



# **MARINE FISHERIES INFORMATION SERVICE**

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## SOCIO-ECONOMIC STATUS OF FISHERMEN COMMUNITY OF CALICUT AREA\*

### Introduction

Marine fishery sector in India has undergone a rapid change after the introduction of mechanisation. Powering the boats for conveyance/fishing has improved the mobility and the efficiency of crafts. As during Industrial revolution the indigenous sector faced a set back with unbalanced economic change, mechanisation of marine fishing crafts has brought in both positive and adverse effects on the socio-economic conditions of rural fisherfolk; positive in the sense of increased catches and adverse in the sense that the presence of these mechanised boats deprive the legitimate claims of traditional crafts as they are not able to compete with the mechanised ones and hence catch less quantity of fish. Thus the economic viability of labour intensive traditional sector has faced a set back. This imbalance may be due to the presence of persons, other than fisherman, owning mechanised crafts, since fishermen are not able to purchase powered crafts due to their high costs.

In case the powered boats are made available to traditional fishermen they may get all the benefits of mechanisation which will improve their economy immensely. The main objective of this project is to study the impact of introduction of mechanised boats on the socio-economic conditions of traditional fishermen when they are supplied with mechanised boats. To study this impact, Calicut region is selected where Agricultural Refinance Development Corporation (ARDC) has supplied 50 mechanised boats of size 36' so that each boat is allotted to seven fishermen families thus involving 350 fishermen families in this venture. These families belong to Puthiappa and Puthiangadi area. For comparative study another neighbouring village Elathur has also been selected where traditional fishing alone is followed.

Puthiappa and Puthiangadi are two marine fish landing centres where there are seven Fishermen Co-operative Societies. ARDC supplied 50 mechanised boats to these 7 co-operative societies. Each society is having about 50 members and each member representing a fishermen family in this region. In addition, under General Mechanisation Scheme (GMS) undertaken by the Kerala State Government there are eleven

mechanised boats which also are brought under the ARDC Scheme. Apart from these 61 mechanised boats, there are 70 more mechanised boats owned by local fishermen. These 131 boats are engaged in trawl fishing in this area.

ARDC has introduced a slab system in sharing the catches as an incentive to the crew to bring better catches. The share rates introduced in 1976 are for catches worth upto Rs. 400, 401—500, 501—600 and 600 and above 30, 40, 45 and 50% respectively.

Under ARDC Scheme two nets for each mechanised boats are supplied @ Rs. 2,800 each. All ARDC boats are 36', each costing Rs. 1.35 lakhs. Apart from these boats there are two workshops and three ice plants under this scheme to meet the local requirements. Mechanised boats operating gill nets numbering about 80 during season, owned by fishermen belonging to other areas such as Colachal are also fishing in nearby areas and landing their catches here. Also mechanised trawling boats of Elathur land their catches here because of the infrastructure facilities available here. In addition, about 275 indigenous boats are operating in this area. There are about 750 persons using boat seines, 200-300 persons using gill nets and 100 persons using hooks and lines. Each boat seine costs about Rs. 15,000, operation of which requires two boats and 15-20 men, 75% of the catches goes to the labourers and 25% to the owner. Fishermen community consists about 65% of local population. Total investment in this area is about Rs. 1 crore, ARDC investing 72 lakhs and NCDC 25 lakhs.

During October-May local fishermen operate both mechanised and indigenous boats and in the rest of the period mainly indigenous crafts. For operation of indigenous crafts at a considerable distance from the shore, mechanised boats are used for towing them 5-10 in number to the fishing grounds and back thus increasing the mobility of the indigenous crafts and improving the catches. This type of an integrated approach in the use of both mechanised and traditional crafts by the fishermen in fishing, hence, has made this area unique in all respects. Fisherfolk who do not go

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\* Prepared by K. K. P. Panikkar and K. Alagaraja

**Table 1.** *Distribution of families of fishermen and others by size.*

**Puthiappa-Puthiangadi**

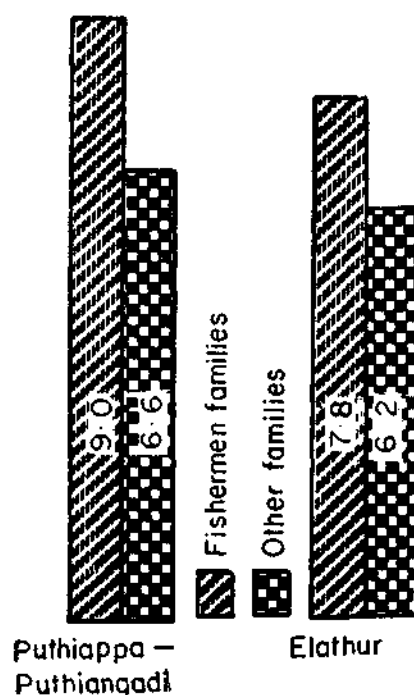
Category of families	No. of Members				Total
	1-5	6-10	11-20	above 20	
Fishermen families	170	484	165	39	858
Other families	172	227	50	1	450
<b>TOTAL</b>	<b>342</b>	<b>711</b>	<b>215</b>	<b>40</b>	<b>1308</b>

