

The Pelagic Fisheries Resources of Kanyakumari District, Tamil Nadu, South India*

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ABSTRACT

Kanyakumari district has a 67.59 km coastline comprising 43 fishing villages with a total fishermen population of about 0.15 million of which about one third is actually engaged in fishing. The average annual pelagic fish landing of the district is about 19,851 tonnes, about 50% of which being clupeoids. The other important groups contributing to the fishery are carangids (19%) and trichiurids (17%). Scombroids account for 11% and whitefish, filefish, dolphin-fish, barracuda, grey mullet, halfbeak and garfish together form about 3%. Pelagic fish form the dominant catch (about 90%) of the total landings on the coast. Boat seine, drift net, gill net, hooks and line and *Katchal* bring 98% of the district's pelagic fish catch and the rest of the quantity is by shore seine. The main fishing season commences with the onset of the south-

west monsoon (June) and extends up to the end of the northeast monsoon (December).

The important fishing craft and gear in the district, seasonal and regional variations of the fishery, important species exploited, and disposal, utilization and marketing of the catches are briefly described. The fishery potential of this area including the productivity of the Wadge Bank and the different methods suggested for the exploitation of the immense wealth of this area are reviewed. The existing facilities for the fishermen labour are noted, further needs discussed and suggestions given for the fisheries development of the area.

INTRODUCTION

Kanyakumari district (lat. between 8° 5' and 8° 21' N and long. between 77° 6' and 77° 34' E) is situated on the southern extremity of the Indian peninsula and has a coastline of 67.59 km extending from Cape Comorin to Vattakottai on the eastcoast and from Cape comorin to Neerodi on the westcoast (Fig. 1). The inshore area is sandy strewn with rocky beds here and there.

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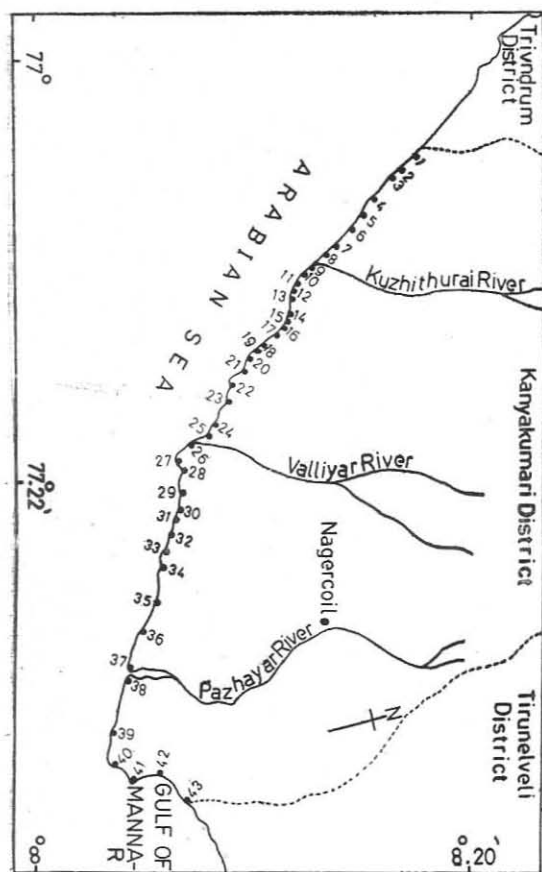


Fig. 1. KANYAKUMARI DISTRICT. —
FISHING VILLAGES

- 1) Neerodi, 2) Marthandanthurai,
- 3) Vallavilai, 4) Iraviputhanthurai,
- 5) Chinnathurai I, 6) Thoothoor,
- 7) Poothurai, 8) Eramanathurai, 9) Thenngapattinam, 10) Ramanthurai, 11) Enayamputhenthurai, 12) Enayamchinnathurai, 13) Enayam, 14) Melamidalam, 15) Chinnathurai II, 16) Naduthurai, 17) Keezhamidalam, 18) Kurumpanai, 19) Vaniakkudi, 20) Kodimunai, 21) Colachel, 22) Kottipadu, 23) Puthoor, 24) Periavilai, 25) Chinnavilai, 26) Kadiyapattanam, 27) Muttom, 28) Melathurai, 29) Pillathoppu, 30) Azhikkal, 31) Rajakkamangalam, 32) Periakadu,

- 33) Polikarai, 34) Kesavanputhenthurai,
- 35) Puthenthurai, 36) Pallam, 37) Melamanakudi, 38) Keezhamanakudi,
- 39) Kovalam, 40) Cape Comorin,
- 41) Chinnamuttom, 42) Leepuram,
- 43) Vattakottai.

The Kuzhithurai, Valliyar and Pazhayar rivers join the sea on the westcoast of this district. It receives the two monsoons, the southwest (June-September) and the northeast (September-December). There are 43 fishing villages with a total population of about 0.15 million (1971 census) of whom about one third is actually engaged in fishing. Cape Comorin, Muttom, Kadiapatnam, Colachel, Enayamputhenthurai and Thoothoor are the important fishing centres. The fishery of this district was dealt with by Chacko and George (1958) and Padmanaban (1966) and the fishery of Cape Comorin by Chacko *et al* (1967). The present report for the period, 1969-71 is more in the form of a supplement to the above reports but limiting itself to the pelagic fisheries, besides highlighting interesting informations not dealt with before. The recent findings of the Pelagic Fishery Project have revealed the high fishery potential of this region. The existing facilities for the fishing labour in the district are encouraging though requirements are still more which are pointed out in this paper.

