) represented the ICAR.

In his opening remarks, Dr. James pointed out that although the Institute has done quite a lot of scientific work, most of the technologies developed have not been utilised by the fishermen and the industry. He requested the scientists to critically identify the areas of priority and to give new suggestions for the projection of the Institute. He was of opinion that the technologies developed in the area of fishing craft and gear, fish processing and engineering may be tried on pilot scale and demonstrations/ training programmes

conducted, without which the task taken up by the scientist may not be complete. He also expressed his concern on the gap in the inland fishing sector and stated that more work could be done for the exploitation of the vast resources of rivers and reservoirs wherein the production is still very meagre. He stressed the need for paying more attention to conservation and development of alternative sources of energy like agricultural wastes in combination with solar and non-renewable energy resources.

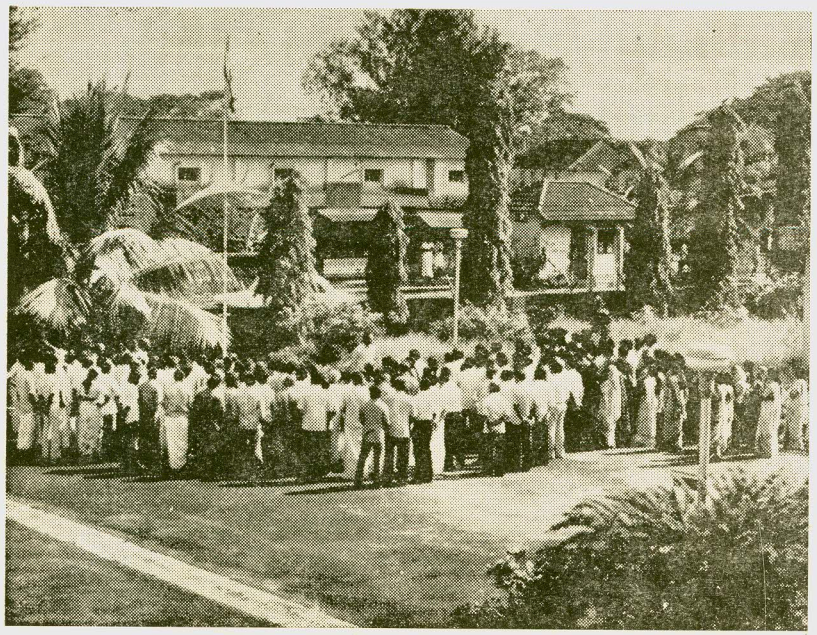
The Director, CIFT, commented briefly on the different points put forward by the ADG (F). He said that the economic aspect of some of the technologies have already been worked out while the economics of some others are yet to be worked out for which it is proposed to organise an Economics Section in the Institute during the coming year.

As regards exploitation of inland fish resources, Dr. Rao pointed out that the Institute has already done some work on this aspect in Hirakud reservoir in Orissa. Preliminary work has also been initiated in three other reservoirs in Orissa State. Regarding utilisation of alternative sources of energy, he said, projects have been taken up for fuel saving in fishing boats and use of alternative sources of energy for fish processing.

Review of the research project programmes was then taken up in which the Project leaders and associate Scientists briefly described the progress of each project and their future programme of work.

The meeting came to a close by 19-30 hrs. □

CIFT Observes Qaumi Ekta Week



Shri . Balasubramanyan, Director-in-Charge addresses the staff

CIFT joined the nation in observing 19 – 25 November as Qaumi Ekta Week or National Integration Week. The celebrations commenced with the hoisting of the national flag and taking an oath by the staff of the Institute. Shri R. Balasubramanyan, Director-in-Charge gave a talk on the importance of national integration for the development of the country. During the week, exhibitions were organised at Valapad and in the Central School, Ernakulam. A large number of students from local colleges were also given an opportunity to visit the Institute and get briefly acquainted with the research activities being carried out at the Institute. □

Gleanings from Other Journals

Durable, Lightweight Catamaran.