**Elathur**

Fishermen families	124	276	69	4	473
Other families	252	233	42	1	528
<b>TOTAL</b>	<b>376</b>	<b>509</b>	<b>111</b>	<b>5</b>	<b>1001</b>

**Occupational status**

In Puthiappa-Puthiangadi area there are 858 fishermen families which constitute 65.6% of the total households (Table 2). Out of this 16 (1.9%) families



**Fig. 1.** Average size of the families of fishermen and others.

have got full ownership and 273 (31.8%) families partial ownership of mechanised boats. The partial ownership comprises about 200 families who are shareholders in ARDC boats. In some families there are 2 or 3 shareholders and the total number of ARDC shares comes to 350. Initially it was proposed to provide one boat to seven families on the basis of only one member from each family. However, as it was a newly introduced scheme, the society found it difficult to get 350 families to take the shares in 50 boats. So some families were provided more than one share limited to a maximum of 3 shares. Only 69 (8.0%) families operate their own country crafts for fishing. Other than this, some of the families who own mechanised boats also have got country crafts. 467 (54.5%) families live on wages they receive from either mechanised boats or country crafts. They don't have any fishing equipments. For 33 (3.8%) families main occupation is any of the allied activities such as net repairing, fish trading, transporting fish etc. In this area there are 450 (34.4%) families who are not at all connected with fishing industry.

Those families who are share holders of ARDC boats are not actually the owners of the boats. They will get the ownership of the boats only after the complete repayment of the loan. Till that time the ownership is bestowed on the society. Each boat is allotted to 7 members on condition that they have to hand

for fishing are otherwise engaged in net making under ARDC Project, operations of ice plants, workshops, sorting the catch, transporting and fish trading. Thus throughout the year almost all the fisherfolk are profitably engaged in one or the other type of activities connected with fisheries. Mechanised and traditional fishing are not competing with each other as in other areas in our coastal waters, but have become complementary to each other thus increasing the standard of life in this area. Availability of infrastructure facilities for processing the catch and amenities for quick disposal of the same are added attraction in this area.

In contrast to this, the landing centre at Elathur which is about 8 km from Calicut township consisting of three mechanised boats, 28 dug out canoes and 80 small boats, does not show much activity. No infrastructure facilities are available. Hence these mechanised boats land their catches at Puthiappa only. There is only one co-operative society consisting of about 180 members with a single mechanised boat. In this diluted responsibility the operation of this mechanised boat became a liability and was impounded by the Government for non-payment of loans.

In order to study the impact of introduction of mechanised crafts under the integrated approach for fishing, suitable schedules numbering five have been developed. The collection of data is planned in two phases. The first phase is concerned with the complete census of all the families in Puthiappa and Puthiangadi areas covered by the ARDC Scheme and families in wards I, II & III of Elathur village where there is a concentration of fishermen families. In this phase, data have been collected on size of the family, occupation details, possession of crafts, infrastructure facilities, indebtedness and income. In the second phase a sample of households representing all types of occupations will be selected for detailed study.

This report gives an account of the first phase of the project.

#### Work programme

Before initiation of the census, the following items of work were taken up.

1. Meeting the important personalities of the locality, Panchayat and Co-operative society Officials for enlisting their Co-operation.
2. Preparing a list of families residing in the area and obtaining a rough sketch of the area under coverage to form a base for the same and

3. Dividing the area into two exclusive parts to be given to two enumerators selected for collecting census data.

On 9-4-'79 two enumerators have been recruited and were given training at Calicut Research Centre of CMFRI, Calicut. The programme of work for the enumerators were chalked out in such a way that daily progress of work was brought to the notice of Officer-in-Charge, Calicut Research Centre and weekly reports were prepared, once in a week by enumerators. The Scientists from Headquarters and Officer-in-Charge, Calicut Research Centre supervised their work.

#### Size of the Family

In the Puthiappa-Puthiangadi area regarding the size of the family, there is wide variation between fishermen and non-fishermen families. As seen from Table 1, fishermen families are of large size when compared to non-fishermen families, the average sizes being 9.0 and 6.6 respectively. Of 858 fishermen families 204 (23.7%) families have more than 10 members whereas amongst 450 non-fishermen families only 51 (11.3%) families have more than 10 members. There are 39 fishermen families with more than 20 members and only one non-fishermen family under this classification. With 6 to 10 members there are 484 fishermen families and 227 non-fishermen families. However, among fishermen families only 170 families have less than 6 members constituting 19.8% and 172 non-fishermen families constituting 38.2%. Fishermen families are larger in size because of the joint family system still prevalent among the fishermen community in this area. The joint family system is convenient for them to do fishing as a joint venture. Financial difficulties in constructing a new house and lack of enough space for further partitioning compel them to stay together under one roof and maintain collateral joint system.