MATERIAL AND METHODS

The fishery data collected during the period, 1969-71 by the Fishery Data Centre of the Central Marine Fisheries Research Institute adopting the stratified multi-stage sampling design (Banerji, 1971; Banerji and Chakroborty, 1972; Kutty *et al*, 1973) from the basis of this account. Statistics and other particulars relating to the fishermen

population, craft, gear etc. were obtained through the courtesy of Tamil Nadu State Fisheries Department at nagercoil and Colachel and the Indo-Belgian

Project at Muttom and they pertain to the end period of the present report. The particulars discussed under the subtitles, 'Existing Facilities' and 'Further Requirements—Concluding Remarks' relate to the year ending 1977. The stretch of 9.59 km of the district from Cape Comorin to Vattakottai is referred to as eastcoast and that from Cape Comorin to Neerodi (58.00 km) as west-coast. The catch per unit effort (CPUE) was estimated separately for shores seines and collectively for all other gear types (boat seine, drift net, gill net, hooks and line and *Kachal*) designated herein as 'other units' for all discussions. The pelagic fishes are discussed under five broad groups: 1. Clupeoids (forms of the order Clupeiformes), 2. Carangids, 3. Trichiurids and 4. Scombroids (forms of their respective families, namely, Carangidae, Trichiuridae and Scombridae) and 5. others, designated herein is for further reference to the collective miscellaney of whitefish (*Lactarius*), filefishes (*Odonus*, *Sufflamen*, *Pseudobalistes*), dolphinfishes (*Coryphaena*) barracudas (*Sphyraena*), grey mullets (*Mugil*), halfbeaks (*Hemiramphus*) and garfishes (*Belone*). Part of the brief note dealing with Wadge Bank shall be viewed as parenthetical since it cannot come under pelagic fishery.

SOME GENERAL ASPECTS OF THE PELAGIC FISHERIES IN THE DISTRICT

The annual pelagic fish landings of this district were estimated to range from 16,991.16 to 21,838.75 metric tons based on the three years' data,

the average being 19,850.92 metric tons. From the estimated monthly pelagic catches (Fig. 2) it is evident that the year 1971 was more productive than 1969 and 1970. Clupeoids formed the major catch (50.8%) and the other groups in the order of abundance were carangids, trichiurids, scombroids and others (Fig. 3).

98% of the district's pelagic catch was realised by other units and their CPUE together for the study period varied from 1.2 to 171.6 kg with the mean value at 28.1 kg. The main craft employed was the raft type catamaran (Bal and Banerjee, 1971; Nair, 1958). Mechanised catamarans, doris boats and plank-built and dug-out canoes were the less important crafts. Only 2% of the catch was landed by shore seines

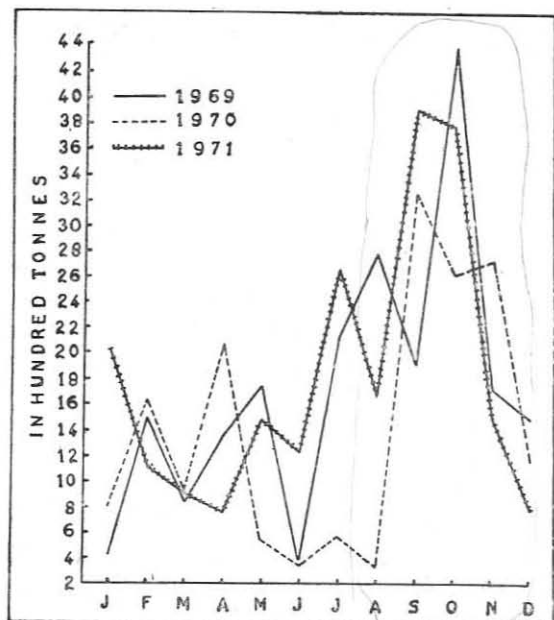


Fig. 2. Estimated monthly pelagic fish landings at Kanyakumari district for the years 1969, 1970 and 1971.

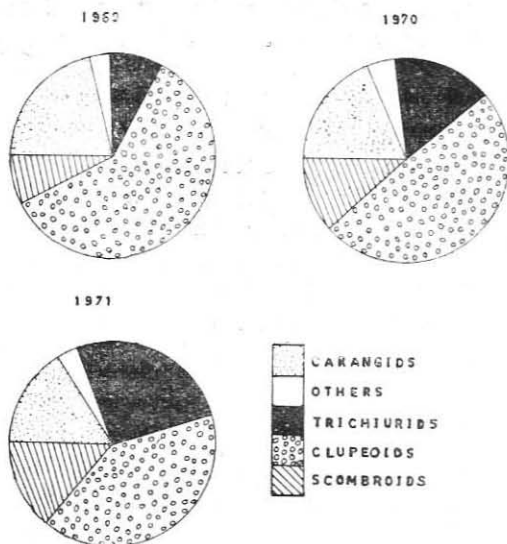


Fig. 3. Group-wise contribution to the pelagic fishery of Kanyakumari district for the years 1969, 1970 and 1971.

which realised a CPUE of 11.3 to 194 kg (mean 62 kg). The principal gear used for shore seine was plank-built or dug-out canoe. The operation of shore seine was confined between Kadiapatnam and Neerodi because of the rock-free coastline. The *Kachal* described by Bennet (1967) was the gear operated exclusively for the filefishes, *Odonus* and *Sufflamen*. The details about the important crafts and gears are given in Tables 1 and 2 respectively.