A new type of lightweight catamaran made of high density polyethylene pipes which is easy to handle and gives good performance at sea, has been attracting the attention of fishermen of Injambakkam kuppam, a coastal hamlet about 18 km to the south of Madras, for the past few days.

Fishermen who keenly observed the performance of the catamaran operated by a young man of their village pointed out certain minor operational difficulties, and suggested slight modifications in the design.

A prototype designed by the Murugappa Chettiar Research Centre (MCRC) at Taramani, it is basically a one-man boat weighing 100 kg though three can sail in it, according to Dr. C. V. Seshadri, Director of the Centre. A fisherman can push it alone against the rising surf without much effort while two can transport it on land.

"It is basically a few HDPE pipes tethered together with nylon ropes, and the fishermen can make it all by themselves", said Mr. M. Basha Jan, MCRC technician, explaining its simplicity of design and fabrication.

"Vatsi", as the designers call this catamaran, was made by tying five standard 150 mm HDPE pipes, each six metres long. One end of each pipe was bent upwards to get the desired shape while the pipes were heat-sealed at both ends to make them more buoyant.

Mr. Basha Jan built the boat in four days at the village itself, with the fishermen watching all through. The boat cost about Rs. 5,300 as compared to Rs. 4,200 for a traditional catamaran. But its better durability (upto 50 years) and light weight make it more attractive to the fishermen. A conventional catamaran can last only a few years.

"Vatsi" is a new concept in boat building", Says Dr. Seshadri, "in that it uses HDPE tubes welded at both ends. It is quite different from the inflatable boats." Boats of any size can be made, even those that unload containers from the roads in the harbour, according to him. He sees considerable scope for this self-draining, beach-landing craft, which floats light on the sea.

Another distinct advantage from the ecological point of view of the boat is that it can reduce the pressure on natural forests which supply the logs for catamarans.

— THE HINDU —

Cheap Method to Control Fish Spoilage

The Central Institute of Fisheries Technology, Cochin, has developed a simple cheap and effective method to control fish spoilage due to fungus attack, "red attack" and to a limited extent by rancidity.

Calcium propionate powder, a harmless food preservative being manufactured in the country and used in bakery products, is proved to be effective to keep the shelf life of all kinds of cured fish for a longer period.

The fish is processed by any of the traditional curing method like dry cure, wet cure, smoke cure etc. observing the normal procedure. The final finished products, just before packing is dusted with calcium propionate powder.

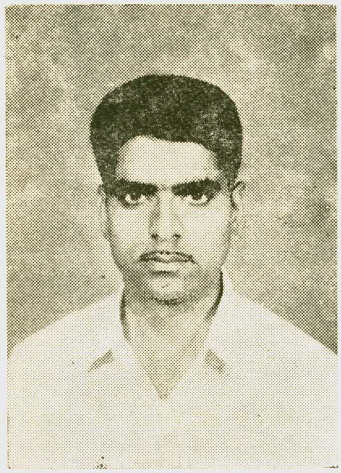
By the treatment of this chemical the shelf life of dry cured fish products is extended from its normal 3 to 6 weeks to 52 weeks. In the case of wet cured fish products the normal shelf life of about two weeks can be extended up to 16 weeks.

Because of the extra protection given by calcium propionate, it is also possible to reduce the high levels of salt used for curing and also reduce the excessive drying of the product. This will give better yield and palatability.

— INDIAN EXPRESS —

Meet Our Scientists - 26

G. NARAYANAPPA



Shri G. Narayanappa is now the Scientist-in-Charge of the Kakinada Research Centre of CIFT.

Born in a village near Anantapur, one of the district headquarters of Andhra Pradesh, where he completed his studies upto graduation, Shri Narayanappa took his Masters Degree in Zoology from Shri Venkateswara University, Tirupathi, in 1961. After a short service as a teaching faeulty member in Zoology in Govt. Arts College, Rajahmundry, he joined the CIFT at Kakinada in January 1964.