In Elathur village, of 473 fishermen families 73 (15.4%) families have more than 10 members. 349 families constituting 73.8% of the total fishermen families have more than 6 members, whereas out of 528 non-fishermen families 276 families constituting 52.3% come under this group. With the size of less than 6 members there are 124 (26.2%) fishermen families and 252 (47.7%) non-fishermen families. As in the case of Puthiappa-Puthiangadi, in this village also fishermen families are comparatively of larger size. Average sizes of fishermen and other families are 7.8 and 6.2 respectively. (Fig. 1).

**Table 2. Distribution of fishermen families by occupational status.**

Occupational Status	Puthiappa-Puthiangadi	Elathur
<b>I. Fishing and allied activities</b>		
1. Full ownership of mechanised boats*	16	1
2. Partial ownership of mechanised boats**	273	2
3. Ownership of country crafts***	69	73
4. Wage earners	467	351
5. Allied activities	33	46
<b>TOTAL</b>	<b>858</b>	<b>473</b>
<b>II. Other activities</b>	<b>450</b>	<b>528</b>
<b>GRAND TOTAL</b>	<b>1308</b>	<b>1001</b>

\* Those families having full ownership of mechanised boats have been accounted here irrespective of their partial ownership of mechanised boats or ownership of country crafts.

\*\* These families are having only partial ownership of mechanised boats. However they may have country crafts also.

\*\*\* They are owning only country crafts.

over to society certain percentage of their catch and from that the society will repay the ARDC loan. When the loan amount of a boat is fully repaid it will be released to its members. This arrangement is convenient both for the society and the fishermen. Since the society is regularly collecting its dues from the fishermen, it does not have any difficulty in the repayment of the loan. The advantage for the fishermen is that they are not directly responsible for the repayment of loan. The general complaint against the fishermen by the credit institutions such as banks, co-operative societies etc. is that once they have taken loan, they are not much bothered about repayment. Such a situation is successfully avoided in the above arrangement.

At Elathur out of 1001 families, 473 (47.3%) families are those of fishermen and out of them 351 (74.2%) are wage earners. They work in others boats or engaged in mussel collection. Only 3 families in this village have ownership of mechanised boats, one is fully owned by one family and the other two are partially owned. Even these three boats are operating mostly at Puthiappa area. Only 73 (15.4%) families operate their own country crafts. 46 (9.7%) families are engaged in mussel trading, transporting etc. In this village fishermen are mostly engaged in mussel collection and this is an important centre of mussel production.

Figure 2 shows the percentage distribution of families engaged in different fisheries activities in Puthiappa-Puthiangadi area and Elathur village.

#### Active fishermen

In Puthiappa-Puthiangadi 825 households are pursuing fishing as their full time occupation (Table 3). Of the 1658 active fishermen, belonging to these families, as many as 485 persons (29.3%) work in their own mechanised boats and 289 (17.4%) work in their own country crafts. 884 person constituting 53.3% of the total active fishermen, work in others boats (either mechanised or non-mechanised) for wages. 59 (3.4%) persons are engaged in allied fisheries activities other than fishing such as fish trade, net repairing, curing etc.

In Elathur village out of 756 active fishermen 5 are working in their own mechanised boats and 200 (26.5%) persons in their own country crafts (Table 3). Among the active fishermen 551 (72.9%) are wage earners without having any fishing equipment. 52 (6.9%) persons are engaged in allied fisheries activities.

The percentage distribution of active fishermen by their occupational status is illustrated in Figure 3.

#### Family Income

In spite of difficulties, such as one year recall period, non-maintenance of household accounts, illiteracy of