SEASONAL AND REGIONAL VARIATIONS

Although pelagic fishery operated throughout the year, the main season generally commenced with the onset of the southwest monsoon and extended upto the end of the northeast monsoon. The vertical mixing in the Arabian sea during the monsoon, according to Naif

et al (1972) brings appreciable quantities of nutrients to the surface layers resulting in the heavy growth of planktonic organism which subsequently spreads seaward with the surface currents. This might be the reason for the appearance of fish shoals in the coastal waters soon after the monsoon. More informations on the seasonal variations of important groups are available in Table 4.

Trichiurids, lesser saradines, carangids and wolfherrings (Chirocentridae) were landed in large quantities along the eastcoast. Whitebaits (*Stolephcrus*) and scombroids were the dominant catches of the westcoast. Oil sardine, *Hilsa*, tunas, mackerel, *Coryphaena*, *Sphyraena*, *Mugil*, filefishes, halfbeaks and garfishes were not recorded from the eastcoast. It may be of biological importance that juveniles of the Indian mackerel, *Rastrelliger kanagurta* ranging in total length 5-13 cm were encountered in boat seine and shore seine in large numbers during June-July of all three years. Bulk catches of seerfishes landed at Colachel and whitefish at Muttom might indicate their concentrations in specific grounds off these centres. The difference in the magnitude of catch composition of species between the two coasts is given in Table 3.

SPECIES EXPLOITED

The informations on species exploited including other species recored, percentage in total pelagic catch, period of occurrence, important fishing regions, gears employed and price range appended in Table 4 preclude a text on this subject. Supplimentarily, Table 5 gives the scientific and local names of commonly known species. Average monthly estimates of different varieties for the three years are presented in Fig. 4.

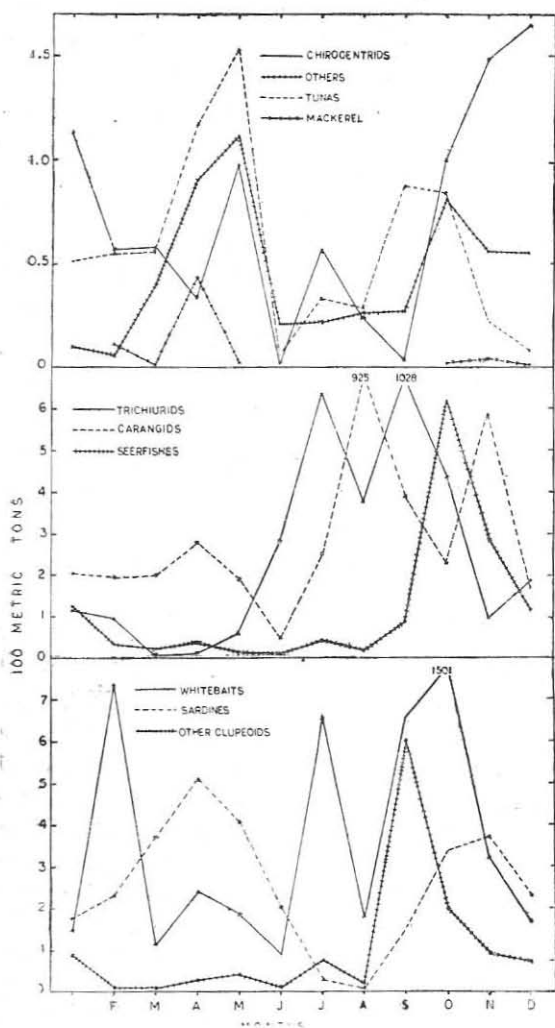


Fig. 4. Average month-wise estimated landings of pelagic fishes based on the three years' catch data (1969-71).

DISPOSAL — UTILIZATION — MARKETS

The catches were usually disposed by auctioning and then transported to interior markets by head loads, cycles, bullockcarts, motor vans and lorries. A small fish market is situated at or nearby every landing centre. Certain quality fishes which fetch more income

in cured condition than when fresh were sun-dried, salt-cured or frozen. In times of glut, quantities above the demand for local consumption were cured by any of these means. The important markets for fresh fish are Vadaserry, Monday Market, Friday Market, Thoduvatti and Kaliakkavillai in the district itself. Part of the seerfish catch was packed in ice and sent to Trivandrum, Changanassery and Kottayam markets in Kerala and Tirunelveli in Tamil Nadu. The bulk of the cured product was transported to Tuticorin for export of Sri Lanka and the rest to Madras, Koilpatti, Nazareth, Melapalayam, Tenkasi, Pasumalai, Madurai, Trichi and Arakonam in the state itself. No part of the catch was ever used for manural or cattlefeed purposes. The Price index for the three year period is given in Table 6.