Shri Narayanappa was associated with the fishing gear research problems related to small and medium sized fishing vessels off the coast of Kakinada. He played an important role in the designing and testing of different shaped otter boards for assessing their effectiveness in improving the efficiency in trawl gear. He also worked out the optimum length single sweep and buoyancy weight relation for the effective functioning of the bottom trawl.

At Burla Research Centre where he had also worked for some time, Shri Narayanappa undertook studies on the development of fishing gear for reservoir fishing with particular reference to Hirakud reservoir. Some of the studies carried out were the suitability of frame nets for exploitation of the sparsely populated reservoir, effectiveness of coloured fish net webbings, means of eradication of uneconomical fishes from the reservoir and development of suitable gear for exploitation of economic size groups of Catla catla

Shri Narayanappa was again transferred to Kakinada centre where he is at present engaged in designing a high opening trawl for capture of bottom and off bottom fishes, improvement to the existing indigenous gear in use in and around Kakinada Bay and studies on mid-water trawling off Kakinada.

He has to his credit twenty scientific papers related to the different aspects of fishing gear research.

Besides being a member of the Society of Fisheries Technologists (India), Shri Narayanappa is also serving as a member of the consultative group for the Exploratory Fisheries Project bases along the East Coast. □

CIFT Appointments, Postings etc.

Promotion

Shri P. Padmanabhan, SSG-II joined as Jr. Clerk

Shri O. A. Krishnan, SSG-III, was promoted as SSG-IV

Appointments

The following staff joined the Institute's Headquarters at Cochin:

Shri T. Gurumoorthy — as Assistant on deputation from CSWCRTI, Dehradun

Shri K. V. Mathai — as Jr. Clerk
,, A. P. Zachariah — as Photo Assistant
,, V. V. Bhasi — as Carpenter
,, N. R. Gopan Nair — as T-2 (Ref. Mechanic)
,, P. A. Josi Augustine — as T-2 (Ref. Mechanic)
Kum. T. K. Shyma — as Jr. Clerk
,, V. [illegible]. Mary — as T-1 (Jr. Lab Assistant)
,, K. G. Sasikala — as T-1 (Jr. Lab. Assistant)

Shri P. K. Somasekharan Nair
,, N. Krishnan
,, C. D. Parameswaran
,, V. T. Sadanandan
,, A. Thomas Baby
,, P. V. Narayanan
,, T. S. Lawrence
— as SSG-I

S/Shri Pramod Naran Chudasama and Harjivan Vasta Pungara as SSG-I at Veraval Centre.
Shri R. Rangaswamy, as SSG-I at Kakinada Centre.

The following personnel were reverted to the Institute consequent on expiry of their term of deputation

Shri R. S. Manoharadoss, Scientist S-1 at Goa Centre,
Shri M. Mukundan, Scientist S-1 at Burla Centre.
Shri Cyriac Mathen, Scientist S-2 at Headquarters.
Shri C. Satyanarayana, Jr. Clerk at Kakinada Centre.

Postings

Shri P. Ravindranathan, T-4 (Jr. Library Asst.) was posted as T-4 (Librarian)
Shri P. A. John, T-2 (Tindal) was posted as T-2 (Cockswain)

Transfer

Shri C. G. Panicker, Sr. Admn. Officer, on transfer from CSWRI, Kasargod, joined the Institute as Sr. Admn Officer.

Smt. A. R. Kamalam, Jr. Clerk, on transfer from CPCRI, Kasargod, joined the Institute as Jr. Clerk.

Kum Usha Rani, T-1 (Lab. Technician) on transfer from CSWRI, Avikanagar, joined the Institute as T-1 (Jr. Lab Assistant)

Resignation

Dr. Gopala Rao Desai, Scientist S-1, resigned from service.
Shri K. Venugopalan, Jr. Stenographer, resigned from service.
Shri Stanislas Kiro, T-II-3, Burla Research Centre, resigned from service:

Obituary

Shri N. A. Kunhikannan, T-2 (Ref. Mechanic) passed away on 7th July, 1983.