# PUTHIAPPA — PUTHIANGADI

# ELATHUR

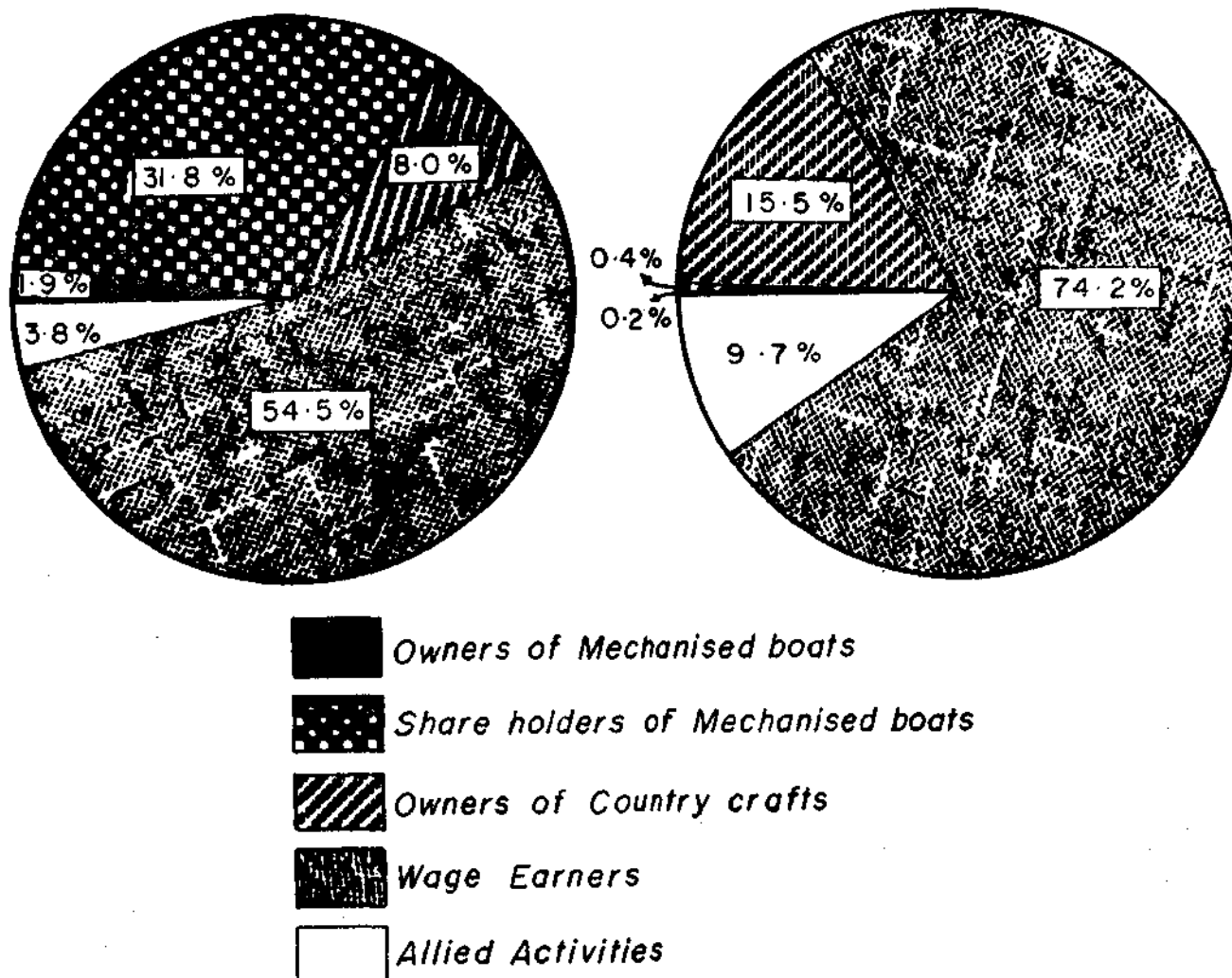


Fig. 2. Percentage distribution of families engaged in different fisheries activities.

the people and availability of free ration during off-seasons for only those whose annual income is below Rs. 1200/- etc., every effort has been made in convincing the local people about the scope and purpose of the enquiry while collecting the data.

Table 4 gives the distribution of the households in Puthiappa-Puthiangadi area by annual income groups and occupational status. The statement shows that the largest single group accounting for 44.9% of the total fishermen households have annual income between Rs. 1001 and 2000. They are followed by those in the income group of Rs. 501-1000 forming 22.1% and those in the income group of Rs. 2001-3000 constituting 19.8% of the total fishermen households. There are, however, 103 fishermen households (12% of the total fishermen households) in the annual income

group of above Rs. 3000. Only 4 families have recorded an annual income in the range of Rs. 10,000-30,000. On the lower side only 10 families are found in the annual income group of Rs. 500 and below and 200 families (23.3%) in the group of less than Rs. 1001.

The analysis of the statement on the basis of the occupational status of the fishermen reveals that out of 16 families who have full ownership of the mechanised boats, 15 families have an annual income of more than Rs. 3000. Even among the 273 fishermen families who have got partial ownership of mechanised boats all have reported their annual incomes as above Rs. 1000. Among them, 133 families (constituting 48.7% of the total share holders of mechanised boats) are in the annual income group of Rs. 2001-3000 and 30 families in the income group of above Rs. 4000/-. Among

**Table 3.** *Distribution of active fishermen by their occupational status.*

Occupational Status	Puthiappa-Puthiangadi	Elathur
1. Number of fishermen operating:		
a) Own mechanised boats	45	2
b) Partially owned mechanised boats	440	3
c) Country crafts	289	200
d) Others boats (both mechanised & non-mechanised)	884	551
Active fishermen (a + b + c + d)	1658	756
2. Fishermen engaged in allied activities	59	52
3. Other activities	645	823
<b>TOTAL</b>	<b>2362</b>	<b>1631</b>

**Table 4.** *Distribution of households by occupational status and annual income groups in Puthiappa-Puthiangadi*

Type of activities	(Income range in Rs.)									Total
	500 & below	501-1000	1001-2000	2001-3000	3001-4000	4001-5000	5001-10000	10001-20000	20001-30000	
1. Owners of mechanised boats	—	—	—	1	5	5	2	2	1	16
2. Share holders of mechanised boats	—	—	62	133	48	15	14	1	—	273
3. Owners of country crafts	—	1	53	14	1	—	—	—	—	69
4. Wage earners	10	185	253	17	2	—	—	—	—	467
5. Allied activities	—	4	17	5	5	2	—	—	—	33
<b>TOTAL</b>	<b>10</b>	<b>190</b>	<b>385</b>	<b>170</b>	<b>61</b>	<b>22</b>	<b>16</b>	<b>3</b>	<b>1</b>	<b>858</b>
6. Other activities (excluding fishery activities).	30	63	173	71	34	17	48	13	1	450

