



BAY OF BENGAL PROGRAMME
DEVELOPMENT OF SMALL-SCALE FISHERIES



COASTAL VILLAGE DEVELOPMENT IN
FOUR FISHING COMMUNITIES OF
ADIRAMPATTINAM, TAMILNADU, INDIA

BOBP/WP/19

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(GCP/RAS/040/SWE)

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This paper describes four fishing communities of Adirampattinam, a town about 350 km from Madras, and analyses their social structure. It also describes the strategy adopted by the Bay of Bengal Programme to improve the lot of these communities and the experimental work in this direction – which was carried out in cooperation with the fisheries department of Tamil Nadu and non-government agencies.

This paper was drafted early '1982 and refers mainly to work carried out during 1980—1981.

The Bay of Bengal Programme for the Development of Small-Scale Fisheries, GCP/RA5/040/SWE, referred to in brief as the Bay of Bengal Programme (BOBP), is funded by the Swedish International Development Authority (SIDA) and executed by the Food and Agriculture Organization of the United Nations. Five countries – Bangladesh, India, Malaysia, Sri Lanka and Thailand – are members of the Programme. Its main aims are to develop, demonstrate and promote technologies and methodologies to improve the conditions of small-scale fisherfolk and the supply of fish from the small-scale sector in the Bay of Bengal region.

This document is a working paper and has not been cleared by the FAO, the Government of Tamil Nadu or the Government of India.

SUMMARY

The BOBP plans and executes village-level extension pilot projects in member countries that test new methodologies for raising the incomes and living standards of fisherfolk.

In Adirampattinam, Tamil Nadu, much attention was paid to identifying and selecting the “target groups” — the people most in need of assistance. The strategy was to pinpoint the major stumbling blocks or problems in the way of their progress, and find solutions to these problems if possible. To ensure replicability of the project, efforts were made to tap resources — personnel and financial—that were available or accessible to the villagers.

The population in the four fishing communities of Adirampattinam — Karaiyur Street, Sunnambukara Street, Tharagar Street and Arumuga Street — is categorized as follows — the destitutes; the manual labourers without assets; those who own a few assets; and the elite. The elite own the best of assets, enjoy the best of contacts, and have little interest in changing the status quo.

The project’s target groups were neither the destitutes nor the elite, but the groups in between.

The target groups wanted four things in the main—credit, water, education and land security. Small loans to improve marketing and buy equipment; water for drinking, bathing and washing clothes; facilities for teaching their children reading, writing and calculation.

Apart from these stated needs of the fisherfolk, the paper examines whether existing technology in fisheries can be improved to help target groups. Motorization of boats, cheaper nets and improved quality of fish through preservation are some possibilities.

It was found, however, that these improvements would help only the well-to-do. Motorization may make work less strenuous but is expensive for poor fishermen. The use of thinner twine may lower the cost of nets, but in Adirampattinam thicker twine is appropriate for most of the species caught. And icing of fish is not attractive because the extra effort and expense do not increase incomes.

The project, therefore, concentrated on responding to the stated needs of the fisherfolk — credit, water, education — and on effecting some improvements in health.

Credit: At BOBP’s instance the Working Women’s Forum, which had helped organize small loans for hundreds of self-employed women engaged in petty trades in Madras, set up a branch in Adirampattinam. More than 400 women of Adirampattinam organized themselves into groups and received bank loans for fish marketing. Similarly, the men of Adirampattinam organized themselves into groups, and about 100 men received loans of Rs. 1,000 each by December 1981.

Water: The availability of drinking water in Adirampattinam improved in 1980 through the installation of stand-taps. But sufficient water is not available for bathing or washing clothes.

Education: Evening classes and non-formal group education were conducted through the National Service Scheme in cooperation with the State Research Centre for Non-Formal Education. Emphasis is placed not on reading and writing but on dealing with bureaucracies—how to apply for bank loans, grants or subsidies, how to tackle problems with roads, street lights, building sites, etc.

Health: As for health improvement, a Working Women’s Forum experiment in Madras—under which a group of 30 semi-literate women were trained in disease identification, nutrition and child vaccination — is a possible model. When the women of Adirampattinam have built up some leaders through their credit programme, a similar medical check-up system could be started. The system could also be used to encourage applications for widow or old-age pension and to encourage schoolgoing.

Cooperatives: The project's observation of the working of cooperatives shows that the benefits channelled through cooperatives tend to reach only the well-off. Group action from the poorest could thwart such cornering of benefits, but go no further.

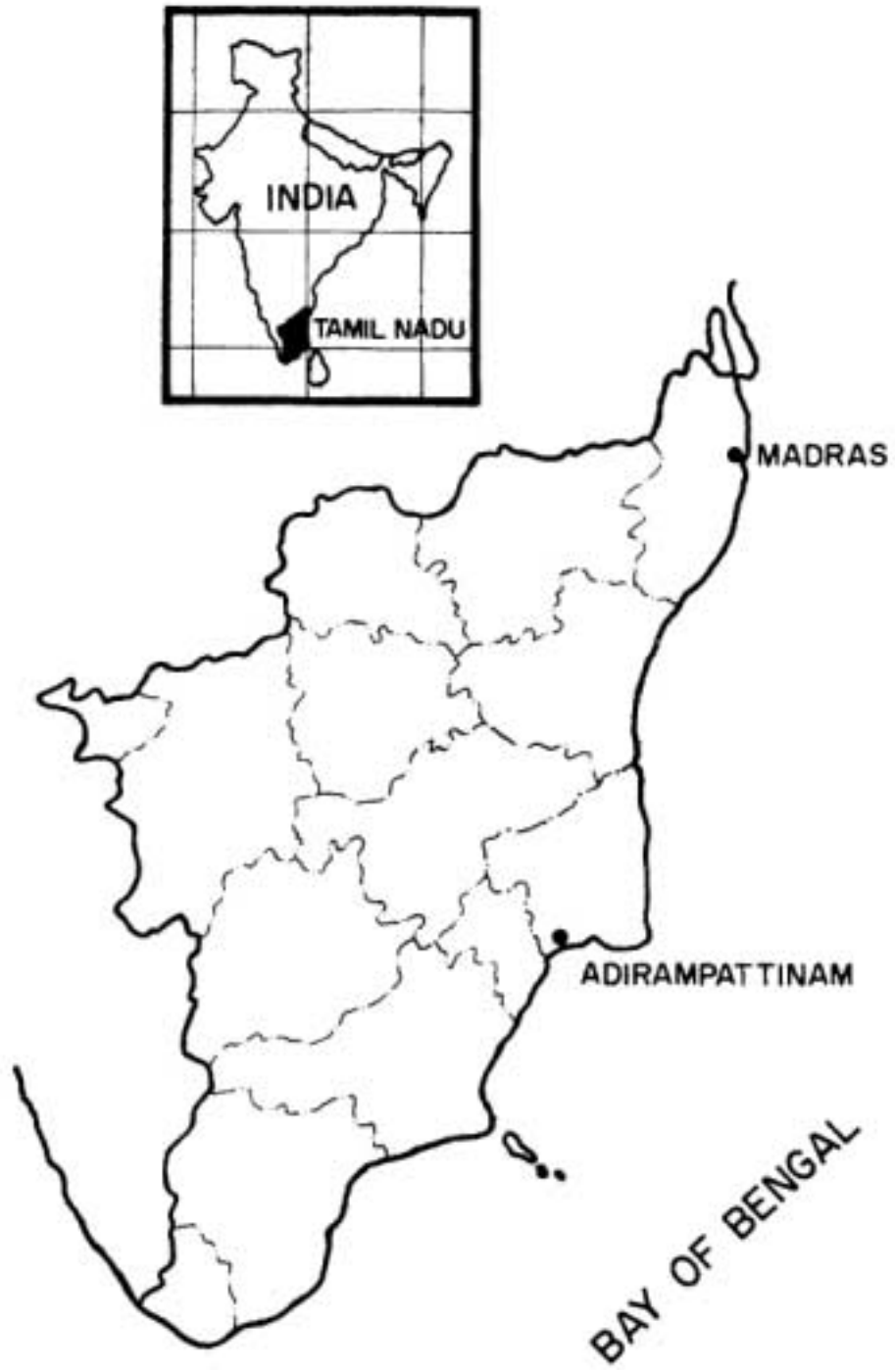
Conclusions: The destitutes—the poorest of the poor—can be helped only by improving the social welfare system. There is a role here for international funding agencies and donors.