GENERAL REMARKS

The pelagic fishes form about 90% of the total fish landed in the district. Fishermen depend on the traditional fishing crafts, *catamaran* and *vallom*. To overcome the limitations involved with these crafts the Indo-Belgian Project at Muttom (taken over since 1973 by the Kottar Social Service Society Fisheries Development Projects-KSSS, for short) distributed 100 Evinrude motors of 8 and 10 HP to the fishermen at Muttom in 1970. These out-board engines when fitted to the local catamarans served to expand fishing activities in areas unapproachable by ordinary catamaran. A detailed statistical analysis of the results of mechanisation of catamarans at Muttom for the period January-December 1970 was published in a KSSS's report (Pelzer, 1971). In spite of the advantages, the mechanisation has not had the desired effect on the fishermen. Financial

indisposition to meet the incidental problems like maintenance, nonavailability of spare parts in time, rising fuel cost and to some extent the negligence on the part of fishermen seem to be the reasons. The project also provided initially four 21 feet doris boats of 12 HP diesel engines. These boats have the advantages of streamlined body, retractable propeller for beaching the boat easily like catamaran, low oil consumption and provision of a sail. Moreover, since the convenience of employing many gear types from doris boat makes its utility available during all seasons there is great demand for these boats and more are being constructed by the KSSS with secondhand engines.

The investigations of the Pelagic Fishery Project (PFP) since 1971 have thrown up several interesting findings on the pelagic fish resources of the southwest coast and the southern tip of the east coast of India. The most important finding is that there exists in the sea between Ratnagiri and Tuticorin a sufficiently large resource of *Stolephorus* (whitebait) at 10-50 m bottom depth. This resource is at present exploited to a small extent. The bulk of the whitebait stock is found to concentrate during July-August in the region south and southeast of Cape Comorin (7° - 9° N) in a process of southward displacement beginning in May from higher latitudes of the west coast. The behaviour and shoaling characteristics of whitebait are given in a report of the project (Report No. 5, p 35). Menon and George (1965) while discussing the possibilities of exploiting this resource and the prospects of disposing the exploited recommend bottom or mid-water trawl with high opening for this fishery. The

project has also observed the bulk of the fish biomass and the highest estimate of whitebait (0.82 million tons) in the region 8° - 9° N during June to August with more concentration east of $77^{\circ}30'$ E long. (See Fig. 1). The region of highest abundance for what are grouped as 'other fishes' (horse mackerel, tuna, other pelagic fishes and bottom fishes) also occur in the area 8° - 9° N during March-August. These findings point towards the potential resources of Kanyakumari district, $8^{\circ}5'$ - $8^{\circ}21'$ N (Fig. 1). The three year data analysed in the present report also to some extent substantiate these findings though landings were mostly from within about 15 m depth.

One of India's richest fishing grounds, the Wadge Bank ($7^{\circ}20'$ N, $77^{\circ}52'$ E), about 10,000 sq. km in area, 56 km south of Cape Comorin is at present underexploited. A brief compiled account about the earlier wadge Bank fishery appears in the edition of Gulland (1972). Fishermen from certain villages of the district (Kanyakumari, Colachel, Kurumpanai, Puthenthurai, Kollenkode) operate hooks and line during February to April and land mostly perches (*Lutianus*, *Serranus*, *Lethrinus*). This fishing method is locally known as *Thangal* meaning 'halt' or 'stay', since the fishing involves an overnight halt around the bank. There is no record of the quantity landed. The highest organic production in the west coast recorded by Nair *et al* (op. cit.) is from the Wadge Bank area for a station 90 m depth, the column production being $4.55\text{gC}\cdot\text{m}^{-2}/\text{day}$ in September. 'Dory fishing' or mother-ship operation (Bhatia, 1950 and Gopinath, 1954) can be a suitable method to exploit the immense wealth of this area. The PFP's findings (referred to earlier) also include spotting

of a big concentration of young ribbonfishes (*Trichiurus haumela*) in March 1973 at 250 m depth on the southern side of the Wadge Bank. Presence of this presumable nursery ground is suggestive of the possibility of more pelagic fish resources in the bank apart from its already established plentitude of perches and snappers (Gulland, op. cit.).

EXISTING FACILITIES

The awareness of the importance of fisheries in the district is encouraging, Fisheries, as a subject is taught in the All Saints High School at Muttom. A Fishermen Training Centre at Colachel imparts training to 50 students per period of course. There are two boat building yards, one a private concern at Nagercoil, the district's capital town and the other at Colachel under half a million jobs programme; the latter is at present not functioning. A nylon net making factory is to be started at Manavalakurichi.

4 government and private ice plants with a net capacity of 40 tonnes, and 3 government cold storage plants together having 20 tons capacity are scattered in 7 different centres of local importance.