# PUTHIAPPA — PUTHIANGADI

# ELATHUR

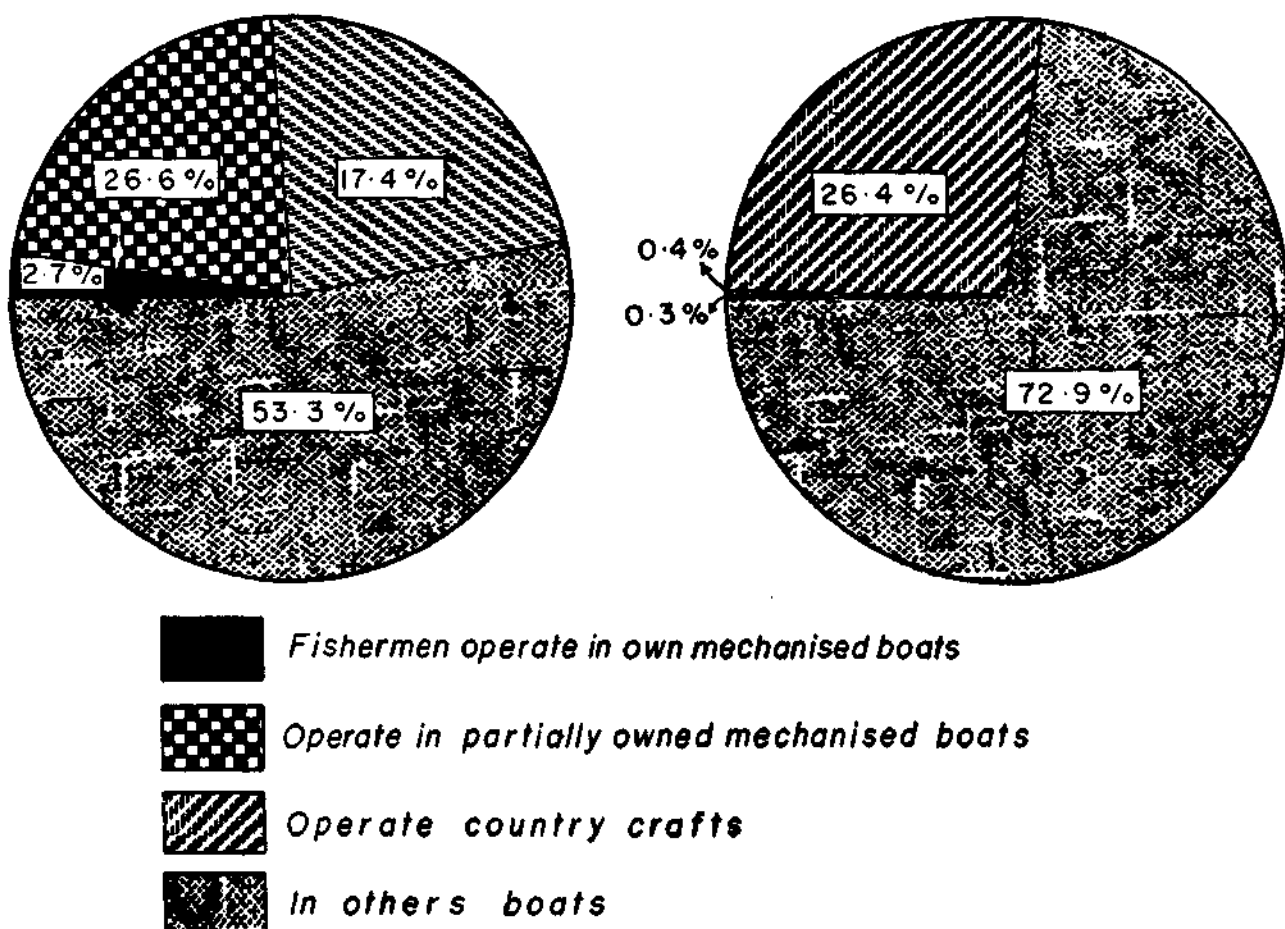


Fig. 3. Percentage distribution of active fishermen by their occupational status.

the 69 fishermen families who do fishing by only country crafts one family has an annual income of Rs. 1000/- or less. 53 families constituting 76.8 per cent of the country craft operators are in the income group of Rs. 1001-2000 and 15 families in the group of Rs. 2001-4000. Of the five different categories classified under the occupational status of the fishermen families, wage earners are found to be more in the lower income groups. Out of 467 families of wage earners 448 families (95.9%) have annual income of Rs. 2000 or less and 41.8% of them earn annually Rs. 1000/- or less. Of the 33 families engaged in allied activities such as fish trading, net making, repairing etc. 29 (87.8%) families have annual income of more than Rs. 1000, out of which 12 families are in the income range of Rs. 2001 to 5000. Only 4 families earn Rs. 1000/- or less.