The coolies—analogue in fisheries to landless labourers in agriculture—would like to own some of the productive capital they work with. They can best be helped by focusing on credit and marketing. But any project designed towards this end should avoid three pitfalls – implementation through the local elite; doing the work oneself rather than stimulating the target groups to do it; and bringing in a lot of outside money.

If these pitfalls are avoided and the target groups encouraged to think, discuss and take the initiative, they may acquire the energy and the dynamism necessary for progress through self-help.

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1. INTRODUCTION

So often is it said that assistance goes to those who do not need it in the first place and that those for whom help is really meant are not reached. This is said not only about programmes in fisheries in India; it is a worldwide phenomenon and extension researchers have paid a lot of attention to this paradox.

They suggest that, in view of the complaint that the most deserving people are not reached, we must make clear from the beginning which is the target group. Next we must study the target group carefully and find out what the major stumbling blocks are to their progress and development and what can be done to overcome these.

This “target group” approach is successfully used in integrated rural development programmes in agriculture, and in general in community development programmes, and it might well be that the same system is also applicable to coastal village and fisheries development.

It has been observed in the past that programmes of this kind are labour intensive. One needs village level workers, and the government may not be able to spare that many officers for field work. To fill this gap it is possible to make use of non-government organisations, and workers recruited from the educated young fishermen. Salaries of Rs. 250—500 a month (US \$ 30—55) are common and budgets can remain low.

A low budget is necessary for replicability. It may be easier to create changes with large financial outlays, but in that case we only create a developed island amidst poverty without possibility of dissemination.

This project in four Adirampattinam fishing communities aims at making the villagers aware of their situation and at mobilising them to better their own lot. This is to be achieved not with sizeable financial inputs, but by integrating project work with already available services and facilities.

2. THE FOUR FISHING COMMUNITIES

The four communities were not selected to be “representative” for the whole coastal area. That is impossible, for the coastal districts of the state of Tamil Nadu are very different from one another and each village has its own peculiarities.

But we can say that they fall in the modal range: the communities are not totally isolated and backward but show some signs of modernisation. However they do not operate any mechanized boats and are not singled out for a harbour development project.

Adirampattinam is a town of 22,000 inhabitants, about 12 km south of Pattukottai in Thanjavur district, 40 km from its district capital, and about 350 km (8 hours by car, 12 hours by train) from Madras. It is located in Palk Strait, a shallow bay between India and Sri Lanka.

A little outside the town of Adirampattinam proper, nearer to the seashore, the four fishing communities are situated. They give the impression of a slum area in comparison with the fine houses in the town itself. Almost all the 600 fishing families live in huts of mud or palm leaf walls with thatched roofs.

The four communities are commonly referred to as “streets” but they are more than that: they are clusters of huts and form separate villages (they each have their own village leader and village council ‘panchayat’). We will deal with them as such but use the following names:

1. Karaiyur Street*
2. Sunnambukara Street
3. Tharagar Street
4. Arumuga Kittangi Street.

The four communities are situated at a short distance from the village shops, cinema, bus stop and railway station (See map in Appendix 1). Good roads connect Adirampattinam with Pattukottai and Thanjavur.

The distance from the sea is about 1½ km. The area in between is muddy, slippery and soft from October till January, during and after the rains. Two canals between the sea and the streets were silted up and could not be navigated by the boats. Recently one canal was desilted, but the desilting of the western canal has been delayed.

The boat predominantly used in this area is the Adirampattinam canoe. The largest is 48 feet (14 m) long and 7 to 8 feet (2.5 m) in beam. The smallest is 20 feet (6 m) long. The larger ones cost about Rs. 10,000 (US\$1100) and the smaller ones Rs. 2500 (US\$280). The boats were constructed in local boatyards that build about 20 boats every year. The boats use paddles and sails, but because of the flat bottom and the simple rigging the possibility of tacking against the wind is limited.

Seventy larger boats operate from the eastern canal and 40 large ones and 30 of small size from the western canal. Of the owners of the 110 large boats, 25 are not active in fishing.

The larger boats go out as far as 20—30 km and carry a nylon gillnet called “kala valai” with 4-inch mesh (knot to knot). A fully equipped boat could carry Rs. 50,000 worth of nets but more than 50 per cent of the boats carry only half this value of net.

The net is used to catch Indian salmon, jew fish, lates, perches and other such fishes of large size. These fish are considered a luxury in many households and fetch relatively high prices. This type of net is in use especially in January—March and August—October.

Second in importance is the “Koi valai” with smaller mesh of 1 inch (knot to knot) with which sardines, mackerel and pomfret are caught. These fish fetch a lower price.

Besides these two types of nets there are a number of other small nets in use in the shallower waters near the shore. Prawns, crabs and other small fish are caught with these. We will not go into the details. It is sufficient to know that a great variety of nets is in use and that the smaller nets are cheaper but they earn less income. The smaller nets are often operated not from a boat but by using an inflated car tube.

We cannot therefore speak of one group of fishermen, with one major problem, but of a variety of groups. An important distinction can be made: those who work with quite expensive large mesh nets and catch fish that fetch high prices in the market and those who own cheaper gear and catch less valuable fish. Then there are the crew members who have no boats or nets of their own; they work together with other fishermen or replace those who prefer to stay at home.

Among the women, many are engaged in drying and selling fish, especially those of the poorer sections. Engaged in this are almost all women from families with little or no equipment and also widows, who have to support themselves.

Recently, a totally new group came into existence: the migrant workers, young men who go to Arab countries and support the families with incomes much higher than can be earned in fisheries.

* The names were in fact changed recently:

Karaiyur Street into Mariamman Koil Street;
Sunnambukara Street into Gandhi Nagar;
Tharagar Street into Azad Nagar;
Arumuga Kittangi Street remains the same.

The fishermen's families can thus be divided into the following five segments:

1. *Arab* : families who have 1 or 2 family members abroad.
2. *Kala* : families who have good quality gear (large-mesh nets) and sometimes own a boat.
3. *Koi* : families who have small-mesh nets and sometimes a boat.
4. *Cooly* : families who have little or no equipment and work as crew (or coolies). Usually the women in these families also work.
5. *Dest* : destitutes—widows, sick and aged.

Table 1
Distribution of families by segments
September 1981

1981	Karaiyur		Sunnam-bukara		Arumuga Kittangi		Tharagar		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
<i>Arab</i>	54	(16)	18	(12)	5	(11)	42	(48)	119	(19)
<i>Kala</i>	88	(27)	14	(9)	5	(11)	—	—	107	(17)
<i>Koi</i>	64	(19)	61	(41)	15	(33)	7	(8)	147	(24)
<i>Cooly</i>	111	(33)	44	(29)	13	(28)	29	(33)	197	(32)
<i>Dest</i>	17	(5)	12	(9)	8	(17)	10	(11)	47	(8)
	334	(100)	149	(100)	46	(100)	88	(100)	617	(100)

One-fifth of all families have at least one family member abroad. In Tharagar Street this applies to almost half of the families; this is understandable, because the rage started there. All inhabitants of Tharagar Street are Muslims, apparently with contacts in Arab countries. The three Hindu fishing communities adopted the idea quickly.

The arrangement is that a labour broker finds job opportunities abroad. Every recruited person has to pay him Rs. 8,000, which has to be raised by selling equipment— if one has it — or by borrowing from a money lender. In return the recruited person receives a two-year contract. His first year's savings will be used to repay his Rs. 8,000 loan and interest. The second year's savings may be enough to buy him some good equipment or start some other business.