A District Fishermen Co-operative Federation and a Coperative Fish Marketing Union are centred at Nagercoil with the latter having its unit at Kaliakkavillai. Other than 41 (marine) Fisheries Co-operative Societies and their units, other organisations like Processing, Boat Operating, Boat Building and Boat Servicing Societies, one in each is catering service with a loan of Rs. 9.19 lakhs under the government's half a million jobs programme.

The housing schemes undertaken by the government and the KSSS are a boon to the lesser income group. 693 houses constructed under socio-economic programmes with an expenditure of Rs. 31.8 lakhs have been distributed to fishermen families. Anti sea erosion walls are being raised at vulnerable parts like Enayam, Puthenthura and Muttom with aid from the Government of India. A compensation of Rs. 5000/- for loss of life while engaged in fishing and grants for damage and loss of fishing implements are in operation by the government.

FURTHER REQUIREMENTS — CONCLUDING REMARKS

The overall trend towards fisheries in the district is encouraging, but not to the extent of being complacent. The requirements are still more. The ice plants and cold storage plants are insufficient to meet the needs especially during peak fishing season. Lack of freezing plants (the only plant at Muttom has been diverted to other purposes) must be given due consideration by entrepreneurs for new installations. There are at present 465 ordinary mechanised boats while the actual requirement is for more. Inadequate berthing places, storage plants etc. have driven these boats outside the district for fishing and landing. Provision of such facilities should naturally attract more people to invest on mechanised vessels. And since mechanised crafts can extend the area of operation beyond the traditional fishing grounds to harvest the rich grounds now known to exist, a substantial increase in catch can be normally expected. This envisaged increase will reflect in the socio-economic state of the fisherfolk of this area.

The majority of fishermen community of this district are Catholic Chri-

stians and the religious head of each village, the Priest or Father wields much influence on the people in all aspects of welfare. Any Fisheries Extension Programme carried to these villages through the Fathers and the Co-operative Societies or similar organisations will effectively pave the way to get the fishermen labour harnessed in more profitable rational means of fishing; because comprehensive knowledge on the productive areas, the relevant types of crafts and gears and other modern methods of fishing are no insignificant requirements for the fishermen whose unfortunate handicap is largely ignorance. They need knowledge. More knowledge to use the earned money too.

To wind up the discussion it may

be summarily stated here that the vital need of this hour is to extend the area of operation further interior at the right season with effective crafts and gears. In this context the words for the final call can be borrowed from the New Testament (St. Luke 5:4) — "..... Launch out into the deep and let down your nets for a draught".

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REFERENCES

- ANONYMOUS. 1974. Progress Report, Pelagic Fishery Project, No. 6, 141 pp.
- BAL, D. V. AND S. K. BANERJI. 1951. Fishing craft and tackle of Indian Seas. Handbook on Indian Fisheries. Govt. of India Publication: 98-104.
- BANERJI, S. K. 1971. Fishery Statistics. Food and Agricultural Organisation of the United Nations, Publ. No. 10/FC/DEV/71/5, 15 pp.
- AND D. CHAKROBORTY, 1972. On the estimation of yield from exploited marine stocks with reference to South East Asia. Proceeding, Symposium on Living Resources of the Seas around India, C. M. F. R. I. Spl. Publ. 176-183.
- BENNET P. SAM. 1967. Kachal, a tackle for File-fish (family Balistidae: Pisces). J. Bombay nat. Hist. Soc., 64 (2): 377-380
- BHATIA, D. 1950. Occasional paper. I. P. F. C.
- CHACKO, P. I. AND S. GEORGE. 1958. An appraisal of the sea fisheries resources of Kanyakumari district, Madras Fisheries Marketing Report No. 111 (Government of Madras), 11 pp.
- CHACKO, P. I., J. B. ABRAHAM, R. SRINIVASAN, N. RADHAKRISHNAN NAIR AND R. ANANTANARAYANAN, 1967. On the fish landings and fishery trend at Cape Comorin. Madras J. Fish. 3: 121-139.

- GOPINATH, K. 1954. A note on some deep sea fishing experiments off the South-Western coasts of India. Indian J. Fish. 1 (1 & 2): 163-181.
- GULLAND, J. A. 1971. The Fish Resources of the Ocean. FAO, 1971, 100-101.
- KUTTY, M. KRISHNAN, A. K. KESAVAN NAIR AND S. Z. QUASIM. 1973. An evaluation of the sampling design adopted by the Central Marine Fisheries Research Institute for estimating marine fish production of India. Indian J. Fish. 20 (1): 16-34.
- MENON, DEVIDAS M. AND K. C. GEORGE 1975. White bait resources of the South-west coast of India. Seafood Export Journal, Vol. VII (1) January, 1975.
- NAYAR, S. G. 1958. A preliminary account of the fisheries of Vizhinjam-Indian J. Fish., 5 (1): 32-55.
- PADMANABHAN, A. 1966. Fisheries in Kanyakumari District. The Industries Seminar Kanyakumari District Souvenir. No. 1966.
- PELZER, KNUT M. 1971. A statistical study of mechanisation of fishing crafts at Muttom. Report on Phase I, Kottar Social Service Society, Kanyakumari District, 63 pp.
- PRASAD, R. R. AND P. V. RAMACHANDRAN NAIR. 1963. Studies on organic production 1. Gulf of Mannar. J. mar. biol. Ass. India, 15: 1-26.
- PRASAD, R. R., S. K. BANERJI AND P. V. RAMACHANDRAN NAIR. 1970. A quantitative assessment of the potential fishery resources of the Indian Ocean and adjoining seas. Indian J. Anim. Sci. 40 (1): 73-78.
- RAMACHANDRAN NAIR, P. V., SYDNEY SAMUEL, K. J. JOSEPH AND V. K. BALACHANDRAN. 1972. Primary Production and potential fishery resources in the seas around India. Proc. Symp. on the Living resources of the seas around India. 184-198.
- VENKATARAMAN, G. AND K. C. GEORGE. 1964. On the occurrence of large concentrations of file-fish off the Kerala coast, India. J. mar. biol. Ass. India, 6 (2): 321-323.

