

ISSUE NO. 38

JUNE 1990

A PUBLICATION OF



For Fisheries Development

BAY OF BENGAL PROGRAMME

BAY OF BENGAL NEWS

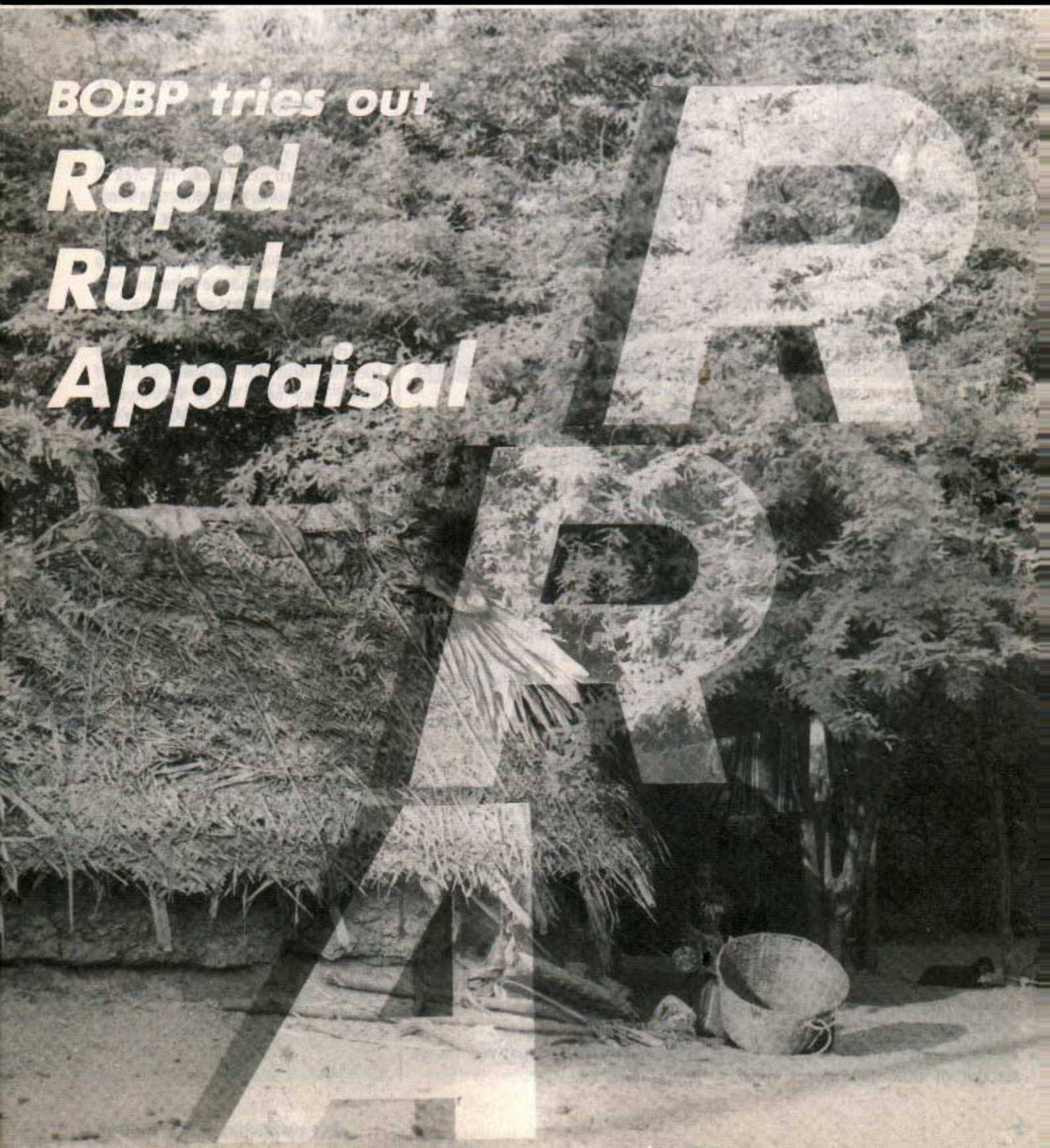


Danida

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BOBP tries out
**Rapid
Rural
Appraisal**



BOBP tries out RRA in Chinnamedu, Tamil Nadu

The methodology of Rapid Rural Appraisal or RRA is becoming increasingly popular as a quick and cost-effective tool to identify, monitor or evaluate a rural development project. A BOBP team, assisted by a local fisheries official and two local residents, recently visited Chinnamedu fishing village in Tamil Nadu, India, and applied RRA techniques to learn about the socio-economic circumstances of the population there. What the team learnt is discussed here with Ms. Jennifer McCracken of the IIED (International Institute for Environment and Development), London, RRA consultant.

What is Rapid Rural Appraisal, or RRA?

Well, the name itself is an unfortunate one. RRAs are not always very rapid, nor necessarily rural nor only appraisals! The methodology is being used in many different sectors and for the purposes of monitoring and evaluation as well as project identification and appraisals. An RRA can take a matter of days, weeks or months, or can be part of the routine work of, for example, an extension officer or a monitoring team. The “rapid” part of the name has sometimes been replaced by “cost-effective” and more recently by “participatory” and it is these two aspects which are the key to the RRA approach. RRA was developed as a systematic approach about 10 or 15 years ago as a response to the shortcomings which were becoming evident in the more conventional approaches to “learning” or “surveying” for development. Specifically, RRA has tried to avoid the problems of two extreme scenarios — first, the unwieldy questionnaire survey which in the extreme can take several years from planning to completion as well as requiring large sums of money and large numbers of enumerators, the results of which may not be reliable or even relevant to the initial purposes of the survey. The second extreme is the fleeting visit of an outside consultant, who spends a few hours in a village and bases much of his or her impressions on previous assumptions and biases. This “rural development tourism” can be just as cost-effective as the large questionnaire survey.

As well as trying to minimize the amount of time and money spent,

RRA is more and more trying to maximize the participation of local people in the learning and decision-making — i.e. in the RRA work itself. So, as RRA develops, the question being asked is “if we have only limited time for looking at this village or project, how can we use the time most effectively and how can we involve local people in this?”

How can a Rapid Rural Appraisal be a participatory affair?

Typically an RRA team will be made up largely of local people, for example local administrators, government officers, field workers and in some cases members of the village too. The team spends much of the time in the village working in small groups, interviewing different people in the area, and discussing with them individually or in groups. During these discussions there are several techniques which can help the team and the villagers interact well together. Drawing maps or constructing models of the village, walking through the village lands together on a transect, drawing diagrams such as labour calendars or rainfall calendars on the ground together, using props to rank preferences of, for example, tree species or rice varieties or even performing short dramas and role-plays can all help. Another opportunity for participation is to hold an open meeting in the village at the end of the RRA to report back the findings, to discuss them with the villagers and to consider opportunities identified by the villagers and/or the team.

Where has RRA proved most appropriate?

One of the commonest uses of RRA has been to enable a development group to learn more about the area in which they work, by conducting short RRAs in several villages. These “exploratory” RRAs often will have quite a broad scope, covering many different issues, and the team may use the findings of the RRAs to help orient or re-orient their work in the area. Sometimes the RRAs will result in specific ideas for action, many of which may need to be investigated further before proceeding. Another use of the RRA approach has been to



investigate one issue or one question in depth, i.e., the RRA may be focussed on one topic. These “topical” RRAs may in fact lead on from previous investigations.

The strength of RRA seems to be at the local level — in villages or clusters of villages. Its informal techniques work best here. However, there are many other types of data collection and learning which are suited to different purposes. RRA is one of a whole set of methods — it is designed to complement, not replace, other methods.

You mention that RRA is not always the most appropriate approach to use. What do you see as the main limitations of the RRA approach - where does it not work?

I'm glad you asked that question! Over the past year or so, RRA has become increasingly popular with many groups: bilateral, multilateral and NGO development agencies, research centres and government ministries. Many of these have found the “rapid” title appealing, and some are now trying to apply RRA to much of their data collection work. This could well lead to RRA being overstretched and then its credibility will be lost especially

if these groups are not clear about the rationale behind RRA and the need for careful quality control. There are many limitations to the RRA approach. The rapidity of an RRA can mean that the team simply arrives at the wrong answer more quickly than they would otherwise have done. By that I mean that the quality of an RRA is very dependent on the quality of the team

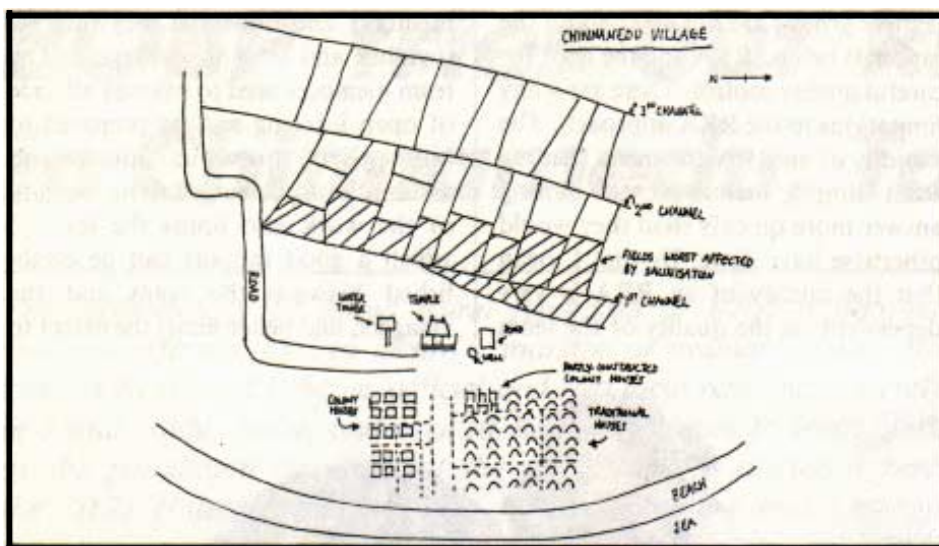
members and how well they interact together and with the villagers. The team members need to have an attitude of open learning and be prepared to have their previous ideas and assumptions challenged. The rapidity of the work also limits the level to which a good rapport can be established between the team and the villagers, and hence limits the extent to



Moments from the daily life of Chinnamedu fisherwomen. A waiting fish landings (below left); collecting well water (below); drying fish (above).