8% of the families live in a destitute condition. These are mostly widows (with or without children) who find it difficult to survive. Their income is from fish marketing, and the fishermen sell them the fish at a reduced rate. The yearly income of the destitutes is estimated to be between Rs. 500 and 750 (US \$ 65—95).

The group of crew members, normally called "coolies", work for a fixed amount of Rs. 12 a fishing day; with about 100 fishing days a year this works out to a yearly average of Rs. 1,200. It is necessary for women to supplement this income by their fish marketing activities and in this way they can attain a family income of Rs. 2,000—2,300 a year (US \$ 220—255). Coolies with absolutely no means of production constitute 10% of the families but if those with poor and old equipment who act frequently as coolies are also included they add up to one-third of all families.

Many women in the “Kol” families owning the cheaper gear also have to supplement the family income, but in this group some fishermen are proud to say that their women do not have to go out. Apparently they consider their income sufficient to cover family expenditure. Their yearly income is Rs. 2,000—2,500.

The fishermen with large-mesh nets make a relatively comfortable living and are not so interested in increasing their income if it would cost additional effort. Some have even stopped fishing and prefer to employ labour — and forego a part of their income — rather than go out fishing themselves. (For further income details see Appendix 2).

Sociologists refer to the description of Adirampattinam given so far as “horizontal” — a structure based on productive capital assets. Another way of looking at the four communities is the “vertical” one, which emphasizes the differences between the communities.

A very important difference between the communities is the population size. Karaiyur Street has slightly over 50% of the total population, 334 families, while the smallest community, Arumuga Kittangi Street, consists of only 46 families.

But Karaiyur Street enjoys more than numerical dominance. The Karaiyur Street fishermen consider themselves to be the fishermen and see the other communities as newcomers and sometimes even as intruders. And historically this is correct.

The villagers from Arumuga Kittangi Street are descendants from an agricultural community and they still prefer to marry their children to the nearest agricultural community of their own sub-caste some 10 km away. Many villagers of Sunnambukara Street have migrated in the last decades from fishing communities in the more southern Ramnad District.

The fishermen of Karaiyur Street are better equipped with boats and quality gear, they have fewer destitutes than any of the other streets. Their children are better educated and finally but most important, they have good contacts with politicians; they receive benefits and get protection from them.

In addition to the differences among the communities there are the differences within them. In Karaiyur Street there is a long-standing feud between two leading families, each with its own followers. In Sunnambukara Street there are controversies between those who migrated from the northern part of Ramnad district and those who migrated from the southern part. A few years ago the police had to intervene in the fights. The dispute has now been settled in such a way that one year the village leader is chosen from one group, the next year from the other.

This social structure, the horizontal and vertical fragmentation of the Adirampattinam fishing families, is of great importance for future development. Communication of information is hampered by it. The concern of the Karaiyur Street elite does not extend to the less fortunate villagers of their own community or of the other three communities.

At every step of planning for change, one must be aware that messages do not automatically disseminate to all families, but reach some segments only much later, in a highly distorted form or never at all.

3. PLANNING OF CHANGE

The four fishing communities of Adirampattinam seem to be situated at a very strategic point: good fishing grounds in Palk Strait can be reached and the catches can be disposed of by road and rail to a great number of markets.

Yet it is clear that the fishermen are not prosperous and one is inclined to think that the existing favourable circumstances may not be used to the fullest extent. We will have to see what opportunities are not used and what the obstacles are.

But identifying the obstacles is not enough for social change. In the planning of social change we cannot do more than slow down or speed up trends. It is impossible to push through ideas that are alien to the minds of the fisherfolk or occupy a low position in their priority rating. And we have therefore not only to study the opportunities as we outsiders see them, but also the fishermen's own priorities, hopes and plans for the future.

On the basis of our study of the social structure we cannot come out with one answer that holds good for everyone. In the different social layers we see different priorities and different goals in life.

- At the very bottom of the social structure we find the group of widows and old people who have no children to take care of them. They make a living from whatever job is offered to them with one goal in mind: SURVIVAL.
- Next comes the group in good physical condition, but without much equipment of their own. Most of the time they hire themselves out as crew members and they are often heard saying, "If only I do not have to die as a cody A little equipment would fulfil their life's desire: to be an independent fisherman.
- The third category consists of various groups of small fishermen, each owning enough nets to do year-round fishing or to team up with someone who owns complementary gear. In these families the goal in life is one step higher up the economic ladder: a few more nets or the ownership of a boat.
- Now we come to the top. Here we find an elite group owning the best boats and nets of the area and no longer needing to go out fishing themselves. They have the time, the energy and the flair to meet government officials. These fishermen are not too interested in change; superior gear or an engine may mean that they have to go out fishing themselves again; a change for them is often risky and expensive and not a guaranteed betterment unless it is heavily subsidised.

To sum up our findings, we see that the lower groups would like to go up the steps of the economic ladder and that they are quite motivated to do so. At the other extreme we have the top level people who are quite comfortable and not motivated to change – yet they have the most frequent contacts with government officials.

Table 2

Comparison: lower and top levels in Adirampattinam fishing communities

Lower level

in need of improvement
good motivation
small step, cheap equipment
locally available equipment
no contact government

Top level

quite comfortable
low motivation for change
next step, high investment
to be brought in from outside
good contact government

To convince the lower levels fewer man-hours and subsidies are required and the type of assistance they need is much cheaper, and locally available besides. More fishermen can therefore be reached and made more efficient if we start from below.

To come back now to the question "What do fishermen want?" Let us consider not the elite group with good contacts with government officials and rather heavy demands, but the real target group, the "silent majority" with more moderate wishes. We find they have four things in mind: credit, water, land security, education.

Education: "You call it education", these fishermen tell us, "but we would rather talk about literacy training. We cannot afford to send our Sons to school for a full day, we need them out at sea, but we would like them to know reading, writing and calculation. But that can also be taught in one hour every evening. It must be possible for all of us to learn reading and writing in the next 10 years."

Land Security: The uncertainty about the right to stay on a specific plot sometimes leads to the building of a cheap house even if one could afford a better one. The lack of plots also means that some families cannot split up even though they would like to. If this security could be gained, then more houses could be built by the fishermen themselves, even without any assistance from the department.

Water: It is difficult to find fresh water, especially near the coast. If you dig a well, the chances are ten to one that you will hit brackish water. So the only thing that can be done is to provide Corporation water for drinking and a properly maintained tank for bathing and washing. If a water tank is far away, much time is lost every day; if water is not available, diseases spread.

Credit: However important education, land and water are, the foremost demand is for small loans—to improve marketing and to buy (additional) equipment. How small should these loans be? If we look at the present marketing practices, Rs. 100 (US \$ 11) seems reasonable, and this amount could be doubled or tripled through a second loan after proper repayment. For buying equipment, an amount of Rs. 1000 seems to be a useful maximum. The requirements of the fishermen are quite modest. Furthermore, we see that apart from credit for marketing and equipment, non-fishery items have a high priority.

Before we can reach conclusions, however, we have to study what opportunities there are for technological improvement of fisheries. What about mechanization of boats, reducing the costs of the nets and improving the quality of fish by preserving it with ice?

Technological improvements

Mechanization: It is certainly technically possible to instal small diesel engines in the larger canoes, and the substitution of human labour by mechanical power is itself a desirable process. It should not be necessary for fishermen to have to work so hard to catch fish. But an engine is costly and someone has to pay for it.

Armed with a rough estimate of engine cost (Rs. 10,000) and of running costs per trip, discussions were held with groups of fishermen of different categories. The general opinion was that those operating the cheaper "Koi" net certainly could not afford to pay the running costs of an engine and that only the top 20% fishermen would be interested— provided they received a 50% subsidy on the investment cost and a subsidy on *the* diesel fuel.

Frequently, fishermen suggested that the extra Rs. 10,000 should be made available to them to build an extra country boat instead of purchasing an engine. This would create more employment and, as long as manpower is cheaper than machine power, be more profitable to the owner.