The average annual income per fishermen household in this area is worked out at Rs. 2200.

From Table 5 it is seen that in Elathur village, of the 473 fishermen families 387 families (81.8%) have annual income between Rs. 501 and 2000. 169 families (35.7%) earn annually Rs. 1000/- or less 61 (12.9%) families have come under the income group of Rs. 2001-3000 and 25 (5.3%) families have reported their income between Rs. 3000 and 10,000.

As seen from the statement, in this village there is only one family which is having full ownership of a mechanised boat and this family comes under the annual income group of Rs. 2001-3000. Of the two families who are shareholders of mechanised boats one is in the annual income group of Rs. 2001-3000 and the other in Rs. 3001-4000. Out of 73 families who operate country crafts 50 (68.5%) are in the income group of Rs. 1001-3000, 14 (19.1%) families come under the income group of Rs. 3001-4000 and 9 families in the group of Rs. 4001-10,000. Of 46 families who are engaged in allied activities such as fish trading,



**Table 5. Distribution of house-holds by occupational status and annual income groups in Elathur**

Type of Activity	(Income range in Rs.)										Total
	500 & below	501-1000	1001-2000	2001-3000	3001-4000	4001-5000	5001-10000	10001-20000	20001-30000	Above 30,000	
1. Owners of mechanised boats	—	—	—	1	—	—	—	—	—	—	1
2. Share holders of mech. boats	—	—	—	1	1	—	—	—	—	—	2
3. Owners of country crafts	—	—	31	19	14	4	5	—	—	—	73
4. Wage earners	—	161	164	26	—	—	—	—	—	—	351
5. Allied activities	—	8	23	14	—	1	—	—	—	—	46
<b>TOTAL</b>	—	169	218	61	15	5	5	—	—	—	473
Other Activities	51	108	98	76	37	41	74	28	11	4	528

net making etc., half of them come under the income group of Rs. 1001-2000, 14 families are in the group of Rs. 2001-3000 and one family earns an annual income of Rs. 4001-5000. The average annual income of a fishermen household is worked out at Rs. 1125/-.

#### Indebtedness

Out of 858 fishermen families in Puthiappa-Puthiangadi area, 642 families (74.8%) are in debt. Table 6 gives the number of fishermen families in debt by source and annual income. Since there are instances that the same family has taken loan from different sources, for the purpose of classification, the major source of loan has been taken into consideration for each family. Accordingly, the major contributor towards the loan requirement of fishermen families in this area is the co-operative society. This is because of the loan (Rs. 72 lakhs) advanced by the ARDC through the co-operative society. 223 families constituting 34.7% of the total fishermen families in debt have received loans through co-operative societies. For 196 families (30.5%) money lenders are the major contributors of their loan requirements. The rate of interest generally ranges from 24 to 75%. Out of them 63 (32.1%) families have taken loan on contract basis. Credit is advanced on contract basis only to those fishermen who own some fishing equipments. The size of the loan depends on the value of those equipments. No time will be fixed for the repayment of

loan. Generally, to receive a loan the boat owner (both for mechanised and non-mechanised) has to enter into a contract with the money lender by which the borrower is bound to give the moneylender certain percentage of their daily catch. This often ranges from 15 to 30% depending upon the size of the loan till the repayment of the loan. Boat owners also advance loans to fishermen. There are 102 (15.9%) such families who have received loans from boat owners. With the receipt of this loans which generally ranges from Rs. 500 to 1500, they will become contract labourers and they should work only in that boat from the owner of which they have received loan till the loan is repaid. There is no interest in cash or kind.

Bank's contribution to the outstanding debt of the fishermen is only a meagre one. 53 families constituting 8.3% of the total fishermen families in debt, have received loans from banks. Size of the loan is also comparatively small.

In Elathur village (Table 7) out of 473 fishermen families only 43 families (9.1%) have taken loan. Of these, 19 families have received loans from banks (44.1%). 12 families are indebted to boat owners. 8 families received loan from money lenders. As compared to Puthiappa-Puthiangadi the percentage of fishermen in debt in Elathur village is far less. This is mainly because of the absence of loan facilities here. Most of the fishermen families do not possess any

**Table 6. Distribution of fishermen families in debt by source of credit and annual household income groups: Puthiappa-Puthiangadi**

Sources	(Income groups in Rs.)								Total
	500 & below	501-1000	1001-2000	2001-3000	3001-4000	4001-5000	5001-10000	10001-20000	
1. Government	—	2	3	8	2	—	1	2	18
2. Co-operative Society (including ARDC)	—	1	101	90	19	6	6	—	223
3. Money lenders	—	29	107	33	18	5	4	—	196
4. Boat owners	—	54	42	6	—	—	—	—	102
5. Banks	—	4	24	11	6	4	3	1	53
6. Others	1	17	22	5	3	2	—	—	50
<b>TOTAL</b>	<b>1</b>	<b>107</b>	<b>299</b>	<b>153</b>	<b>48</b>	<b>17</b>	<b>14</b>	<b>3</b>	<b>642</b>