E. Amalore



This "map" of Chinnamedu, prepared with the assistance of fisherfolk, was later used during a discussion of village problems.

which more sensitive issues such as land tenure, income levels, and community conflicts can be dealt with. Quantitative time series data are not often possible to collect in an RRA, unless they can be gathered from the review of written documentation. As I said before, other methods will be necessary, such as a long-term, residential research period to learn about the more sensitive issues, and a long-term formal quantitative survey to investigate quantitative changes and perhaps verify results of an RRA.

At an institutional level, an RRA approach will not be effective unless the agency involved has a flexible planning framework which can respond to the informal local level findings, for example if they are using RRAs as part of their monitoring work. At the same time the work of the agency needs to be centred on a participatory approach, if their RRA work is to achieve a real two-way flow of information and ideas.

Could you describe BOBP's recent RRA experience in Tamil Nadu? How was it different from other RRA studies with which you have been involved?

By far the majority of applications of the RRA approach to date have been in connection with agricultural issues. It is this sector where the approach was first developed. Since then, however, it has been applied in many other fields including forestry, health, nutrition, relief, child fostering, rural industries, and so on. In this connection, the BOBP experience was a very valuable

test of the approach in a fisheries context.

The RRA in Tamil Nadu focussed on Chinnamedu village in Thanjavur District. This is a relatively small community of about 125 households, and a total of about 70 kattumarams. Before visiting the village, the team members met together to decide on their objectives, to discuss and plan the work and to consult the documentation on the area. They also developed a preliminary list of issues which they felt should be investigated. The list ranged from fishing practices and resources to health and education and community leadership. This checklist was then used by the team during the field visits, to ensure that these issues were covered at least to some extent, i.e. to ensure a holistic investigation. The team stayed in a small town about 5 km from Chinnamedu and visited the village for three days during the first phase of the RRA. We started by meeting with a group of villagers including the leaders, to introduce the appraisal and then we split up into small groups and walked through the village and down to the beach, interviewing individuals, households and groups of villagers on some of the issues on the checklist.

We met together in the evenings so that each group could report back what they had found out that day. After these evening discussions the team then decided what issues to concentrate on the next day, that is we developed more refined and focussed checklists during the work. We switched the composition of these groups regularly, so the team members could share their ideas

and experiences with each other. During some of the interviews and discussions in the village we used picture cards of different fish species, to make sure we were all talking about the same species. The pictures were very useful when we came to talk about seasonality of fishing, as fisherfolk could place the cards along a seasonal line drawn on the ground.

Another fisherman used the cards to show at which depths the fish were found. First he constructed a model of the rocky areas of the seabed, using small rocks collected by children who were watching the discussions. Then he placed the cards at different distances from the shoreline and explained how these different resources were exploited. We tried a ranking technique to find out about fisherfolk's preferences for different types of gear. First we found out what was important about gear — e.g. the cost of buying the net, the frequency with which it could be used and the income which it could produce. Then we ranked the different types of gear in the village according to these criteria. As well as discussing with the fisherfolk in their homes and on the beach, the team also visited the village several times in the early mornings to watch the landings and the fish auctioning. This helped cross-checking of information from the interviews.

After the first three days of field work the team paid a short visit to a neighbouring village, which had marketing and processing links with Chinnamedu and from where trawlers came to the waters off Chinnamedu. We then spent half a day reviewing all the information collected, discussing the key problems and opportunities which were emerging. Following a brief visit to the village for more checking of information, the team prepared large-size posters that displayed some of the results of the appraisal. These were then used in a village meeting on the final day of the RRA, when a team member presented the findings and discussed them with the fisherfolk.

The main problem we encountered in the work was that village leaders came to expect a lot of financial help from this appraisal. This was despite our efforts to explain fully to everyone we met that we were there simply to learn from them about conditions in the

village and that we were not there to provide trawlers, beach landing craft etc. The problem emerged only during the final meeting which the leaders strongly dominated despite the team's attempts to involve other villagers in the discussion. The raising of expectations is one which any such outsider-based team faces. With four non-Indian members on our team we certainly aroused much interest in the village and it must have seemed very strange to the fisherfolk that we were not planning a large investment after our six days there. Eventually the point was clear to the leaders; the team later got several ideas for development opportunities from the discussions and the final meeting.

What kind of results did you obtain? What were these ideas?

The main output of the RRA is a written profile of the village, summarizing the team's findings. I won't go into details here but just mention a few of the opportunities about which we learned

— Many of the fisherfolk mentioned problems with the outboard engines which were provided on loan several years ago. Some of these engines are by now out of action. However, one or two of the villagers were using unconventional techniques to maintain their engines, such as soaking in fresh water tanks after each use. They seemed to have fewer breakdown problems than others. The fisherfolk said they were given no instruction about how to maintain engines when they received them. It would seem a useful idea to try and spread simple techniques already in use among some fisherfolk, through informal discussion and demonstration.

— The fisherfolk seemed to have recently experimented with a number of different fishing technologies recently, and are indeed attempting to use lift nets for sardine fishing. Three of these lift nets were being made during our visit. Other technologies, such as the use of fish aggregating devices and lures on longlines were relatively unknown to them. During our final meeting some fishermen expressed interest in learning about these technologies. It would be a good idea to organise a short study tour to neighbouring villages for interested fisherfolk from Chinnamedu. They

could then introduce the ideas to other villagers.

How far was your exercise an effective test of the RRA methodology?

I think our visit helped to show that RRA is a useful approach for fisheries, although it has limitations just as it does in an agricultural setting. An interesting comment by one team member at the end of the appraisal was that the RRA differed in two main respects from the normal survey work of BOBP. First, the RRA was a more systematic, and structured approach;

second, the RRA was carried out by a multi-disciplinary team.

The challenge that we see now is to adapt and modify the RRA approach and provide some kind of flexible guidelines so that fisheries officers can use it in their work at the village level.

In the context of BOBP's work, this would require further exercises such as ours to be tried out in different countries and with different types of teams, and including more topical and more narrowly focussed RRAs. Any suggestions?



FRESHWATER PRAWN FRY MARKETING IN BANGLADESH

by Charles Angel!

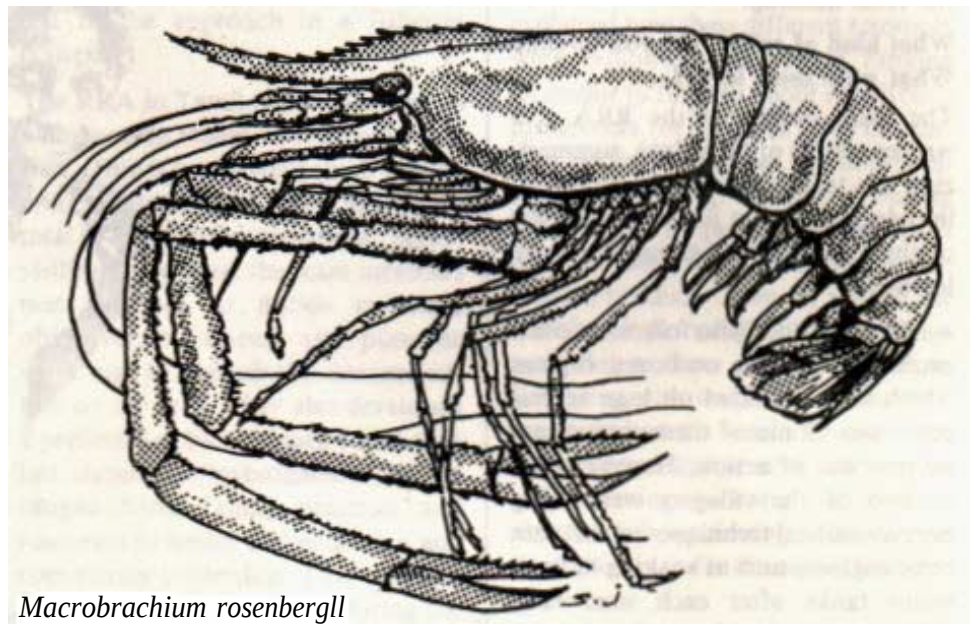
Scores of riverine fishermen in Bangladesh collect freshwater prawn fry, and sell them to middlemen who in turn sell them to fish farmers who culture them for export. The whole fascinating system of collection, transport and marketing of fry, the marketing links, and the socio-economics of the "actors" in the system are discussed in this article on the basis of a study conducted for BOBP by UBINIG, a voluntary agency.