For Adirampattinam in 1981 these views seem to be correct, but in future years things may change; labour may become more expensive and the competition for the nearby fishing grounds may increase; fishing in Sri Lankan waters—as is now secretly done—may become more difficult, etc. On the other hand, diesel prices will also increase. For the time being, improvement of the sailing rig together with stability of the boat, which may cost some Rs. 500 extra, may help a little.

Reducing the investment on nets

For most of the nets used in Adirampattinam, the thickness of the twine was well-matched with the mesh size and seemed appropriate for the species caught. Only for one net there is a doubt: the larger mesh 'kala net'. The twine sizes from 210 d 60 to 210 d 54 seem excessive for a 4" (knot to knot) mesh net, and 210 d 30 or 210 d 36 seems technically feasible. A substantial reduction in cost and increase in efficiency could be achieved by using the latter.

This was discussed at length with the fishermen concerned and they agreed that the thickness of the twine at present in use was excessive. This twine was distributed by the Red Cross after a 1977 cyclone. And since most fishermen had no use for this thick twine it was sold very cheap: less than 30% of the market rate. The kala net owners purchased it, and found this a cheap way of increasing the number of their nets.

The fishermen felt that thinner twine nets would be possible in the future when there is need to replace the nets, but they did not feel like using the thickness recommended right now. They knew these nets well and used them only as driftnets and not as bottom set nets.

We located some fishermen in a neighbouring village who were using 210 d 36 twine for bottom set nets and they had indeed reduced investment cost, but this reduction was offset by the higher maintenance costs experienced over the last six years and by shorter life expectancy of the net. They also did experience a higher efficiency, but this again was offset by the need to use 50% hanging ratio rather than 33.3% to reduce the incidence of tearing of the net and escape of the fish. They concluded that at the time of replacement they would rather go in for 210 d 45 or thicker.

Icing of fish

The fishermen are well aware of the possibilities of icing the fish on board and would be willing to do so, if ice were provided at a subsidised rate. At present, the extra effort and cost — and the resulting better quality — are hardly reflected in a higher price and if there is a price difference, it is not sufficient to cover the costs. An improved marketing system might create more sensitivity in prices for different qualities and it is only then that icing on board may become profitable for "kala net" with higher priced fish.

Our conclusions then must be that the three technical improvement possibilities are only applicable to the relatively better off owners of the "kala valai" but do not appeal even to them because it will not lead to an increase in their incomes. Making bank services and government services more accessible will help the poorest sections, and since it is their own expressed priority a good response can be expected.

A special characteristic of the Bay of Bengal Programme for the Development of Small-Scale Fisheries is that, for its field activities, it prefers to utilize indigenous organisations willing and able to undertake certain tasks on contract.

For Adirampattinam, the BOBP's problem was to locate an organisation with sufficiently experienced field staff to motivate the fishermen to make better use of existing facilities, and, at the same time, having a training staff with enough theoretical skills to promote a field orientation among the local government officers.

This was very difficult; in fact we did not succeed. It was found that working with fishermen is not at all popular. One organisation that worked at mobilizing fishermen was strongly opposed to government policies and not willing to cooperate. A second organisation, more acceptable for our purpose, was short of staff. Female social workers, in particular, were not willing to go to the villages.

Eventually it was decided to contract two organisations. They are the CVDP — Coastal Village Development Programme — and the WWF — Working Women's Forum — both with a number of years of experience of working among the poorest people and partly with fishermen and women. Together with their affiliates they come closest to the requirements mentioned above.

In April 1981, the CVDP and the WWF were requested to consider establishing a branch in Adirampattinam to concentrate on the four fishing communities and follow their own methodology of problem identification in combination with providing credit facilities.

Preparatory visits were made in June by representatives of the two organisations. Contacts were made with government development officers at the village and district levels. The fishery officers at village, district and state levels were kept informed and, wherever possible, cooperation between non-government and government employees was sought. Actual field work began in July 1981.

4. CREDIT

As we have seen, credit is the first priority mentioned by the fishermen. And that is understandable – if you want to buy goods for production or consumption you need money. Unfortunately money is scarce and the interest high. Especially the interest demanded by pawn brokers and money lenders – it seems excessive.

Indian banks were nationalized for this reason and a differential rate of interest of 4% is charged for people with a yearly income less than Rs. 2,400. However, we find that fishermen are still using all kinds of loans—from boat owners, fish traders, their own families and professional money lenders. The first three sources give “interest free” loans, only loyalty is required. The professional money lenders ask for 10% interest per month. The banks are hesitant to extend loans because fishermen are notoriously bad repayers; the fisherman does not want to pay back, because it is difficult to get a loan and he wants to make use of the money as long as he possibly can.

Rural banking projects have been set up in many countries now, with emphasis on small cheap credit, a minimum of bureaucracy and collective responsibility for repayment. These projects often meet with great success. We were able to locate such a successful project in Tamil Nadu and make use of its experience built up over the last three years.

In 1978 Mrs. Jaya Arunachalam noticed that most of the poor women in Madras were self-employed and practised some petty trade. Some were selling vegetables or fruits, others fish, some others snacks. They were badly treated by money lenders, government officials and larger business. The “Working Women’s Forum” (WWF) was organised to provide institutional credit – but credit only as a catalyst to organise women into groups, and thereby create and develop leadership and cooperation and prepare for a social transformation.

The WWF had already established good contacts with banks and gained their confidence. They had shown that it is possible to reach out to the very poor and that high repayment rates can be obtained at low cost, i.e., with very little bank supervision or technical assistance. Responsible group leaders are elected by the group members; they do not receive any payment but sometimes get a slightly higher loan as an incentive. The Forum employs a few “group organisers”, themselves working women who are paid a salary of Rs. 250 a month for their work.

All women start off with a small loan of Rs. 100. They are able to step up their business as a result and later go in for amounts of Rs. 300 or Rs. 400.

This whole approach fitted in well with the needs in Adirampattinam, and the question came up whether a branch of the Forum could be established to mobilise the bank and the fisherwomen. Even though the Forum was successful in Madras it is still to be seen whether this procedure is replicable. It is one thing to set up an organisation in an urban setting with daily contact, discussion and supervision. It is a totally different thing to set up a branch in a rural setting (350 km away with poor telephone connections) among fisherwomen only and with a local bank with which the Forum had not worked before.

And here a mistake was made from our side: we insisted on cooperating with the local bank. It was thought that the distance of 60 km from Adirampattinam to the nearest branch of the ‘house bank’ of the Forum was too much of a barrier. We were wrong.

In every possible way the local bank tried to avoid giving loans even though clear instructions had been given from the Bank's headquarters. The lack of enthusiasm of the bank was clear, from the volume of bureaucratic work that had to be done even for these mini-loans. At last— after sufficient pressure from all sides— the loans were given. Over 400 women participate now in the programme, and the first group of 80 has already fully repaid the loan and is preparing for the second step, a higher loan.

The findings of Mrs. Arunachalam for the women are paralleled by the finding of Mr. Gilbert Rodrigo, social worker from the CVDP — Coastal Village Development Programme. Credit is the highest priority and — **as we have seen** — very difficult to get.

Three months after the Working Women's Forum had begun operating in Adirampattinam, the men of Adirampattinam also wanted to follow the same pattern and form groups that would accept collective responsibility. With the help of an income chart that was produced for this purpose (Appendix 2), we could see that an increase in investment level of Rs. 1,000 leads to an increase, on the average, of Rs. 500 a year. The common practice of bankers to ask for repayment in one year results actually in less spendable income per year, which in turn will naturally result in defaults. Even if a repayment period of two years is granted, we see that over those two years no increase in spendable income is realised.

Fortunately, especially for this kind of situation, the government has a 30% subsidy programme called the "Integrated Rural Development Programme". The social worker identified those who owned little or no gear and asked them to form their own groups. The social worker used to sit in a cluster of houses for two or three days and evenings at a stretch until all discussions were finished and all doubts were cleared. Only a few fishermen were not accepted by the group for collective responsibility, as they were ill or too old and could not, according to the fishermen, be expected to repay properly.