TABLE 1. DETAILS OF CRAFTS USED FOR PELAGIC FISHERIES IN KANYAKUMARI DISTRICT

Craft	Local Name	Name of wood	Size (feet)	Cost (Rs.)	HP	Area of operation	Total no. in operation
Dug-out canoes	Vallom or Thoni	Aini (<u>Artocarpus hirsuta</u> Lank) Elavu (<u>Bombax malabaricus</u> D. C.) Mavu (<u>Mangifera indica</u> Linn.)	18—30	3500 to 5500	—	Between Kadiapattinam and Neerodi	23
Plank-built Canoes	Kattu vallom	Aini (<u>Artocarpus hirsuta</u> Lank) Mavu (<u>Mangifera indica</u> Linn.)	25—32	2000 to 3000	—	Between Kadiapattinam and Neerodi	254
Non-mechanised catamarans	Kattumaram, Maram	Cillai (<u>Albizzia lebbok</u>) Perumaram (<u>Ailanthus malabarica</u> D. C.) Mullu elavu (<u>Zanthoxylum rhetsa</u> D. C.) Murukku (<u>Eruthrina stricta</u> Roxb) Panjelavu (<u>Eriodendron anfractuosum</u> D. C.)	12—25	400 to 1500	—	Throughout the district	14789
Mechanised catamarans	Engine maram	As in non-mechanised catamaran	18—25	4000 to 5000	8-12 HP Petrol	Muttom	100
Mechanised boats	Bottu	Aini, Thekku, Venthekku, Plywood cabi	19—32	36000 to 55000	49 HP	Cape comorin, Muttom, Colachel and Kodimunai	414
Doris boats	—	Country wood	21	13000 to 25000	12 HP Diesel	Throughout the district	4

TABLE 2. DETAILS OF GEARS USED FOR PELAGIC FISHERIES IN KANYAKUMARI DISTRICT

Gear	Local name	Net material	(Cost Rs.)	Net size	Mesh size (inch)	Principal species caught	Total no. in operation
Shore seine	<u>Kara madi</u> <u>Kara vala</u> <u>Kamba vala</u>	Coire rope and cotton thread	2000-2500	2500-2750'	0.3 to 36 thro' 0.7, 6,9 and 24.	Clupeoids and Scombroids	549
Boat seine	<u>Thattu madi</u> <u>Madi vala</u>	Coir rope and cotton thread	500-600	400'	$\frac{1}{4}$ to 108 thro' $\frac{1}{2}$, $\frac{3}{4}$ and 18.	Clupeoids, Trichiurids and <u>Lactarius</u> .	1188
Gill nets a.	<u>Kacha vala</u> or <u>Netholi vala</u>	Cotton	250	250 X 9'	$\frac{1}{2}$ $\frac{3}{4}$	<u>Stolephorus</u> <u>Sardines</u> , <u>Dussumieria</u> spp. and <u>Decapterus</u> spp.	769 930
	b. <u>Chala vala</u>	Cotton or nylon	450	250 X 9'			
	c. <u>Vala vala</u>	Cotton or nylon	450-500	250 X 9'	1 $\frac{1}{4}$	<u>Chirocentrus</u> sp.	841
	d. <u>Kuthippu vala</u>	Cotton or nylon	450-500	250 X 9'	1	<u>Lactarius</u> , mackerel and <u>Decapterus</u> spp.	124
	e. <u>Thathu vala</u>	Cotton	250-300	250 X 9'	$\frac{1}{2}$ - $\frac{3}{4}$	Median size clupeoids and other varieties of that size.	309
Hooks and line	<u>Chooda</u> or <u>Thoondil</u>	Nylon (<u>Kangoos</u>) or cotton	75-100	1300-2000'	150-300 Hooks	Carangids, Scombroids and Leather jackets	3357
Drift net	<u>Vali vala</u> <u>Pattu vala</u>	Nylon No. 6	3500-4000	3000 X 60-80 knots	4-6	Scombroids and Carangids	2036
Bag net	<u>Kachal</u>	Cotton or nylon	20-25	100 metre	1	Leather jackets	292