The rivers and estuaries of tropical Asia from Pakistan to the Philippines harbour the giant freshwater prawn — known as golda in Bangla and as *Macrobrachium rosenbergii* by biologists. The generic name, *Macrobrachium*, is very descriptive of this impressive crustacean which has blue pincers as long as the entire body of the male species. The freshwater prawn has always been highly regarded in the cuisines of its native lands in tropical Asia, but its fame has spread beyond to Europe and the United States, where it now graces the tables of gourmet restaurants. Exports from Bangladesh and India have grown year by year to supply these rich markets.

The vast river deltas of Bangladesh provide the resource base for the international trade in frozen tails and (increasingly) in heads-on prawns as well. Demand has grown, but the resources have not. Prices have risen, attracting the attention of fish farmers in Bangladesh as well as Malaysia, Thailand and Indonesia.

In Thailand and Malaysia, strong domestic demand led to the development of hatchery technology. It began during the early 1960's with the work of FAO biologist S.W. Ling in Malaysia. A reliable supply of seed stock from hatcheries put Thailand in the forefront of freshwater prawn farming.

Bangladeshi farmers still depend upon juvenile prawns caught by scores of riverine fishermen, although hatchery development is beginning to take off. One commercial hatchery is well established in Cox's Bazaar and several



Macrobrachium rosenbergii

experimental and demonstration plants are under construction, including a BOBP-supported installation near Chittagong.

Fish farmers are enthusiastic about the giant freshwater prawn and are integrating it into their carp culture systems through polyculture of prawn and carp. Anticipating a growing demand for fry, the Bangladesh Department of Fisheries asked BOBP to introduce modified Thai hatchery technology into Bangladesh. The hatchery is now under construction in Chittagong; but the problem we face is how to involve our target group — the poor fisherfolk — in this technology, which is both sophisticated and expensive. The demand for prawn juveniles as stocking material has opened a window of opportunity. By training fisherfolk to nurse hatchery seed to stockable juveniles, we can assist in giving them a new income-generating activity.

Rumour had it that the market for juvenile freshwater prawns was widespread, but we needed a systematic assessment of the market to gauge the economic potential for nursery production of fry. We wanted to know how the market functions and what constraints fisherfolk may confront.

We therefore commissioned UBINIG, a Bangladeshi voluntary agency, to take a look at the freshwater prawn seed market in coastal areas where *Macrobrachium* farming is growing in popularity. Thus, in February 1989, UBINIG field staff under the direction of Ms. Farida Akther, executive director, began investigation in Patuakhali, Borguna and Chittagong districts.

The study attempted to describe the market chain from producers to the seed markets, seasonal patterns in trade, and financial mechanisms driving the market. We wanted a

picture of the social and economic condition of the seed traders and the size of the industrial trade. Information about the fishermen who catch freshwater prawn juveniles was sought after: fishing methods, the proportion of income from sales of *Macrobrachium* juveniles, the range of prices. Data had also to be collected about fish farmers who rear the fry, particularly the scale of their operations and the prices.

The UBINIG study team encountered several difficulties, not the least of which was the timing of the work itself. Exigencies of the project required the work be done between February and April, yet the catching and stocking season does not begin until June! First hand observation of the market was not possible: a follow-up collaborative investigation will be therefore undertaken in 1990 when the season is in full swing. The traders were often secretive and reluctant to part with information. On one occasion, UBINIG field workers were almost thrown out of a village; gentle persuasion managed to convince the traders that the field workers meant no harm. UBINIG is in Dhaka and most of the staff hail from the adjacent regions, but the dialect spoken in Chittagong district is almost unintelligible to Bangladeshis from further west and north. With time, though, communication was established.

The choice of study areas was fortuitous in that significant differences between the marketing systems for freshwater prawn fry in different areas quickly became evident, leading to interesting comparisons. But first, let us look at the situation in general.

Actors in the Marketing System

Demand for seed stock is driven by exports, specifically the demand from processors for raw material. Growers are those with land resources on which they can develop small ponds. On the other hand, the fishermen have only their labour and fishing skills to offer. Golda fry are caught along with other marketable fish species and can be sold only when the growers need stocking material. The connection between catchers and growers is made through two kinds of middlemen, although there may be direct sales too, from catcher to grower. "Dalals" are brokers who buy from fishermen and sell

to wholesalers. "Aratdars" function as both wholesale fish dealers and seed merchants. Aratdars may obtain seed directly from fishermen with whom they are linked, as well as buy it from the dalals. Growers will buy from the aratdars — the flow of seed through the system is governed by the credit or "dadan" relationship among the various actors.

These are some of the general features of the market and its actors. Let's examine the more advanced Chittagong market first, then the market in Patuakhali and Borguna.

CHITTAGONG

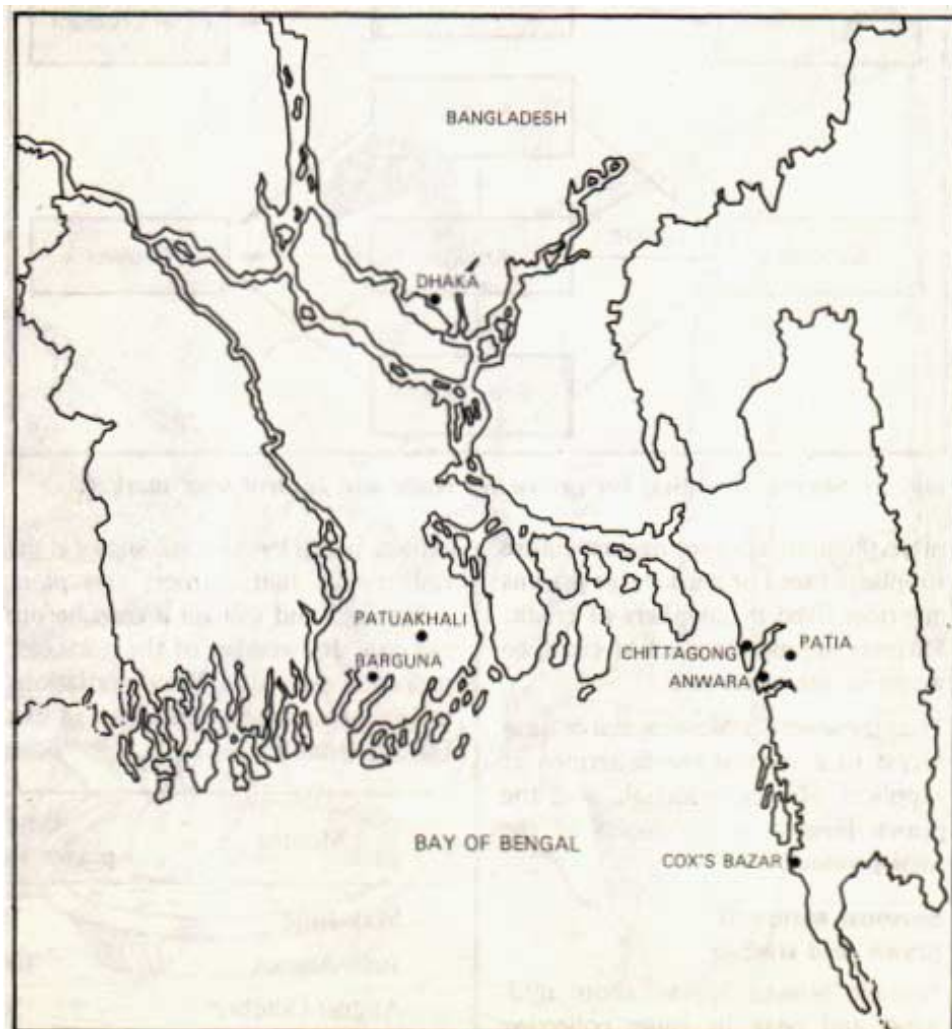
Chittagong is one district where one encounters a concentration of small carp ponds. Many of these ponds are used as nurseries for carp hatchlings, and produce fingerlings for sale to farmers in the Chittagong and other districts. It didn't take long for these same farmers to realize that golda could be a good source of cash income and could even be polycultured with carp. The demand for golda seed is strong and has resulted in an organized market with specialized actors.

The UBINIG study team found two markets, one in Patia and the other at Anwara (see map). In Patia, dalals specializing in golda seed take their product directly to growers during the season. This is their main business and they are well known in the district. In Anwara, the situation is somewhat different. Catchers themselves supply fry to growers. Demand for prawn is lower here, and traders have not yet taken on the role of suppliers. Figure 1 points out some of these trading relationships.

Golda seed marketing is seasonal, with activity beginning around mid-April. Dalals advance cash to the fishermen to purchase bamboo and madar tree branches to set up aggregating devices in rivers and canals. Seed collection begins 10 to 15 days after the branches are placed in the water. By June, golda seed are most abundant and market activity is at its peak. Each dalal is supplied seed by 20-40 fishermen.

Capital flow and market dynamics
Both fishermen and prawn farmers are always in need of money for their subsistence needs. Aratdars and dalals

Major centres for fresh water prawn fry marketing in Bangladesh.