By December 1981 eight groups of fishermen — 100 fishermen in all — had received loans of Rs. 1,000 each, of which only Rs. 700 had to be paid back, so that the instalments of Rs. 50 could be spread over 14 months, and a "repayment holiday" could be given during the lean season.

The village elite interfered a few times. They were approached at an early stage and asked for their cooperation, but their answer was that they wanted loans of Rs. 5,000 for themselves and were not keen on seeing the coolies (cheap labour) become independent fishermen. They even went so far as to use their political contacts in Madras, and the Working Women's Forum was approached about withdrawing its programme. The forum was however strong and independent enough to withstand the pressure. A village officer would certainly not have had that independence.

The experience of the WWF with small credit for fish marketing and the response of the men in the group discussions on nets are very promising. But a real conclusion can be reached only by an evaluation after say about two years, when loans for the nets should have been fully repaid and the marketing turnover of the women multiplied.

5. MARKETING

Fish from Adirampattinam is distributed by headload, bullock carts, buses, trains, small vans and big trucks and as the quantity increases so do the distances over which fish is transported.

It is commonly said that there is a lot of exploitation in the trade and this is one reason why special attention will be given to this point even though not mentioned by the fishermen as a priority. Those who state that the exploitation is very high may well be right. It is also possible that they underestimate the high cost of collecting small amounts of fish from a number of more or less isolated landing centres.

Whether the remuneration of the trader is reasonable or not, it is our opinion that it would be advisable that more fisherwomen or sons of fishermen participate in the trade for a number of reasons:

- through more competition, the auctions will lead to a higher price;
- the fishermen will have more bargaining power if the alternative of self-marketing is available;
- it brings more income and employment to the village;
- it is possible for an educated son of a fisherman to acquaint himself better with different institutions on shore and still work in a fishery-related job. It will give him the option of gradually moving away from the fishery, if it suits him.

After landing, the catches are normally auctioned but if the fisherman so wishes he can take the fish himself to the village market at Adirampattinam some 3 km away. This is the simplest form of self-marketing.

Another form of marketing is where women procure fish at auctions and sell it to agricultural villages nearby, reaching there by bus or on foot, or in weekly markets to which they travel by train. There are about 200 women engaged in this trade.

A loan of As. 50—70 may give a daily income of Rs. 5—6 and a woman can make it three times a week. Often her income is brought back in the form of rice and vegetables, except once a month when she has to pay Rs. 10 to the moneylender.

Through the mediation of the Working Women's Forum, credit is made available to more women on easier conditions and they have two courses of action: increase their turnover while selling at the same markets or step up the business and go for other markets.

We see both these courses being followed in Adirampattinam. Larger quantities are brought to the auction and passed on to local and interior markets. Some women who used to transport an 80 kg basket to the nearby market of Pattukottai (15 km) by bus — or if the bus did not allow it, by cycle — are looking for a better mode of transport and are wondering whether a "moped load carrier" would be faster, more comfortable and cheaper. This seems to be the case and discussions are going on as to how the women can come together and arrange for one.

Another group of about 10 women wish to get together and hire a 2-ton van to transport fish to the market at Thanjavur (50 km) and maybe later to Trichy (150 km). Each woman plans to carry Rs. 200 worth of fish. With only minimal assistance from outside, they are able to find their way.

Men too are engaged in marketing. Fifty villagers, sons of fishermen, are "cycle coolies"; they charge Rs. 12 per load. Some are independent traders; they buy a load for themselves and sell it in markets that pay the best prices within a range of 20 km. They can make Rs. 20—30 a day and Rs. 200—400 a month.

FOUR FISHING COMMUNITIES OF ADIRAMPATTINAM, TAMIL NADU, INDIA

Right: Canoes in full sail, men at work digging the access canal for Keraiyur Street boats.

Below: Canoes in one of the access canals.





Above: This cottage served at one time as the BOBP office in Adirampattinam.



Left: Bicycle traders on their way to the market.



Women carry fish by headload to villages nearby. More than 400 Adirampattinam women have been given small bank loans for fish marketing.



A fisherman makes a net by the side of fish being dried. Large quantities of fish are salted and sundried.



Pots line up at a stand-tap awaiting their turn for scarce water.

Many cycle coolies have approached CVDP to assist them in obtaining loans of Rs. 1,000 to buy a cycle and have some working capital.

It was the experience of CVDP and the Inspector of Fisheries that the fishermen are not interested in undertaking fish marketing by train. This part of the marketing is fully in the hands of the outsiders now, and the general opinion is that opportunities for malpractices are too many. Some villagers had had bad experiences with this type of trade, and the fishermen convinced the village level workers that even a trial should not be undertaken.

Entering into the quality fish business was not acceptable to the fishermen. Three powerful merchants have their agents in Adirampattinam to purchase quality fish. No local fisherman can think of competing with them. The fishermen who work with "kala net" and sell to them are not dissatisfied with the prices paid, and therefore no intervention is planned on that level.

The conclusion can therefore be drawn that in the field of marketing, emphasis should be placed only on small-scale marketing over short distances of the relatively smaller and cheaper fish. In marketing activities the villages copy the various trade habits from one another, and the only real need is credit. Many villagers can take part and the type of trade practised is suitable for the bulk of the catch and does not apply to some high-priced fishes. The benefits of the local trade are felt in the whole coastal belt in the form of better access to animal protein. Since the amounts are small and little organisational talent is needed it makes the villagers more self-reliant and less dependent on the outside agency. Their outlook is broadened by coming into contact with various non-fishery organisations and institutions.

6. COOPERATIVES AND COOPERATION

The practice of cooperation does not live up to the ideal. Since cooperatives receive preferential treatment, thousands of cooperatives are registered. But they exist mostly only on paper and are no more than a front for the tapping of government benefits by some individuals.

At Adirampattinam, fishing communities have two cooperative societies — one for all fishermen over 18 years of age, another started for fisherwomen. Both are called Karaiyur Street Cooperative Society, but the men's society is not meant exclusively for this community only. In 1971 many of the other communities joined and the number of members doubled in one year from 272 to 574. In 1979 there was a sudden change in the composition of membership; some 200 active fishermen were admitted and an equal number of non-fishermen were removed. The number of members is now proportional to the number of families in the four communities.

This, however, does not mean that the benefits are distributed proportionately. We will discuss only one example in which CVDP was involved. The society proposed that government give a 50% subsidy for buying 10 new boats. This was granted. The society provided the names of 10 fishermen who would operate the 10 boats. All the 10 were from Karaiyur Street and all were already boat owners. Naturally, who else would be able to pay the other 50%, which is Rs. 5,000, for each boat?

Discussions were started with the fishermen. They brought up the matter in a members' meeting and blocked the release of the money. Discussions were held with the Block Development Officer who decided that the money would be released only if 10 groups of five poor fishermen were formed and distributed proportionately over the four communities. These would all receive a Rs. 1,000 bank loan, the government would release the subsidy, and 50 of the most deserving people would benefit.

However, the matter has come to at least a temporary deadlock; the majority of the members do not allow the release of subsidy in favour of the 10 relatively well off boat owners and the society committee does not want to ask for the subsidy in favour of the 10 five-member groups. Most of the fishermen do not want to remove the committee members from power because they need

the latter's good contacts with the government and are dependent on them as boat owners; those who vote against the committee members may lose their place in a boat or employment as coolies. A peaceful solution has to be worked out, and that will take time.

We see the big discrepancy between "cooperation" and "cooperative society". Cooperation starts with trusting each other. To learn to trust someone and care for him is a slow process and confidence can grow on the basis of a repetition of cases where responsibility is shown. It is easier to shatter confidence by one mistake than to build it up.

It is easier to build up this confidence if not too much is at stake and if one has a big influence on what is going on. Therefore, cooperation can most successfully start at a small and simple level. Too often is it seen that one tries to establish a very professional set-up and to create an administrative superstructure which is too complicated for the villagers to oversee. Instead of raising the villagers to equal status as members in cooperation, it downgrades independent workers to employees, often at coolie wages.