**Table 7. Distribution of fishermen families in debt by source of credit and annual household income groups: Elathur**

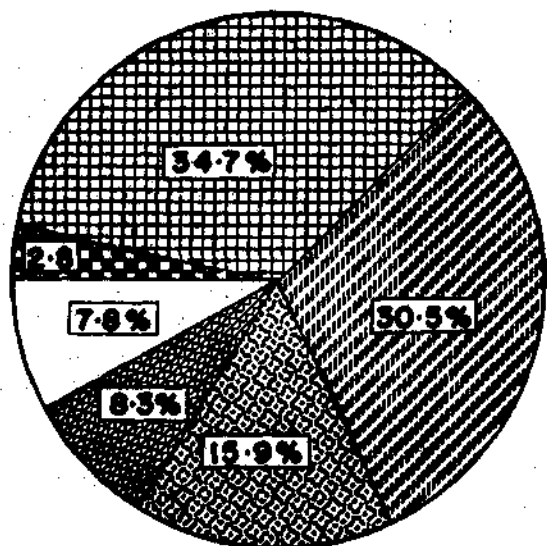
Sources	(Income groups in Rs.)								Total
	500 & below	501-1000	1001-2000	2001-3000	3001-4000	4001-5000	5001-10000	10001-20000	
1. Government	—	—	—	2	—	—	—	—	2
2. Co-operative Society (including ARDC)	—	—	—	—	—	—	—	—	—
3. Money lenders	—	3	2	1	1	—	1	—	8
4. Boat owners	—	4	6	2	—	—	—	—	12
5. Banks	—	3	12	3	—	—	1	—	19
6. Others	—	—	1	—	1	—	—	—	2
<b>TOTAL</b>	<b>—</b>	<b>10</b>	<b>21</b>	<b>8</b>	<b>2</b>	<b>—</b>	<b>2</b>	<b>—</b>	<b>43</b>

**Table 8. Borrowings of fishermen from different agencies (in Rs.)**

Credit Agencies	Puthiappa & Puthiangadi	Elathur
Government and Co-operative Societies	3,57,000	5,000
Banks	3,14,400	18,500
Money lenders	6,52,900	17,000
Boat owners	73,350	8,400
Others	1,84,400	3,500
<b>TOTAL</b>	<b>15,82,050*</b>	<b>52,400</b>

\* Excluding the loan advanced by ARDC.

## PUTHIAPPA — PUTHIANGADI



**GOVERNMENT**  
**CO-OPERATIVE SOCIETIES**  
**MONEY LENDERS**  
**BOAT OWNERS**  
**BANKS**  
**OTHERS**

## ELATHUR

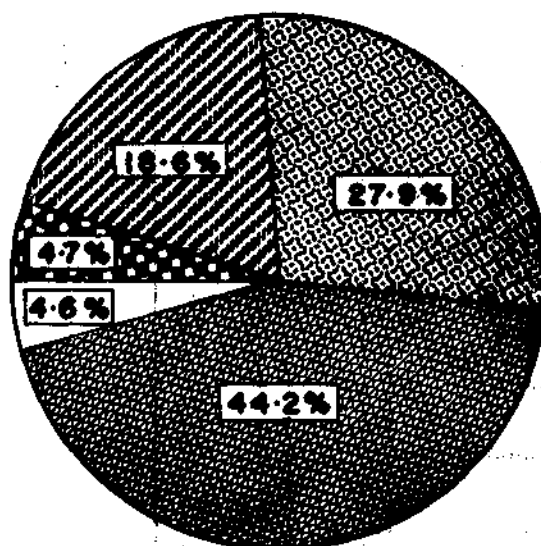


Fig. 4. Percentage distribution of families taken loan from different sources.

fishing equipment and their repaying capacity is very poor. Generally money lenders are not interested in giving loan to such families. Even the loans advanced to few families by banks and money lenders are of small amounts (Fig. 4).

The total outstanding debt of the fishermen families amounted to about Rs. 16 lakhs in Puthiappa-Puthiangadi and about Rs. 50 thousand in Elathur. This excludes the loan extended by ARDC and G.M.S. in Puthiappa-Puthiangadi, which amounted to about Rs. 1 crore.

As seen from the Table 8, even without taking into consideration the ARDC and G.M.S. loans, there are better credit facilities in Puthiappa-Puthiangadi than in Elathur. In Puthiappa-Puthiangadi the Government and Co-operative Society advanced a loan of Rs. 3.57 lakhs whereas in Elathur it was only Rs. 18.5

thousand. The contribution of money lenders amounted to Rs. 6.53 lakhs in Puthiappa-Puthiangadi and Rs. 17 thousand in Elathur (Fig. 5).