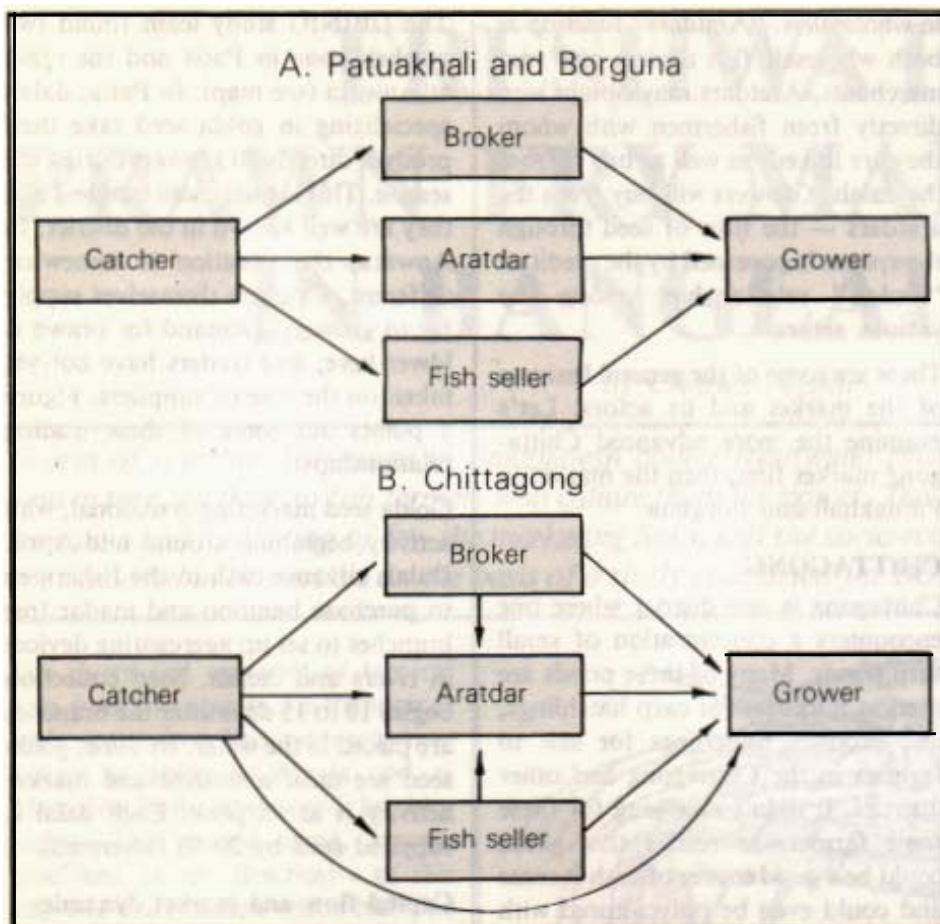


Fig. 1 Differences in the supply chain of prawn fries : Patuakhali-Borguna & Chittagong

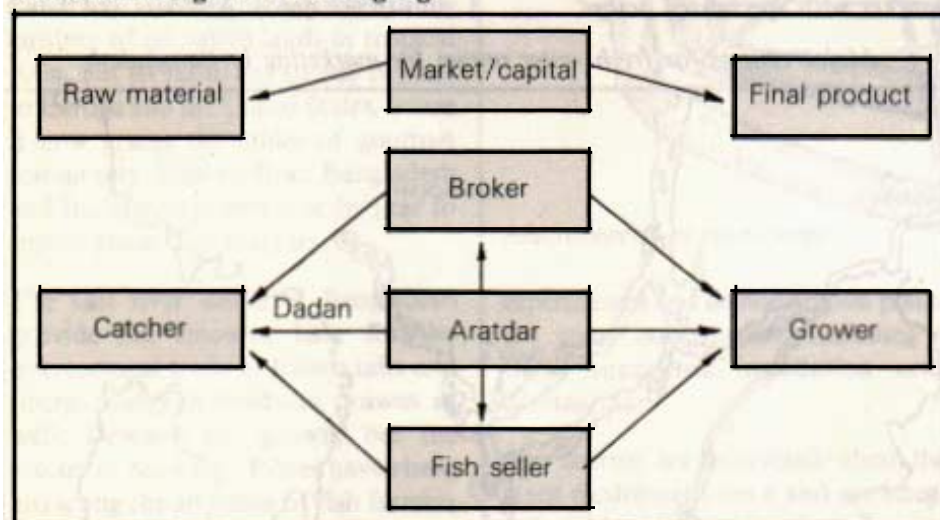


Fig. 2 Source of capital for prawn fry trade and control over market,

offer them an advance against future supplies of seed or marketable prawns at prices fixed by suppliers of credit. Farmers are also in need of credit to invest in prawn culture.

Thus those who possess capital or have access to it control the fishermen as suppliers of raw material, and the prawn farmers as producers of the final product.

Seasonal nature of prawn seed trading
Juvenile prawns appear about mid-April and peak in June; collecting

activity ceases by August. August is the last month that farmers can plant golda seed and still get a crop before the cool dry weather of the northeast monsoon sets in. Price variations reflect seasonal patterns, as in the following table:

Months	Buying price prawn seed, TK/100	Selling price of prawn seed, TK/100
May-June	70-100	100-120
June-August	100-130	130-160
August-October	50-60	70-90

The size of prawn seed influences its price, as well as the seasonal effect. Seed is sold by the hundred count and ranges in length from 4 to 6 cms, although mixed sizes are sold. The standard appears to be “panch angula”, the width of 5 fingers. Seed is counted at each link in the market chain. Growers pay only for seed that can swim at the moment of planting in the pond. Counting is done in pairs or quarters, called “gonda.”

‘Traders estimate mortality to be between 20 and 25^{3/4}. Seed has to be resold to the next step ‘in the market chain almost immediately after purchase from the fishermen. Handling practices are primitive and the seed is weak. Chittagong seed traders mark prices up 10 to 20%.

Labour and transportation costs

Chittagong traders have to hire labour, particularly when large quantities of seed are being handled. Since seed traders have to compete with other employers, wages tend to be higher. Labourers will get Tk 50 per day with food, betel and cigarettes extra (amounting to some TK 20 more). Farmers live 15 to 30 km from the Chittagong market center; so transport costs run TK 130 - 150 per 1000 seed. One broker said he has to transport at least 1,000 to 2,000 freshwater prawn seed at a time. Care is taken to keep the aluminum pots containing the seed well shaded; the water is changed frequently during transport.

Financing mechanisms in the market

The dadan credit system has been mentioned in general terms and how it binds actors in the market chain together. Although dalals advance off-season credit to fishermen, they themselves do not have much capital and must borrow from aratdars at rather high interest rates, amounting to about 25%. Dalals interviewed by the UBINIG study team said they needed about TK 10,000 for the season. To secure a reasonable supply of prawn seed, they then advance credit to their fishermen. The average dalal in Chitta-

gong handles 20,000 to over 50,000 seeds per year.

PATUAKHALI AND BORGUNA

Prawn culture in Patuakhali and Borguna is in its infancy; this is reflected in the unorganized market structure here compared to that in Chittagong. Fishermen in Borguna and Patuakhali regard prawn seed as by-catch while capturing finfish. Fifteen to 60 fishermen supply each dalal with seed. One does not find any degree of specialization in golda seed. Brokers deal in seed more or less as a favour to the fishermen supplying them with fish. Growers indicate their interest to a particular aratdar, who then asks fishermen he deals with to supply the required quantity of golda seed along with his regular fish deliveries. Both the fisherman and the grower pay the aratdar a commission of around 5%. The fishermen also have to pay a 2% market tax.

Aratdars have an interest in making an extra effort to get seed from the fishermen for growers; they may get a

commitment from growers to supply marketable golda from their ponds. Some traders maintain that there is no profit for them in the fry trade *per se* (they mark up seed prices by 5 to 10%); they merely hope to get the prawns at harvest time. The average dalal in Patuakhali/Borguna handles 15,000 to 30,000 seeds per season.