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Please contact:

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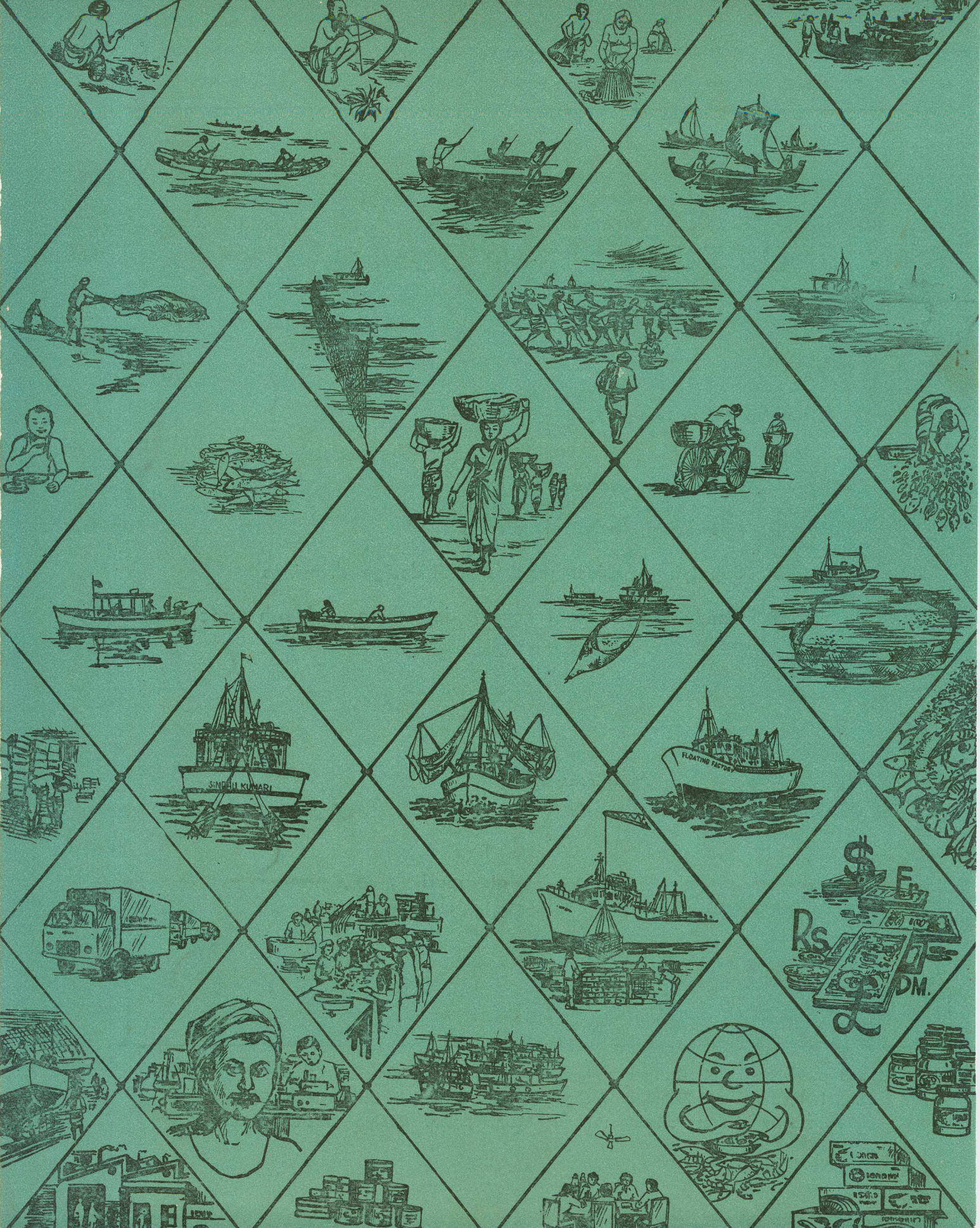
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