There is of course a need for some administration and it may well be that one organization covers more than one activity but the real spirit of cooperation can be built up only from the grassroots. We have therefore emphasised the smaller units, each setting up its own simple enterprises, under the "umbrella" of a larger administrative structure. We have already mentioned the women cooperating in marketing. There is also a group of 10 Muslim women practising net-making, who wish to undertake cooperative responsibility for loan repayment. Groups for collective boat ownership are slowly forming. It is unfortunate that the "umbrella administrative structure" acts more as a stumbling block than as a protection or as a facilitator.

7. WATER AND HEALTH

The availability of drinking water improved in 1980. New taps were installed and they work when there is no power cut. Since power cuts are frequent, however, we still see the pots lined up in long queues.

But even more of a problem is the supply of water for washing of clothes, bathing, and watering coconut trees or vegetable gardens. As can be seen on the map there are water reservoirs but they are not deep enough to contain water till the next rainy period; some of them are dry for more than 50% of the year.

In 1980, a group of students from the nearby Khadir Mohideen College volunteered to desilt one tank as part of their National Service Scheme holiday camp. Although they made a remarkable effort, no improvement in water containing capacity was observed. It seems that a professional contractor has to be hired for the job, but this will be too costly for the local community.

Here some foreign inputs may be useful. The Embassies of the Netherlands, for instance, are authorised to finance small-scale projects directly. Problems of a social, economic and humanitarian nature can qualify for a one-time grant of up to 15,000 Dutch Guilders (Rs. 60,000) on condition that the grant can be expected to lead to immediate improvement. There might be other such schemes.

The availability of water year round would bring about improved hygiene. Clean drinking water and year-round bathing water are necessary for good health. Tuberculosis or polio in one of the family members can reduce a house to poverty and misery, so more protection is urgently needed.

Adirampattinam has a number of doctors who can take care of minor ailments, and a government hospital that can give free treatment. But even if the treatment is free, the medicines have to be paid for, and often "free treatment" is also paid for.

The Working Women's Forum experimented in Madras with a medical check-up programme for 3,000 slum families. With help from Gandhigram trainers, the Forum gave training for six weeks to a group of 30 semi-literate women, who were each to supervise 100 families close to their

own huts. Diseases were identified, nutrition education was given and child vaccination checked up. One of the items of the check-up was the possibility of family planning, i.e., the discussion of the idea, the selection of the best local institution and follow-up after a "family planning operation". This programme was a great success, because a village woman accepts information easiest from her neighbour. The "health workers" were paid Rs. 70 each for this part-time work and every 10 workers were backed by a supervisor.

When the women of the Adirampattinam fishing communities have built up some leadership through the credit programme it seems to be a good next step to start a medical check-up system. Although in general the fishermen are in good health and the children well nourished, there are many cases of polio and tuberculosis.

What is most important is that the women hesitate to undergo sterilisation because of carelessness on the part of medical staff in the past. Two women died and some needed more than three months to recover before they could again engage in household work and fish marketing.

The medical check-up could also be used for a non-medical purpose—to encourage applications for widow or old-age pension. Widows over 45 and men and women over 60 not having sons are eligible for a pension of Rs. 25 per month. Applications may not, however, serve much of a purpose in the short run. The ten cases we helped by filling in the application forms were placed on "the waiting list" for pensions since the budget was exhausted.

Likewise, the check-up can help the cause of education. When the children are checked up for vaccination, they may be asked whether they attend school. If they do not, the reasons can be detected and action can be taken.

8. EDUCATION

Illiteracy is very high among young and old. Although illiteracy is no barrier to being active and developing leadership, it certainly is a severe handicap. The fishermen are aware of this and do mention better education as an important goal, but they have problems in sending the children to school.

Free school books and school uniforms arrive only half way through the year or not at all. Early applications and pressure on school teachers and other officials may improve the situation.

Many children leave school when they reach the age of 10 or 12 because they have to start earning an income to support the family. This is understandable and not too objectionable if they have learned to read and write in the first five years of school. It should be possible to arrange for evening classes to elaborate on the already acquired knowledge in an informal way.

Two years ago some students of the Khadir Mohideen College conducted evening classes. The fishermen asked for it to be extended but the application to the National Service Scheme was submitted too late and no money was granted for the year 1981/82. Besides funds, the students need to overcome teaching problems.

The "State Research Centre for Non-Formal Education" has excellent trainers, who can teach the students the didactics of non-formal education in a very short time (one week).

Emphasis is put not on reading and writing but on dealing with bureaucracies, i.e., how to apply for bank loans, grants, subsidies, and how to tackle problems with roads, street lights, building sites, etc. Furthermore, the fishermen are taught about their democratic rights and the duties of the village officials. It makes them more aware of their own situation, and stimulates them to take courage to start changing it.

Non-formal education group meetings could be conducted through the National Service Scheme in cooperation with the State Research Centre for Non-Formal Education. Although no meetings were held on a regular basis the incidental meetings resulted in some action. For instance, at one

time, the three smaller streets were looking for help from Karaiyur Street to have their canal also desilted. Now they have formed their own "canal committee" to pressurise the responsible government offices. They are taking a firmer stand with the bank and in the fishermen's cooperative society.

9. CONCLUSIONS

Following the target group approach, we find that we are not dealing with a homogeneous group of "small fishermen" but that we can distinguish at least five different groups. Three of these can be considered the target groups.

Widowhood, old age and sickness can reduce well-to-do families to poverty in a short period. If we wish to help those in the fishing communities who need it most, we come first to those who are old, widowed and afflicted by disease.

A second group are the able-bodied who do not own equipment, but want to work hard to improve their position in fisheries: the women in marketing, the men in catching.

The third group are fishermen who would like to increase their productivity and efficiency and own more gear and boats.

The fourth group consists of those with family members who have gained employment in the Arab countries. They earn more than any one else in the village. They are not considered a target group.

Finally, we come to the elite group. They consist of some 25 boat owners, who are quite happy with the present situation in which others work for them. They do not look forward to change. We would not consider them to be a target group either, but they have the closest contacts with the fisheries officials.

If we want to reach the poorest, we have to begin with improving the social welfare system. The schemes exist on paper, but since there is no money, many eligible people do not receive anything at all. And since even the most optimistic futurologists* do not think India will be able to pay for a social welfare system before the year 2000, there is scope for funding agencies and donor countries to do a lot of good work for the poorest of the poor. As long as social welfare budgets are not raised, the most destitute cannot be reached.

The next group from the bottom are the coolies. Their situation can be compared to that of a class much discussed in agricultural development, the "landless labourers". They would like to own some of the productive capital they are working with and increase their efficiency by having more of the same and improve on non-fishery matters like housing, water and education.

We found that technology improvement would not serve the cause of the groups most in need.

For the have-nots a simple net is an improvement. For those who have only old and torn nets, a new net is an improvement and increases their efficiency manyfold. Likewise, doing fish marketing with double the capital increases the efficiency of the women.

However, the "more of the same" strategy has limitations which are imposed by the availability of fish resources. With technology development in craft and gear which gives access to untapped or lightly exploited resources, the limits may be extended. But even then, in the long term, the sector is bound to become overcrowded. The number of fishermen will have to be reduced if a socio-economic improvement is to be expected.

Fishermen can be induced to give up fishing by encouraging them to take a more active part in fish marketing. This gives them an opportunity to familiarise themselves with organisations and activities on the shore, while still keeping contact with the fishing community.

* Kahn, H. & A. J. Wiener, *The Year 2000: A framework for speculation on the next 33 years*, New York, Macmillan, 1968, 431 p.

This leaves us with two main action strategies:

1. *More of the same* which means nets for men, marketing capital for women.
2. *Reduction of the number of fishermen* which means stimulation of marketing by men.

In practical terms, we conclude that credit and marketing are to be concentrated on if one wants to reach those most in need.