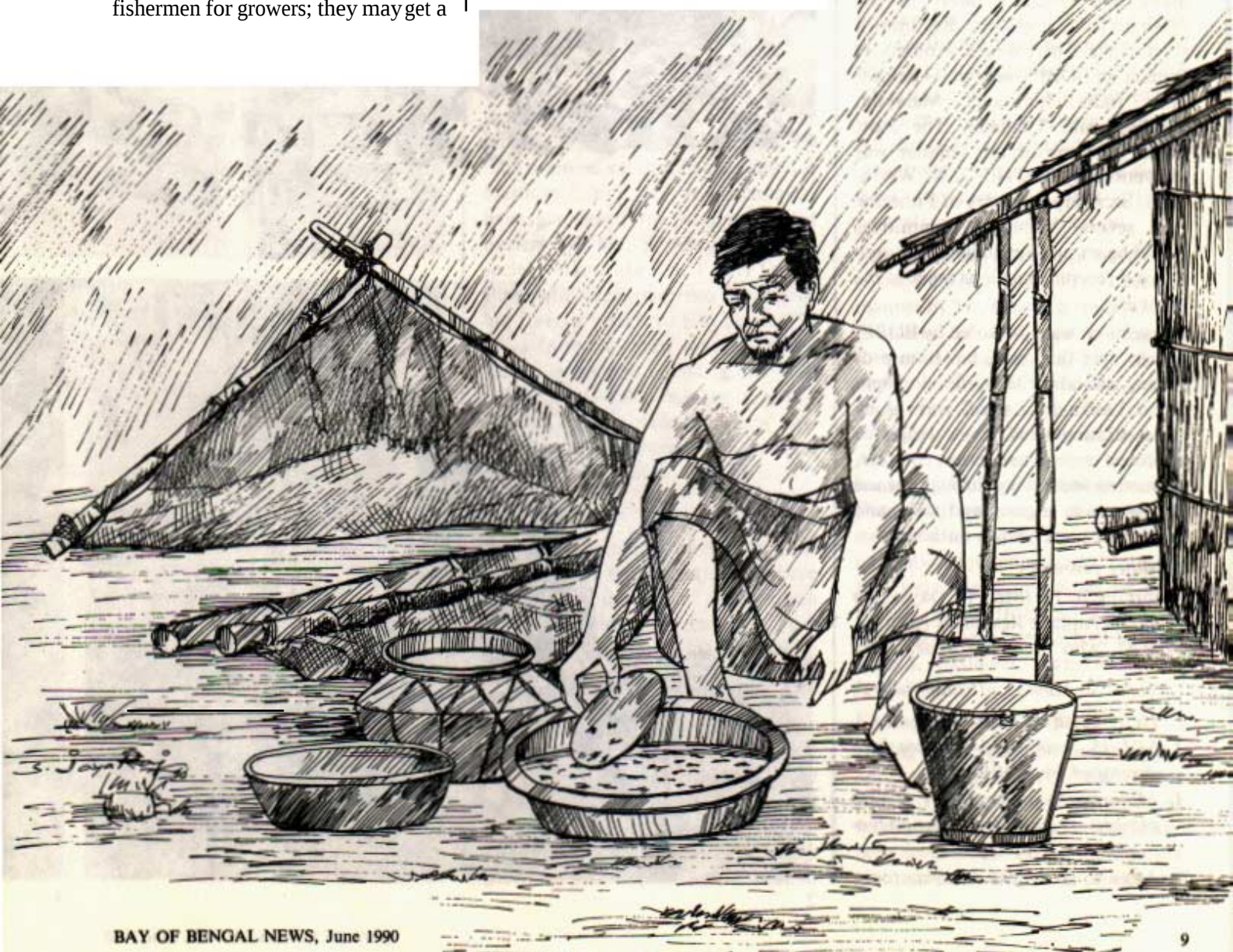
Socio-economic conditions

The traders, as expected, belong largely to the suburban middle and upper classes, as reflected in their access to capital. Twenty one out of 30 trader families in Chittagong, Borguna, Patuakhali and Khulna interviewed by UBINIG were from rich or better-off families. Farmers are mainly from solvent rural families which own land but very little cash. Naturally, they find the potential incomes from golda production as an attractive way to utilize their land resource. On the other hand, seed fishermen are mostly from

the lower middle class and the rural poor. The few rich fishermen often hire their poorer comrades to supply them with golda seed.

Most of the interviewees had been involved in the golda business for more than five years, but newcomers are also being attracted to it. The "veterans" depend entirely on catching prawn seed and marketable prawns for their livelihood. Growers too see no attractive option. Traders? Though most of them are young and educated, they do not see many job opportunities in farming, fishing or service businesses, and other investments do not offer the high returns of the golda trade.

So it is that demand from the dinner tables of far-off countries generates some jobs for rural folk of Bangladesh who have few other options.



The vast offshore represents the new frontier in Sri Lanka's marine fisheries, which have taken a remarkable turn during the 1980s. Even small boats (9m-11m long) are venturing out 100 miles from the shore, on fishing trips lasting three to four days. Small day boats are hurriedly being converted to offshore multi-day boats. Innovations and changes have occurred in many other areas as well — in boatbuilding, fish preservation and marketing — opening up new opportunities, presenting new challenges, but throwing up new problems as well.

In an effort to take stock of these exciting developments, as well as identify constraints, solutions and remedial measures, Sri Lanka's Ministry of Fisheries and Aquatic Resources held a two-day seminar in Negombo in February. The most remarkable feature of the seminar was its multi-disciplinary character: it brought together 92 participants from various groups and interests to analyze the many and complex facets of the offshore fishery, and the directions it should take. There were also observers from other BOBP countries — Bangladesh, India, Indonesia, Malaysia, Maldives and Thailand. The most useful outcome of the seminar was announced by Mr. N.V.K.K. Weeragoda, Secretary, Ministry of Fisheries: that several technical committees would be set up to examine the proposals and recommendations made at the seminar.

The seminar was sponsored by BOBP, which, over the years, has been promoting offshore fishery development in Sri Lanka in a small way — by demonstrating boats of new design for improved safety and crew comfort, promoting fuel-saving through the use of low-power engines and sails, and better fish preservation on board.

Offshore resources

According to Dr (Mrs) P. Dayaratne (National Aquatic Resources Agency - NARA), who presented a paper on

Facets of Sri Lanka's offshore fishery:

1. Hefty catch of tuna.
2. SRL-15, small-sized offshore boat developed by BOBP.
3. Motor-cycles to transport fish to markets — a relatively new phenomenon.
4. More to sell at the roadside too.

SRI LANKA'S OFFSHORE FISHERY: WHERE IS IT GOING

by Leslie Joseph

Report of a two-day multi-disciplinary seminar in Colombo that reviewed Sri Lanka's fast-developing offshore fishery, the problems and challenges it presents, directions for the future.



BORE ES IT NOW?

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offshore fishery and resources, the offshore fishery is mostly directed at surface pelagic resources such as tuna, billfish and shark, using drift gillnets, drift longlines and trolling lines. In the absence of reliable statistics, current offshore production was assessed around 20 to 23 thousand tonnes from an estimated fleet of 650 crafts of the 28-34 ft class. With the available estimate of offshore resource potential being 40 to 56 thousand tonnes, Dr. Dayaratne proposed that some 400 more boats enter the fishery during the next five years.

Important issues raised by Dr. Dayaratne were the need to re-define ocean boundaries and to improve statistics from the fishery for rational development and management. The need to develop fisheries on other under-utilised resources was underlined by a number of participants. The importance of developing a seasonal longline fishery beyond 80-90 miles up to the EEZ limit was stressed by Dr. K. Sivasubramaniam (BOBP) with due consideration to the problem of bait supply.

The Minister of State for Fisheries and Aquatic Resources, Mr. P.S.L. Galapathi, was an active participant at the seminar. He made a special plea for improvement of traditional craft for offshore fishing. He would certainly have gladdened the hearts of boat owners like Mr. S. Abeydheera and social workers like Rev. Father Danny Pinto who were concerned that allowing foreign vessels to fish beyond 35 miles from the coast may affect the local fisheries now extending up to 100 miles. "Although a number of enquiries have been made, no such permission will be granted," was the State Minister's assurance.

Boat design

The paper presented by Mr. O. Gulbrandsen (naval architect) on offshore fishing craft design and safety at sea vividly illustrated how improper boat design and operation could lead to accidents, causing loss of life and loss of craft and equipment at sea. According to Mr. Gulbrandsen, accidents such as capsize, leaks and swamping, fire and explosion, grounding and collision and engine breakdown could be easily avoided if the boat is designed, constructed and operated properly. He also emphasized the need to

carry a sail, life raft and signalling devices on board to cope with emergency situations. During the panel discussion, Mr. S. Suraweera (NARA) stressed the importance of licensing all offshore fishing vessels, provision of basic safety equipment and vessel operators holding certificates of competency to operate offshore fishing vessels. Mr. G. Pajot (BOBP) focussed on the need for training and educating fishermen in all aspects of the operation of offshore vessels.

Safety, search and rescue

A hot point of debate during the general discussion was the safety of 3.5 ton day boats which are being converted to multi-day offshore boats by raising the deck. The majority (90%) of offshore boats reported lost are the 3 1/2 tonners. Fishermen in different areas seem to have their own preferences over the general arrangement of the boat — the relative positions of fish hold and net hold. As Mr. Brian Laurensz (Constellation Yacht) explained, boatyards are sometimes compelled to do things they do not approve of — at the insistence of customers. As regards proper boat-building practices, it was again Mr. Laurensz who felt that such things need not be even discussed, but should be made mandatory. Many others who participated in the discussions also requested more stringent controls on boat construction.

The problems related to search and rescue were highlighted in no uncertain manner by Mr. Chandra Nanayakkara (Ministry of Fisheries & Aquatic Resources) during his presentation based on a study of Sri Lankan fishing vessels that drifted or got lost in 1988 and 1989. Of the 39 boats and 158 men reported lost these two years, only 24 boats and 113 men have been located. Engine failure, natural causes such as storms/tidal waves, lack of suitable navigation equipment and shortage of fuel were the main causes of drift. Fishing boats from Sri Lanka are reported to have been located in India, Burma, Maldives, Bangladesh and Indonesia.

Fishing gear and equipment

During his presentation on fishing gear and equipment for offshore fishery, Mr. S. L. Suraweera (NARA) observed that fishing gear and methods have been developed to exploit surface pelagic resources largely through drift

gillnet and drift longline. Troll line fishing and a limited amount of pole and line fishing is also done. Although there is also a fishery for spiny shark using bottom longline, demersal resources and deep-swimming yellowfin are largely untapped. Mr. Suraweera proposed improvements to the deck layout of existing offshore boats so that the operation of fishing gear and working conditions of crew are improved. Mr. H. S. G. Fernando cautioned that while new methods are introduced to diversify the fishery to develop under-utilized resources, one should not only look at the technical feasibility of such methods but should also consider the possible interaction of such methods with existing fisheries. Mr. G. Pajot was of the view that, unlike in the gillnet fishery, there is room for improving gear and equipment in the shark longline fishery. He saw only limited scope for FADs (Fish Aggregating Devices) in Sri Lanka because gillnets are used so extensively.