TABLE 3. AVERAGE PERCENTAGE COMPOSITION OF PELAGIC FISH LANDINGS OF THE TWO COASTS OF KANYAKUMARI DISTRICT

Name of fish	Gulf of Mannar Region (Cape to Vattakottai)	Arabian Sea Region (Cape to Neerodi)
<u>Chirocentrus</u>	13.4	1.7
Oil sardine	—	0.1
Lesser sardines	23.5	12.9
<u>Stolephorus</u>	5.1	27.5
<u>Dussumieria</u>	2.0	3.0
<u>Thrissocles</u>	1.4	3.0
<u>Hilsa</u>	—	3.4
Other clupeoids	0.1	0.9
Caranx	16.5	17.0
<u>Chorinemus</u>	4.8	0.4
Other carangids	0.1	0.2
<u>Trichiurus</u>	27.1	14.1
Mackerel	—	0.4
Seerfish	5.6	7.5
Tunas	—	4.5
<u>Coryphaena</u>	—	0.1
<u>Lactarius</u>	0.4	1.1
<u>Mugil</u>	—	1.1
Filefish	—	1.0
<u>Hemirhamphus</u> and <u>Belone</u>	—	0.2
<u>Sphyraena</u>	—	1.0

TABLE 4. DETAILS OF SPECIES EXPLOITED IN KANYAKUMARI DISTRICT

Groups / sub-groups / species	Other species recorded	% in total plegic catch	Period of occurrence (peak period underlined)	Important fishing region	Gears employed (main gear underlined)	Price / kg (Rs. p)
CLUPFOIDS						
Whitebaits	...	23.0	Year round	W coast	<u>Gill net</u>	1.00-1.75
<u>Stolephorus bataviensis</u> ,	<u>S. andhraensis</u> , <u>S. buccaneeri</u> ,		<u>Sep-Oct</u>		Boat seine	
<u>S. devisi</u>	<u>S. commersoii</u> , <u>S. indicus</u> ,		<u>Feb-Jul</u>		Shore seine	
	<u>S. macrops</u>					
Sardines	...	15.2	<u>Mar-May</u>	E coast	<u>Gill net</u>	1.50-3.00
<u>Sardinella dayi</u> ,	<u>S. culpeoides</u> , <u>S. fimbriata</u> ,		<u>Oct-Nov</u>		Boat seine	
<u>S. gibbosa</u> , <u>S. sirm</u>	<u>S. longiceps</u> , <u>S. sirdensis</u>				Shore seine	
Wolfherrings	...	4.3	<u>Oct-Jan</u>	E coast	<u>Drift net</u>	1.50-3.50
<u>Chirocentrus dorab</u> ,					<u>Gill net</u>	
<u>C. nudus</u>						
Other clupeoids	<u>Dussumieria</u> , <u>Herklotsichthys</u> ,	8.3	Year round	E & W coasts	<u>Boat seine</u>	1.25-2.00
	<u>Hilsa</u> , <u>Opisthopterus</u> ,		<u>Sep-Jan</u>		Shore seine	
	<u>Pellona</u> , <u>Thryssa</u>				Gill net	
CARANGIDS						
	...	18.5	Year round	E coast	<u>Hooks & line</u>	1.00-3.00
<u>Carangoides malabaricus</u> ,	<u>Alepes djeddaba</u> , <u>A. kalla</u> ,		<u>Aug-Nov</u>		<u>Shore seine</u>	
<u>Caranx ignobilis</u> ,	<u>Alectis ciliaris</u> , <u>A. indicus</u> ,				<u>Boat seine</u>	
<u>Decapterus dayi</u> ,	<u>Atropus atropus</u> , <u>Atule mate</u> ,				<u>Drift net</u>	
<u>Megalaspis cordyla</u>	<u>Carangoides armata</u> ,					
	<u>C. chrysophrys</u> , <u>C. gymnostethus</u> ,					
	<u>C. praeustus</u> , <u>Caranx carangus</u> ,					
	<u>C. sexfasciatus</u> , <u>Elagatis</u>					
	<u>bipinnulatus</u> , <u>Gnathanodon</u>					

speciosus, Scomberoides tala,
Selar crumenophthalmus,
Selaroides leptolepis,
Seriolina nigrofasciata,
Trachinotus blocoii

TRICHIURIDS	...	...	17.0	May-Feb <u>Jul-Oct</u>	E coast	<u>Boat seine</u> <u>shore seine</u> Drift net Hooks & line	1.00-2.50
<u>Lepturacanthus savala,</u> <u>Trichiurus lepturus</u>							
SCOMBROIDS							
Seerfishes	...	...	7.1	Year round <u>Oct-Nov</u>	W coast (Colachel, Muttom, Kadiapatnam)	<u>Drift net</u> <u>Shore seine</u> Hooks & line	2.00-3.50
<u>Scomberomorus commerson,</u> <u>S. guttatus,</u> <u>S. lineolatus</u>							
Tunas	...	...	3.5	Year round <u>Apr-May</u> <u>Sep-Oct</u>	Exclusively West coast	<u>Hooks & line</u> <u>Drift net</u> <u>Shore seine</u> Boat seine	1.50-2.25
<u>Auxis rochei, A. thazard,</u> <u>Euthynnus affinis</u>	<u>Katsuwonus pelamys</u> <u>Sarda orientalis</u>						
Mackerel							
<u>Rastrelliger kanagurta</u>	...	...	0.3	<u>Feb-May</u> <u>Oct-Dec</u>	Exclusively W coast	<u>Shore seine</u> <u>Drift net</u> <u>Boat seine</u>	2.00-3.00
OTHERS	...	...	2.8	Year round <u>Apr-May</u>	E & W coasts	All gears	1.00-3.00
<u>Belone, Coryphaena,</u> <u>Hemirhamphus, Lactarius,</u> <u>Mugil, Odonus, Pseudobalistes,</u> <u>Sphyraena, Sufflamen</u>							