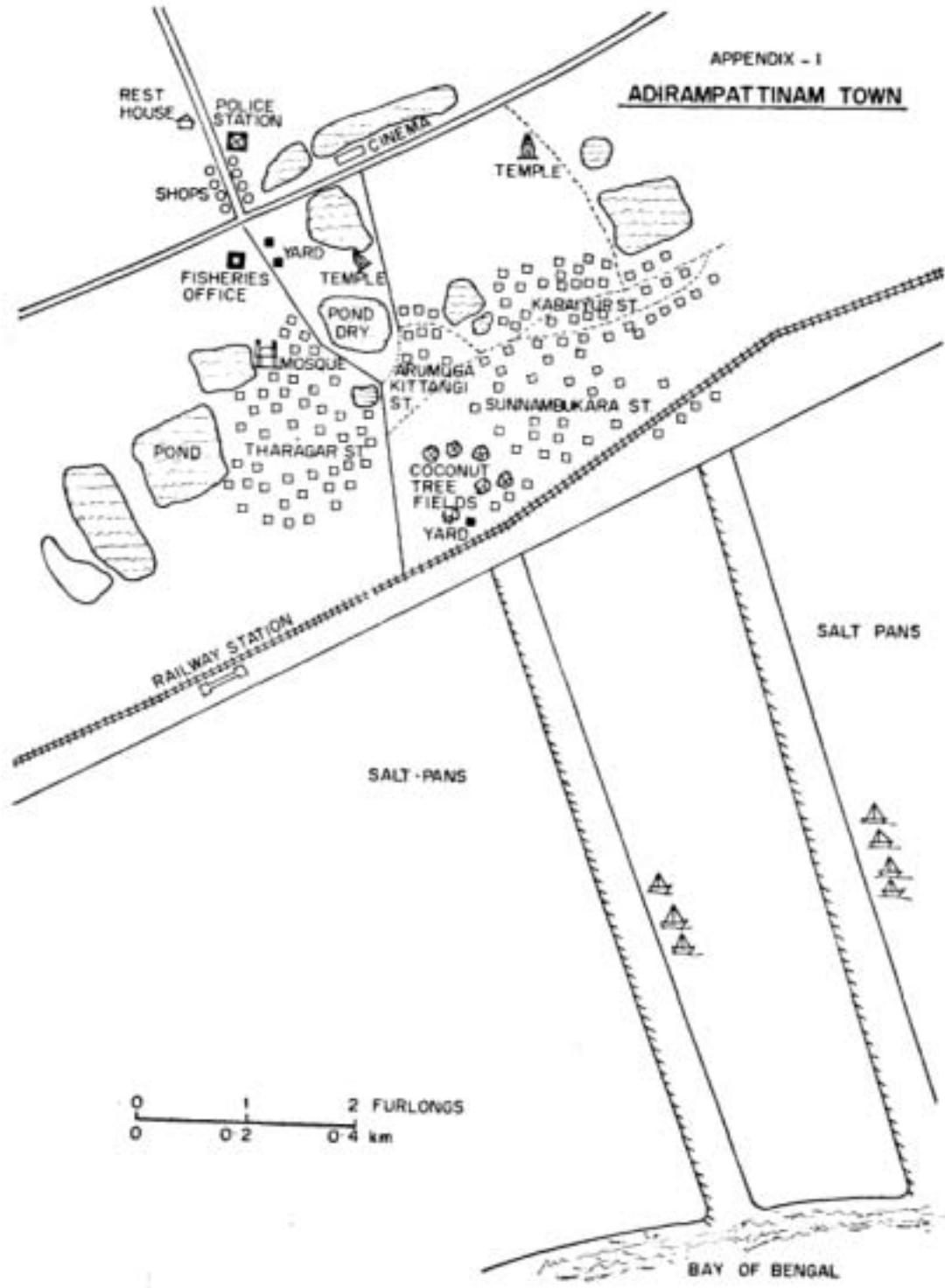
This is not new and has been tried before, frequently with little success. There are three pitfalls. All three are the result of over-eagerness to show quick results:

1. Implementation of the programme through the local village elite rather than through newly trained representatives of the poorer sections.
2. Doing too much work yourself rather than challenging and stimulating the villagers themselves to do it.
3. Bringing in a lot of outside money.

The pressure to produce quick results may be high but all the three mistakes should be avoided, for in the first case the benefits will disappear into the wrong pockets and, in the second and the third, the people will never acquire their own experience and will remain dependent on outside help.

But if we are not pressed for quick results, and those engaged are allowed time to discuss, time to think things over and pick up courage, we see how enthusiastic the reaction is to various suggestions. With some guidance and encouragement, the fishermen and women can find their own way. One has to be on guard though, against interference by the village elite; it may take quite some time for them to accept the new situation. They may not like many of the things that are going on which threaten their relatively easy life; but they cannot openly speak out against popular measures.

In the six months that village level workers have been posted we see the development of leadership among the men and women, and it seems possible to train some among the better educated to take over the work of outside volunteers. It is the experience of sister organisations of CVDP that after two years the local workers gain enough experience to carry on with the work independently and the chief animator could move to a new area.



APPENDIX- 2
INCOME CHART OF 600 ADIRAMPATTINAM FISHERFOLK (MARCH 1981)

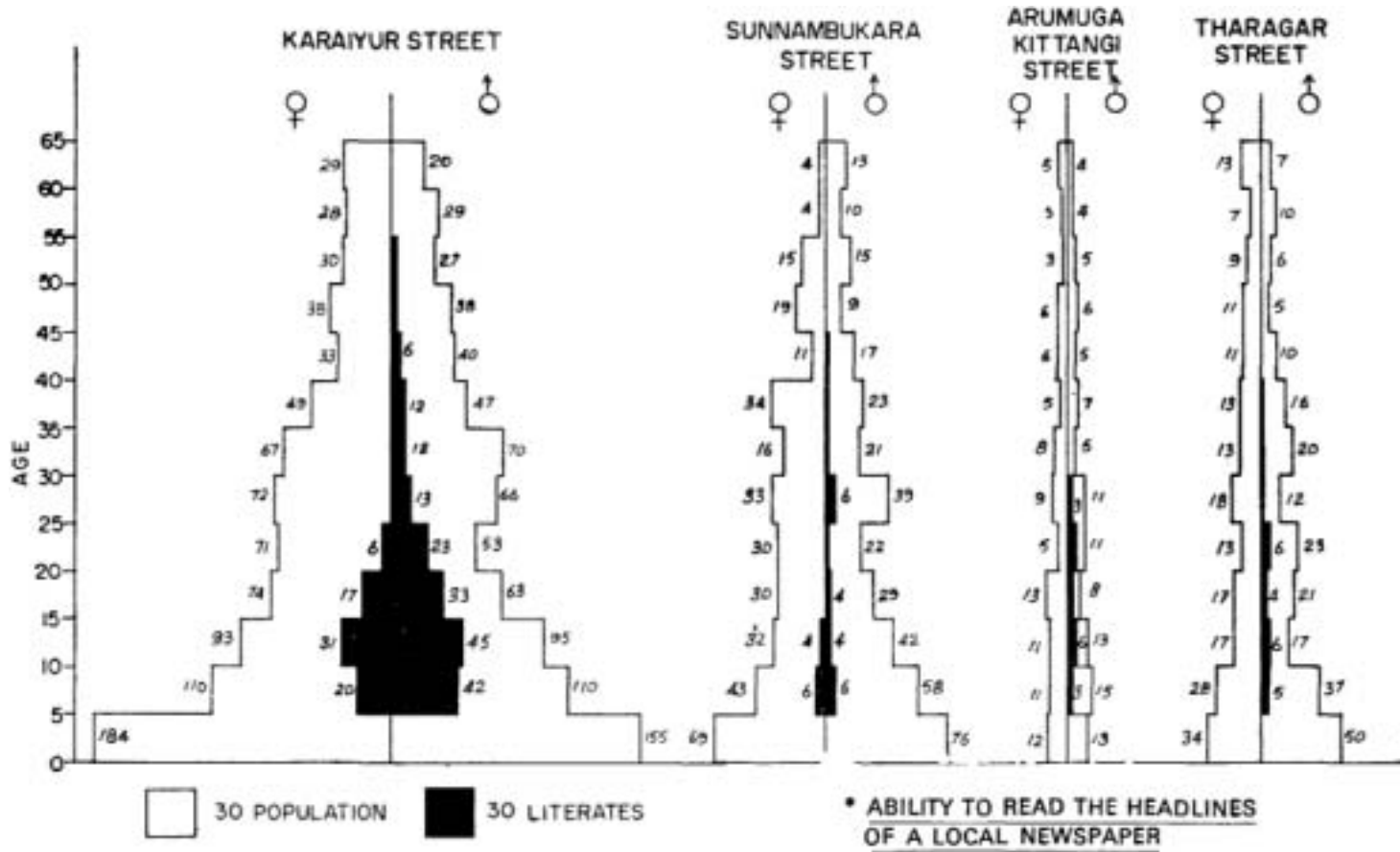
[20]