Marketing

Preservation and marketing of offshore fish catches and infrastructure facilities for offshore fishery were the topics taken up during Session 2 papers were presented by Dr. S. Subasinghe (NARA) and Mr. C. Amoo of the Ceylon Fisheries Harbours Corporation (CFHC). Dr. Subasinghe observed that although the use of ice is increasing, fish on board are still inadequately iced. Sometimes, fish is landed in good condition, but improper post-harvest practices — due to lack of facilities for auctioning, washing, icing, boxing and weighing etc. — lead to rapid quality deterioration.

Joining in the panel discussion, Mr. David Walker (ODA/BOBP) saw a lack of quality consciousness in Sri Lankan markets, preventing fishermen who use sufficient ice on their fish getting a premium price over the others. Many boat operators are resorting to chilled sea water for on-board preservation of fish. Mr. Bertram Pereira and Mr. P. Vandembroucke are getting good prices for their catch preserved in chilled sea water and landed in excellent condition. Although properly deheaded and degutted fish can be kept on ice for long periods, Mr. S. Suraweera (NARA) was concerned about the marketing of such fish in Sri Lanka. Many boat operators who participated in the discussions commented on difficulties faced by them in getting ice.

Harbour development

There are 18 fishery harbours and anchorages servicing the fishing industry.

Siltation of the basin area, the poor state of the marine structure and shore facilities, the unsatisfactory condition of maintenance equipment (dredgers, cranes, etc.), and formation of sand bars at the openings of estuaries and lagoons of major anchorages, were listed by Mr. Amoo as the main problems associated with these harbours and anchorages. Lack of funds has severely affected the maintenance of shore facilities and the construction of new anchorages, harbours and cold room complexes. He explained the efforts now being made to rehabilitate and improve these facilities. Both Mr. Amoo and Mr. L.J.F. Gunawarnasuriya (CFHC) clarified that fishery harbours in Negombo, Beruwela and Tangalle are included in the infrastructure development programme of the new Fisheries Development Plan. The need to improve repair facilities for Abu Dhabi boats at Galle fishery harbour, and to have such facilities at other places too for proper utilization of offshore fishing vessels, was brought into focus by a boat owner, Mr. M.T.N.S. Munaweera.

Credit, insurance and training

Credit facilities for offshore fishing, insurance, training needs and the role of fishermen's organisations in offshore fishing were the four papers presented during the third session, on the second day of the seminar. These were presented by Mr. D.V.K. Jayasooriya (Bank of Ceylon), Mrs. B.R. Senaratne (National Insurance Corporation), Mr. S. Wewelwala and Mr. H.S.G. Fernando (Ministry of Fisheries) respectively. Tracing the history of fisheries credit in Sri Lanka, Mr. Jayasooriya noted that state banks have been lending to the offshore sector as far back as the mid-1970s, with the first ADB-funded fisheries project in Sri Lanka. A host of institutional credit schemes have undoubtedly contributed to the expansion of the fishing 'industry' over the past two decades. However, Mr. Jayasooriya warns against overestimating their impact as he reckons that less than 5% of the active fishing population may have benefited from these facilities. Some of the major issues underlining fisheries credit include problems in identifying genuine fishermen as borrowers, high default rates, and shortcomings in credit.

Credit, insurance and training

The Abu Dhabi boat which gave an impetus to offshore fishery development.



delivery and collection systems due to lack of technically competent staff.

Mr. B. Bulathsinhala (People's Bank) proposed better co-ordination amongst all institutions for efficient credit delivery to the fisheries sector and explained that unlike in the past, banks will select the beneficiaries. Granting of loans to family units instead of individuals was suggested by Mr. M. T. K. Nagodavithana (Ministry of Fisheries) as a way to increase recovery rates. Since price fluctuations affect repayment of loans, Mr. S. Abeydheera saw advantages in having floor prices for different fish varieties.

Insurance cover for offshore fishing crafts was made available for Total Loss Cover since 1980 and for Partial Loss Cover since 1984. A personal accident benefit for named and unnamed crew members is also provided. Mrs. Senaratne claimed that Sri Lanka is the only country that provides insurance cover for fishing gear. Both Mrs. Senaratne and Mr. K.J.J. Fernando (Insurance Corporation of Sri Lanka) referred to delays in the settlement of claims. These are often unavoidable as reports from different institutions are necessary before payments are made. There is also the need to conduct investigations in some cases. Assessing the loss of fishing gear was seen as a major problem, particularly the assessing of the genuineness of the case.

Over 400 youth were trained in offshore and deep sea fishing at fisheries training institutes of Sri Lanka during the 1970's. A large majority had to seek employment elsewhere, as in merchant shipping, because of inadequate investment in the fisheries sector. Mr. Weweiwala felt there's a need to train present-day offshore skippers in navigation, communication and safety at sea etc. and to update them on current technical developments in these fields.

Short-term field training for two to three days was thought appropriate for fishermen by Mr. Bertram Pereira. Mr. Ron Maine (FAO/UNDP) explained the objectives and activities of the new extension training project funded by UNDP and suggested that training of existing fishermen may be more useful than training of new recruits as has happened in the past.



Seminar in progress.

Cooperatives

The history of the fisheries cooperative movement dating back to 1940's was traced by Mr. H. S. G. Fernando. Despite various inducements offered to the cooperatives, their performance on the whole has been below expectations.

A revival of fisheries cooperatives by setting up village level societies is given high priority in the Fisheries Development Plan. The main objective of these new societies is to organize fishing communities through village-level leadership, and harness their effort towards self reliance and socio-economic uplift. All future state assistance to fisherfolk will be channelled through these societies. State banks have already formulated credit schemes whereby these societies can engage in offshore fishing by acquiring craft and gear. Fr. Danny Pinto, social worker, related his own experience with successfully managed cooperatives in his own area and felt they can be made to work provided proper guidance is given.

Development and management

Two short papers were presented on "Strategies for offshore fisheries development" and "Legislation for offshore fisheries development and management" by Mr. P.S.M. Muthukuda and Mr. A.R. Atapattu (both from the Ministry of Fisheries) respectively. Development of offshore fishery is accorded high priority in the new Fisheries Development Plan. This will be achieved by development of the existing small-scale offshore fishery through individual fishermen and operation of small fishing fleets by companies and cooperatives. As explained by Mr. Muthukuda, this

development strategy also recognises the need to improve and strengthen various areas such as design improvements to existing craft, training of fishermen, improved safety on offshore boats, improved shore support facilities etc. State support for research and development activities to boat-yards, donor support for financial and technical assistance and fiscal incentives to local fishing companies are some of the measures being contemplated to ensure accelerated development in offshore fishery.

Mr. Atapattu found the present legislation incapable of effectively managing offshore fisheries. He was hopeful that the new Fisheries and Aquatic Resources Act now being drafted would remedy this. During the panel discussion, Dr. Sivasubramaniam (BOBP) observed that the whole EEZ of Sri Lanka can be tapped with small-scale multi-day boats; the design of a suitable offshore boat is therefore very essential. He re-emphasized the need to consider the longline as the primary gear and gillnet as the secondary gear in exploiting resources between 100-200 miles. In the opinion of Mr. C. R. B. Fernando (Ministry of Fisheries), operation of small fleets of offshore boats by individuals, companies or cooperatives may be more successful than single boat operations.

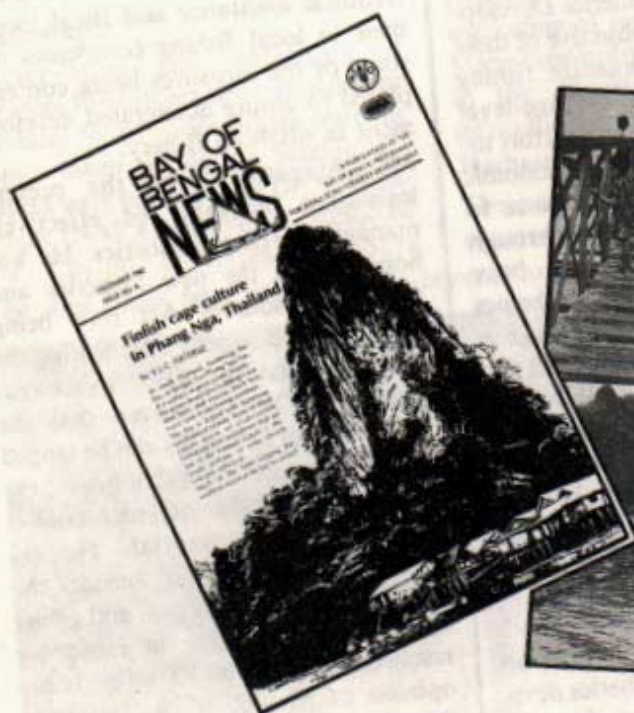
The seminar demonstrated the fact that in spite of the successes achieved so far, a lot more needs to be done in various areas to ensure a viable offshore fishery. The task of the policy makers has perhaps been made easier by this seminar : they now have the pulse of the industry more strongly than before.