TABLE 5. LOCAL NAMES OF COMMON SPECIES RECORDED IN THE CATCHES

Groups / Sub-groups / Species	Local Name/s
CLUPEOIDS	
Whitebaits	...
<u>Stolephorus andhraensis</u> , <u>S. bataviensis</u> , <u>S. macrops</u>	... } Vella neththoli
<u>S. buccaneeri</u> , <u>S. devisi</u>	...
<u>S. commersoni</u> , <u>S. indicus</u>	... Ko neththoli
Sardines	...
<u>Sardinella dayi</u> , <u>S. fimbriata</u> , <u>S. gibbosa</u> , <u>S. Sirdensis</u>	... } Nachchaala, Maththi chaala, Reththakkannan chaala
<u>S. clupeioides</u>	... Pallaamural
<u>S. longiceps</u>	... Neichaala, Peychaala
<u>S. sirm</u>	... Keerimeen chaala
Wolfherrings	
<u>Chirocentrus dorab</u> , <u>C. nudus</u>	... Thuppu valla, Pandi vaala, Mullu valla
Other clupeoids	
<u>Dussumieria</u>	... Mural
<u>Thryssa</u>	... Puravaa
<u>Hilsa</u> , <u>Opisohopterus</u> , <u>Pellona</u>	... Kuththaa
CARANGIDS	
<u>Caranx ignobilis</u>	... Paarai
<u>Decapterus</u>	... Manjapaarai
<u>Megalaspis cordyla</u>	... Koluchaalai
<u>Scomberoides (Chorinemus)</u>	... Vangadai
" (juveniles)	... Kattaa, Kattaavu
<u>Selar crumenophthalmus</u>	... Thiriyavu
	... Kannan koluchaalai
TRICHIURIDS	
<u>Lepturacanthus savala</u> , <u>Trichiurus lepturus</u>	... } Vaalai, Chaavaalai
SCOMBROIDS	
Seerfishes	...
<u>Scomberomorus commerson</u> (juvenile)	... Neimeen
<u>S. gattatus</u>	... Kolli
<u>Scomberomorus</u> (juveniles)	... Chatta
	... Kareyila

Tunas	
<u>Auxis rochei (A. thynnoides)</u>	... Urulan choorai
<u>A. thazard</u>	... Eli choorai, Eliyan choorai
<u>Euthynnus affinis</u>	... Paduvattu choorai
<u>Sarda orientalis</u>	... Neimeen choorai, Varian choorai
Mackerel	
<u>Rastrelliger kanagurta</u>	... Ayila
OTHERS	
Garfishes	
<u>Belone</u>	... Koliamural
Halfbeaks	
<u>Hemirhamphus</u>	... Chundanmural
Filefishes	
<u>Odonus</u>	... Klaththi
<u>Sufflamen</u>	... Karuppu klaththi
<u>Coryphaena</u>	... Vella klaththi
<u>Lactarius</u>	... Paalaameen
<u>Mugil</u>	... Kuthippu
<u>Sphyraena</u>	... Maalaa
	... Cheela, Ooli

TABLE 6. PRICE INDEX OF PELAGIC FISH AT KANYAKUMARI DISTRICT FOR THE YEARS 1969 TO 1971

Name of fish	1969		1970		1971			
	Average cost per kg.		Value realised		Average cost per kg.		Value realised	
	Rs.	Ps.	Rs.	Ps.	Rs.	Ps.	Rs.	Ps.
<u>Chirocentrus</u>	2.50	2368375.00	2.00	1995300.00	2.45	1556387.00		
<u>Sardines</u>	1.51	485760.96	1.72	4497696.80	1.90	6218149.00		
<u>Stolephorus</u>	1.20	9507276.00	1.50	6002040.00	1.53	4551505.20		
<u>Other clupeoids</u>	2.00	1076780.00	1.73	159737.82	1.70	384572.30		
<u>Carangids</u>	1.82	7794805.20	2.10	6851523.00	2.03	6989594.50		
<u>Trichiurids</u>	1.75	2947840.00	1.70	4491094.00	1.56	9038967.60		
<u>Mackerel</u>	2.11	142319.50	1.91	142275.90	2.05	84296.00		
<u>Tunas</u>	2.00	1547520 00	2.12	1218639.60	2.05	1544675.00		
<u>Seerfish</u>	2.66	1757408.80	2.50	3323025.00	2.13	4768111.50		
<u>Other Varieties</u>	1.75	1099140.00	1.52	867068.80	2.06	871833.20		
Total		28727225.46		29548400.92		36008091.30		