INVESTMENT LEVEL		AVERAGE ANNUAL INCOME		
		MAN	WIFE	TOTAL
1	42 ft. BOAT* & NET	MORE		MORE
2	NET LARGE MESH	6000	-	6000
3	18 ft. BOAT* & NET	4000	-	4000
4	} SMALL NETS	3000	-	3000
5		2500	-	2500
6		2000	300	2300
7		1700	600	2300
8		1500	800	2300
9	COOLIES	1200	800	2000
10	DESTITUTES	1000	700	1700
		0	500	500

• 42 ft. BOAT COSTS	Rs. 10,000
• 18 ft. BOAT COSTS	Rs. 2,000

APPENDIX -3

AGE DISTRIBUTION AND LITERACY*



[21]

Publications of the Bay of Bengal Programme (BOBP)

Development of Small-Scale Fisheries (GCP/RAS/040/SWE)

Reports (BOBP/REP/...)

1. Report of the First Meeting of the Advisory Committee. Colombo, Sri Lanka, 28–29 October 1976. (Published as Appendix 1 of IOFC/DEV/78/44.1, FAO, Rome, 1978)
2. Report of the Second Meeting of the Advisory Committee. Madras, India, 29–30 June 1977. (Published as Appendix 2 of IOFC/DEV/78/44.1, FAO, Rome, 1978)
3. Report of the Third Meeting of the Advisory Committee. Chittagong, Bangladesh, 1–10 November 1978. Colombo, Sri Lanka, 1978. (Reissued Madras, India, September 1980)
4. Role of Women in Small-Scale Fisheries of the Bay of Bengal. Madras, India, October 1980.
5. Report of the Workshop on Social Feasibility in Small-Scale Fisheries Development. Madras, India, 3–8 September 1979. Madras, India, April 1980.
6. Report of the Workshop on Extension Service Requirements in Small-Scale Fisheries. Colombo, Sri Lanka, 8–12 October 1979. Madras, India, June 1980.
7. Report of the Fourth Meeting of the Advisory Committee. Phuket, Thailand, 27–30 November 1979. Madras, India, February 1980.
8. Pre-Feasibility Study of a Floating Fish Receiving and Distribution Unit for Dubla Char, Bangladesh. G. Eddie, M. T. Nathan. Madras, India, April 1980.
9. Report of the Training Course for Fish Marketing Personnel of Tamil Nadu. Madras, India, 3–14 December 1979. Madras, India, September 1980.
- 10.1 Report of the Consultation on Stock Assessment for Small-Scale Fisheries in the Bay of Bengal. Chittagong, Bangladesh, 16–21 June 1980. Volume 1: Proceedings. Madras, India, September 1980.
- 10.2 Report of the Consultation on Stock Assessment for Small-Scale Fisheries in the Bay of Bengal. Chittagong, Bangladesh, 16–21 June 1980. Volume 2: Papers. Madras, India, October 1980.
11. Report of the Fifth Meeting of the Advisory Committee, Penang, Malaysia, 4–7 November 1980. Madras, India, January 1981.
12. Report of the Training Course for Fish Marketing Personnel of Andhra Pradesh. Hyderabad, India, 11–26 November 1980. Madras, India, September 1981.
13. Report of the Sixth Meeting of the Advisory Committee. Colombo, Sri Lanka, 1–5 December 1981. Madras, India, February 1982.
14. Report of the First Phase of the “Aquaculture Demonstration for Small-Scale Fisheries Development Project” in Phang Nga Province, Thailand. Madras, India, March 1982.
15. Report of the Consultation-cum-Workshop on Development of Activities for Improvement of Coastal Fishing Families. Dacca, Bangladesh, October 27–November 6, 1981. Madras, India, May 1982.

Working Papers (BOBP/WP/....)

1. Investment Reduction and Increase in Service Life of Kattumaram Logs.
R. Balan. Madras, India, February 1980.
2. Inventory of Kattumarams and their Fishing Gear in Andhra Pradesh and Tamil Nadu.
T. R. Menon. Madras, India, October 1980.
3. Improvement of Large-Mesh Driftnets for Small-Scale Fisheries in Sri Lanka.
G. Pajot. Madras, June 1980.
4. Inboard Motorisation of Small G.R.P. Boats in Sri Lanka.
Madras, India, September 1980.
5. Improvement of Large-Mesh Driftnets for Small-Scale Fisheries in Bangladesh.
G. Pajot. Madras, India, September 1980.
6. Fishing Trials with Bottom-Set Longlines in Sri Lanka.
G. Pajot, K. T. Weerasooriya. Madras, India, September 1980.
7. Technical Trials of Beachcraft Prototypes in India.
Gulbrandsen, G. P. Gowing, R. Ravikumar. Madras, India, October 1980.
8. Current Knowledge of Fisheries Resources in the Shelf Area of the Bay of Bengal.
B. T. Antony Raja. Madras, India, September 1980.
9. Boatbuilding Materials for Small-Scale Fisheries in India.
Madras, India, October 1980.
10. Fishing Trials with High-Opening Bottom Trawls in Tamil Nadu, India.
G. Pajot, John Crockett. Madras, India, October 1980.
11. The Possibilities for Technical Cooperation between Developing Countries (TCDC) in Fisheries. E. H. Nichols. Madras, India, August 1981.
12. Trials in Bangladesh of Large-Mesh Driftnets of Light Construction.
G. Pajot, T. K. Das. Madras, India, October 1981.
13. Trials of Two-Boat Bottom Trawling in Bangladesh.
G. Pajot, J. Crockett. Madras, India, October 1981.
14. Three Fishing Villages in Tamil Nadu.
Edeltraud Drewes. Madras, India, February 1982.
15. Pilot Survey of Driftnet Fisheries in Bangladesh.
M. Bergstrom. Madras, India, May 1982.
16. Further Trials with Bottom Longlines in Sri Lanka. Madras, India, July 1982.
17. Exploration of the Possibilities of Coastal Aquaculture Development in Andhra Pradesh.
Soleh Samsi, SiharSiregarand Martono of the Directorate-General of Fisheries, Jakarta, Indonesia. Madras, India, August 1982.
18. Review of Brackishwater Aquaculture Development in Tamil Nadu.
Kasemsant Chalayondeja and Anant Saraya of the Department of Fisheries, Thailand.
Madras, India, September 1982.
19. Coastal Village Development in Four Fishing Communities of Adirampattinam,
Tamil Nadu, India. F. W. Blase. Madras, India, December 1982.

Miscellaneous Papers (BOBP/MIS/....)

1. Fishermen's Cooperatives in Kerala: A Critique.

John Kurien. Madras, India, October 1980.

Newsletters:

Bay of Bengal News. January 1981, May 1981, September 1981, December 1981

March 1982, June 1982, September 1982.

Information Documents: (BOBP/INF/....)

1. Women and Rural Development in the Bay of Bengal Region:
Information Sources. Madras, India, February 1982.

2. Fish Aggregation Devices: Information Sources.
Madras, India, February 1982.