REVISITING SOUTHERN THAILAND

The cage culture bonanza of 1979-1985 : what's the long-term impact ?

by V L C Pietersz

The success of finfish cage culture initiated by BOBP in southern Thailand during 1979-85 has been well documented. Early this year a four-member mission revisited south Thailand and studied the long-term socio-economic impact of cage culture. The mission's observations are summarized in this article.



... coverage in Bay of Bengal News.

During 1979-85, BOBP supported a small-scale aquaculture demonstration project in southern Thailand. The main activity was cage culture of finfish (grouper and seabass). It began in six villages of Phang Nga province, and later spread to 26 villages in all the six coastal provinces of southern Thailand.

The project's cage culture effort was considered an impressive and spectacular success. But what was its socio-economic impact in the long term? How did it change the lifestyle or the conditions of the village communities? To get some answers, an appraisal mission went round four sample villages from three provinces (Satun, Trang and Phang Nga) in October 1989, four years after the project's termination. The mission extensively interviewed village chiefs and small-scale fisherfolk. It was hoped that the appraisal would yield interesting information, also insights that would help the current BOBP-supported project in Thailand — which aims at integrated extension services in Ranong province (*Bay of Bengal News*, March 1990).

The mission consisted of two members familiar with the 1979-85 project (Mr. V.L.C. Pietersz, formerly Development Adviser with BOBP, now Regional Fishery Officer with the FAO Regional Office for Asia and the Pacific in Bangkok; and Mr Manu Potaros, presently Director of the Fish Technology Division of the Department of Fisheries, Thailand), and two members concerned with the present BOBP-supported project in Ranong (Mr Sanchai Tandavanitj, team leader, and Ms Hanne Kristensen, socio-economist and FAO Associate Professional Officer).

What the mission saw and heard is described in this article.

We approached Bakan Koei (Satun province), a village of 83 households, by a passenger 'long-tail' boat from Satun. There were fewer fish cages around than when the project was on. Also noticeable: small motorized push netters which had not existed before. A finger jetty, recently built by the provincial government, made it easier to get off the boat. Many of the houses on stilts at the waterfront had been renovated with wooden cladding, and



Traditional shrimp paste preparation by women.

tin roofs replaced the nipa thatch. TV antennae sprouted from roofs. The mosque had been enlarged with additions front and rear. Villagers had replaced their power generator's charcoal-burning steam engine with a second-hand diesel engine bought with their own money. Women were more active in shrimp paste making: several sheds with motorized grinders had been constructed for this purpose.

Two new developments: some motorcycle traffic on the footpath that constituted the village's main streets; and toilets attached to five houses in a village that some years ago had only one toilet in a community centre.

There is good road access to Ko Khiam (Trang province). The road is not metalled but is well maintained. The villagers had recently contributed Baht 7,000 to improve the road. Arriving at the main covered jetty, we were struck by the big jump in the number of fish cages. Earlier, they occupied only the far bank of the stretch of the creek immediately opposite the village houses. Now, they occupy both banks of the creek, almost as far as the eye can see. About 30% of the houses are new, better-built than those at Bakan Koei, with concrete blocks and asbestos roofs, and are smartly done up. A few houses were under construction, some others had got a face-lift, as in Bakan Koei. About half the houses (some 320 households) in the village are however still made of nipa thatch. All the new and renovated houses had acquired TVs and refrigerators, following the supply of electric power in 1985. As in Bakan Koei, motorcycles were speeding about, and one cage farmer owned a

pick-up truck. The two small shops which were earlier selling tea and groceries have gotten bigger, and eight new cafes and grocery stores have come up.

Like Ko Khiam, Kok Krai (Phang Nga) is easy to reach. Easier in fact the road is metalled. Mains electricity has been provided. The provincial government had also provided a set of cement tanks for prophylactic treatment of grouper fry prior to stocking in the cages. At first sight, there seemed to be fewer fish cages; this was because cages are now found both to the left and to the right (earlier all cages were located to the right of the jetty). Here again new-found affluence hits the eye: some 30 new concrete-block, asbestos-roofed houses, improvements to houses located on the waterfront in the tidal zone, TVs and refrigerators, 20 pickup trucks, 2 cars, some motorcycles. Ten new cafes and shops selling groceries and fishing requisites have come up to serve the 184 households.

During the project term, the 109 households of Sam Chong Nua (Phang Nga province) could be approached only by boat. Now there is direct access from the highway up to the river bank opposite the village by a metalled road. The last 2 km of this road was funded entirely by contributions from cage culture households amounting to Baht 350,000, with individual contributions ranging from Baht 500 to Baht 1000. The villagers operate a ferry service from the road terminus to the village and a tour service of Phang Nga Bay for occasional tourists, using several small long-tail boats. Here again housing is slicker, with tin or asbestos roofs. Electricity is not available for



Cage culture operations (above). Energetic government participation (below right) was a feature of the project.

lighting, but some 20 TVs are seen they use batteries and a few portable generators operated on a shared basis. Motorcycles are ferried across for travel to Phuket.

In three of the villages — Ko Khiam, Kok Krai and Som Chong Nua, cage culture development follows trends already observed in 1985. There are 1,300-odd fish cages, some 4% more than before. The highest increase (281) is in Ko Khiam. Feed supply has become regular and well organized. Feed consists mostly of small pelagic fish transported from industrial fishery landing centres in the villagers' own pickup trucks (Ko Khiam and Kok Krai) or in suppliers' trucks (Sam Chong). The species cultured in the cages has changed from sea bass to grouper. Fry is trapped from the wild, because hatchery-spawned grouper seed is not available. Most cage farmers buy fingerlings from fry collectors. Fry trapping has become profitable by itself; in Ko Khiam, for instance, more than 100 people engage exclusively in fry-trapping. At Ko

Khiam and Kok Krai, no serious fish disease problems have been encountered, despite the large number of fish cages. At Sam Chong however, many fish died in April 1989. Poor management and over stocking of cages, officials say.

In the same three villages, small-scale inshore capture fishing continues but on a diminishing scale as more and more fisherfolk switch to cage-farming. Unlike earlier, this activity is no longer a source of feed for cage culture.

Fishery developments in Bakan Koei (Satun province) have run counter to those in the other three villages: the number of cages has fallen from 212 in 1985 to 40. Reason cited by fisherfolk: shortage of seed. Some fisherfolk have invested a part of their cage culture profits in some 40 push-netters, of which nearly 30 are motorized. These craft are used for catching Acetes. Only hand-held push-netting in very shallow water was practised earlier: the new fishing

activities have generated much more raw material for shrimp paste. An artificial reef recently constructed by the Department of Fisheries off Bakan Koei has also pushed up line and gill net catches. These developments have given those who gave up cage culture new sources of livelihood.

Besides cage culture, the other forms of aquaculture practised are cockle culture at Bakan Koei and oyster culture at Kok Krai. At the former, a 36 ha cockle plot is being operated by a partnership of 5 villagers and 2 outsiders. At Kok Krai, where two oyster rafts operated when the project was on, there are now four rafts.

Socio-economic conditions in all four villages have clearly brightened during the last few years. Better houses, roads and power supply and the improvements to mosques reflect a general rise in income levels. Assessing the extent of the rise was beyond the mission's capacity. It was however clear that households engaged in cage culture had



enjoyed the highest income increases, depending on the number of cages owned. The new and renovated houses, the cars, motorcycles, TVs and refrigerators belonged to the cage farmers. In three of the four villages, some of the cage-farmers had started to send their children to places outside the village to obtain a better education. One family in Ko Khiam (owning 20 cages) has five children studying in universities and technical colleges in Bangkok at a cost of about Baht 10,000/month. 14 children of Sam Chong cage farmers study in Phang Nga, Phuket and Bangkok. Even in Kok Krai, where the cage farmers feel that children should learn to work in the villages, rather than study, six children have been sent to Saudi Arabia for religious education.

Another index of affluence in Muslim villages is the number of Mecca returnees. The pilgrimage to Mecca is an expensive privilege (travel cost Baht 60,000). No one from the village had enjoyed this distinction earlier; in

recent times at least 10 persons, all cage farmers, had been to Mecca.

Again, it's the cage farmers who have helped fund common infrastructure facilities in different villages, such as the access roads to Ko Khiam and Sam Chong, and a water tank at Ko Khiam.

The surplus income from cage farming has not been spent entirely on such schemes. In general, a substantial amount has been reinvested in capture fishing (Bakan Koei) and in expanding cage culture (Ko Khiam). In Kok Krai and Sam Chong Nua, reinvestment has been shared between cage culture expansion and the setting up of small oil palm and rubber plantations.

Apart from direct impact on fish farmers, cage culture activities have had a wider impact on the village communities—through facilities and services needed for cage culture, through jobs and incomes created by the demand for fish seed. In an average sized household operating more than four cages, hired labour is required for night-watch and for chopping up small fish for fish feed (a time-consuming chore). The wages paid range from Baht 1,500 to 1,800/month for full-time work — more remunerative than the Baht 1,000/ month generally earned from small-scale capture fishing.