### **Income-effect of Mechanisation**

As indicated earlier, the Agricultural Refinance Development Corporation advanced a loan of Rs. 72 lakhs to the Kozhikode Regional Fish Marketing Co-operative Society to introduce mechanised fishing in Puthiappa-Puthiangadi area.

From the records available in the Society during the period from 1971-72 to 1978-79, the total value of the entire catch by these boats worked out to Rs. 1,74,77,726. Out of this, an amount of Rs. 49,91,270 was paid to fishermen as wages. The commission paid to members amounted to Rs. 8,73,754. Oil expenditure and repairing charges came to Rs. 57,23,388

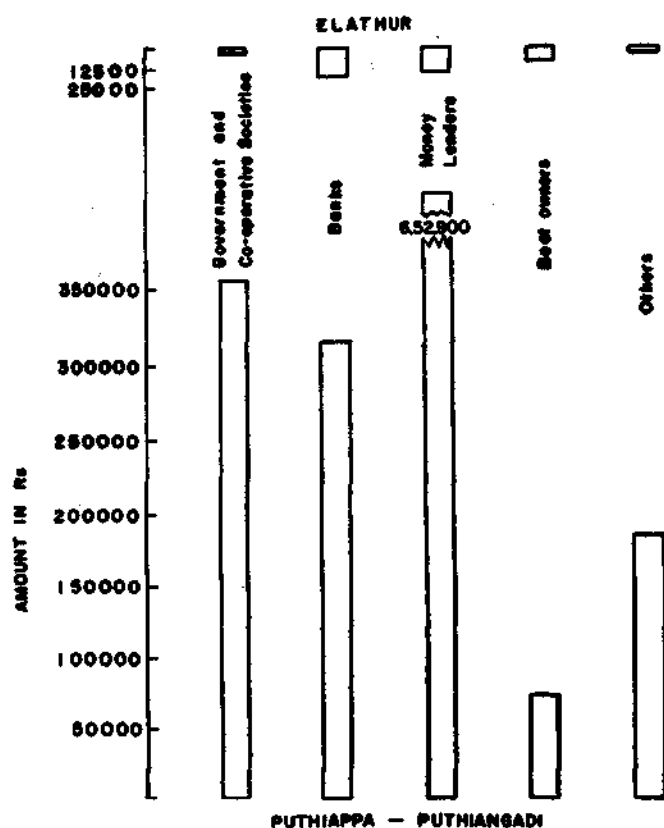


Fig. 5. Contribution of different credit agencies to the total loan amounts advanced to fishermen community.

and Rs. 38,59,762 respectively. Thus the money income created by this project has got direct impact on the economy of this area. The wages and commission (Rs. 58,65,024) received by fishermen, have increased the demand for goods and services in the village. An increase in income will increase consumption especially in a poor community whose propensity to consume is very high. More consumption means more demand which will ultimately stimulate the economic activities of the village. There will be a proliferation of allied activities such as fish trading, processing, ice factory, net repairing etc. which will create additional employment not only in the fisheries sector, but also to a certain extent in other sectors. In this way the additional income created by mechanisation in this area has obviously a positive impact on its economy.

#### Conclusion

The analysis of data relating to the socio economic background of the fishermen families in Puthiappa-

Puthiangadi and Elathur clearly indicates the improvement of the economic condition of the fishermen families in the former region which received credit facilities from ARDC to acquire mechanised boats. Eventhough the beneficiaries of this scheme are 200 families constituting only one-fourth of the total fishermen families, the whole fishermen community in this area has received the spill over benefits of this scheme. Moreover, this project is characterised by the existence of certain externalities. The introduction of mechanisation by ARDC in this area in 1971-72 induced many other fishermen to shift from traditional to mechanised fishing which resulted in increased landings and created more employment opportunities in net making, ice plant and work shop operations, sorting, auctioning, transporting and fish trading. The absence of such economic activities in the neighbouring Elathur village is a pointer to the importance of availability of credit facilities to invest in improved fishing techniques.

Another important feature observed in Puthiappa-Puthiangadi area is the compatibility of mechanised and indigenous fishing sectors. This may be because during off-season, mechanised boats are used for towing 5 to 10 country crafts to operate at distant grounds. Moreover, most of the mechanised boats belong to local fishermen families.

ARDC advanced loan to fishermen through the co-operative society at Puthiappa-Puthiangadi. The repayment of loan is the responsibility of the society. The fishermen to whom the boats are allotted have to hand over to the society certain percentage of their daily catch and from that, the society will repay the loan. Because of this arrangement, delay in realising the loan is avoided. This can be taken as a guide line for advancing loans in other rural areas also.

Despite the higher level of average annual income per household and also higher tempo of economic activities in Puthiappa-Puthiangadi as compared to Elathur village the intensity of indebtedness is more in the former than in the latter village. This can be attributed to the absence of credit facilities in Elathur, especially the institutional credits and the reluctance of the money lenders there to advance credit to poor fishermen whose repaying capacity is very poor. Thus a lower degree of credit facilities in any fishing village may be an indicator of its lower level fishing activities.