It is therefore clear that many positive socio-economic developments can be attributed to BOBP's aquaculture demonstration project. However, in order to maintain a proper sense of perspective, it is also necessary to appreciate that:

— Many development inputs, particularly of infrastructure, do not result

from cage culture. For instance, the paved access road and the electricity line at Kok Krai and a portion of the access road to Sam Chong have been provided by the provincial government out of royalties paid by tin mining companies to be used for community development purposes. Similarly, the electricity line at Ko Khiam was part of a general government scheme for remote rural areas, and the main expenditure on improving the access road was borne by the Fish Marketing Organization. These facts have to be set off against the villagers' contention that it's the economic activities in the village that sparked the interest of various agencies.

— Other factors, not clearly visible, may also be behind better incomes. For instance, at Sam Chong Nua tourism is opening up with villagers earning up to Baht 400 for taking tourists round Phang Nga Bay.

— The limited time frame of the appraisal mission and its 'official' character could have led to an over-positive picture, particularly of social conditions in the villages, since the main contact persons were the social and economic elite. The aquaculture project has had some negative impact too, by widening the gap between the better off and the poorest within the village.

These reservations apart, the positive impact of cage culture on fisherfolk communities in southern Thailand is undeniable. Ensuring that the benefits from such technologies spread farther and wider is a matter of long-term concern that planners, sociologists and anthropologists, as well as fisheries technologists, should address.



More efficient use of timber, better fuel-efficiency.

New canoes make a splash in Dodanduwa!

by Nalin Wijesekera

Dodanduwa is a fishing village on Sri Lanka's southern coastal ribbon, some 61 miles from Colombo, sandwiched between the Dutch rampart township of Galle and the boisterous tourist resort of Hikkaduwa. The 200 odd fishermen of Dodanduwa embody tradition. For centuries their dug-out canoes made from single logs have fished the marine waters for small tuna. These beautiful craft are made from timber brought in from the hinterland, which is a fast-dwindling resource. The canoes of tomorrow must avoid further pressure on this resource.

The BOBP entered Dodanduwa's traditional outrigger canoe scenario in 1986/87, when its first prototype craft SRL-17, made of marine plywood, was tested. Following suggestions by the fishermen who tried it out, another prototype, SRL-18, was built. It uses planks — two layers of cross planking on the bottom and diagonal planking on the sides. This construction method makes possible the use of short planks of locally available timber.

"We chose Dodanduwa for trying out the new canoes," says BOBP Programme Officer Leslie Joseph,

"because it is the stronghold of the traditional outrigger — all the fishermen here operate it. New canoes have to be real good to make an impact here." He added: "BOBP's method of trying out craft is to hand them over to the fishermen themselves for commercial fishing trials. This way we get first-hand feed-back from fishermen. Ministry of Fisheries staff monitor performance, collect data on catches, costs and earnings."

The feed-back is that the new canoes are worthy replacements for the traditional canoes and for the popular fibreglass 18-footer. Shantha Dayasiri, proud operator of BOBP prototype SRL-18, says: "The timber-planked canoe is more manoeuvrable and versatile than traditional canoes, because it can take both gillnets and ringnets. (Gillnets usually bring in Indian mackerel and little tuna; ringnets harvest half-beak and auxis tuna). In fact, we can now take six people and two nets and bring in a harvest of 1000 kg. on a single trip, something new in our experience with outrigger canoes." SRL 17 operator Bandusena says: "We have more working room for fishing gear and for fishing opera-

tions as a result of the broader beam. The new boat is less expensive to operate than the traditional outrigger for the same speed: it uses a 7 hp outboard engine against the traditional outrigger's 12 hp outboard engine."

From the earnings of SRL 17 over the past two years, Bandusena has saved around Rs. 100,000, which he has invested in buying a new canoe, a reconditioned outboard engine, a set of gillnets and a ringnet.

According to Dodanduwa fishermen, the new canoes can catch 7,000 kg of fish per annum (actual catches of SRL 18 during one year were marginally higher: 7035 kg).

More fishermen in Dodanduwa hamlet are taking a good, hard look at the new canoes, and BOBP is assisting fishermen in the area to construct six more SRL 18 canoes. Experienced local boatbuilders are training artisanal carpenters in boat construction. A fibreglass version (SRL 19) is also being built at the CeyNor boatyard in Mattakuliya so that fishermen will eventually have a choice of timber and FRP.

The Bank of Ceylon and the People's Bank recently sent their officials to Dodanduwa to consider financing the new canoes. Fishermen said they could without difficulty set aside Rs. 3,000 per month for loan repayment. (On the day we visited Dodanduwa, one of the new canoes brought in 70 kgs of high quality Garfish, caught by ringnet, which sold on the beach for Rs. 23 per kg. Total income: Rs. 1610. Operating cost, including fuel and food, was said to be around Rs.200. Net profit: Rs. 1,410). The fishermen also told bank officials that the new canoes would be financially viable even if ringnetting was not practised. Another point they made was that three new canoes — as against just one traditional canoe — could be made from a single timber log. Further, the building and the use of plank outriggers would generate more job opportunities within the village.

The Ministry of Fisheries and the BOBP plan to fan out the concept of the new canoe to other areas of Sri Lanka. Already, the NORAD-funded Hambantota Integrated Project has evinced interest in testing these new canoes in the southern coastal district of Hambantota.

SRL-18, prototype BOBP canoe, on the beach at Dodanduwa in Sri Lanka.



Moving to wards a new beginning

by Rathin Roy

Almost exactly a year ago field level fisheries officers and a few NGO staff from the districts of Patuakhali and Barguna in coastal Bangladesh came together for a training session. The BOBP and the Department of Fisheries were about to embark on a subproject which would develop a fishery extension service aimed at marine and estuarine fisherfolk.

The curiosity amongst the officers was obvious — everyone wanted to know about the spectacular solutions and the new system that BOBP was going to come up with! So, when the trainers, made up of Bangladeshi nationals and BOBP staff began by explaining that they had no ready solutions and that the task for the first year would be for the officers to themselves evolve from scratch an extension service design — which they would then have to implement and test and adapt — the surprise and disappointment amongst the officers was transparent.

From that feeling of surprise and disappointment the trainees have come a long way during the year. They went through three cycles of training and field work, each specifically designed to add to their knowledge and to raise issues and concerns for the next cycle. The first cycle set out to enable district and subdistrict level fishery officers to get to know their fisherfolk, what they did and how they lived, the fishery, the problems and needs of the community — and to get to know them not only in an objective manner but also through the eyes of the community. Armed with this training the trainees returned to their work and to three months of field work to put their training to test. The trainees followed up the work through field workshops at monthly intervals. At the end of the three month period each subdistrict staff presented their findings. The effort, the documentation and what they had learnt surprised not only the trainers but more so the participants. They had not believed that they had such talents and disabilities.

With the general understanding out of the way the trainees began the second



cycle of training and field work, this time to identify and analyse problems and to plan action for it — but to do it not alone but with the participation of the community. The fieldwork which followed the training resulted in the identification, analysis and prioritization of problems. And it also gave us some time to reflect on what

we were doing. The enthusiasm and commitment of the field officers and the NGO staff is enormous. But we were trying to compress years of learning into one. We were hoping to change attitudes overnight. And these do not happen easily. Participation is easier to talk about than do. The identification, prioritization and the analysis of problems showed up that these were more the perspective of the officers than the fisherfolk. We had learnt our lesson and decided to slow down the pace, increase the training and follow up and to watch for signs of missing the bus, as it were. The staff realized that there was a reason for our criticism and disappointment and agreed to redo the participation problem identification as a part of their next exercise.

Cycle three which is still going on trained the staff in project planning and management and with the problems identified their task is to prepare detailed projects in each of their subdistricts and NGO working areas which they could then implement.

Come September we shall have project proposals from 11 subdistricts and 4 NGOs to consider. The idea is to select the most promising projects and find the officers and guide them through implementation ensuring that the experiences and learnings are shared regularly.

What do we expect from all this? Obviously, a cadre of trained officers; also, several projects to be implemented, which may benefit fisherfolk.

But the real output we expect is the learning about the needs and concerns of fisherfolk, how best they can be addressed, and how departmental and NGO staff with some training and funds could address the needs, provided the organizational culture within which they worked allowed them and encouraged them to do so. With this learning that will have to be extracted from the doing, the DOF — should it wish to, and should the projects be successful — could actually make a beginning with extension services to coastal and estuarine fisherfolk.



ON AQUACULTURE AND MUD-BOARDS

Text and sketch by Signar N. Bengtson

(Text translated from the Swedish)

*The seas and their coastal domains
constantly offer us fresh surprises.*

Such a one is the mud-board.

*After having witnessed BOBP's aquaculture
experts dart across the muddy bottoms of coastal Thailand
one wonders how old the invention is.*

*If it is of the same age as aquaculture, it was there already
when Alexander tried to conquer the world.*

*If it is contemporary with BOBP's pilot plants for mussels, oysters
and other sea-foods it has a future before it.*

*A by-product of aquaculture, for more effective inspection
of the areas of cultivation.*

BAY OF BENGAL NEWS

Bay of Bengal News is a quarterly publication of the Bay of Bengal Programme (BOBP), a regional fisheries programme which covers seven countries around the Bay of Bengal — Bangladesh, India, Indonesia, Malaysia, Maldives, Sri Lanka, Thailand. The Programme plays a catalytic and consultative role : it develops, demonstrates and promotes new techniques, technologies or ideas to help improve the conditions of small-scale fisherfolk communities in member-countries. The BOBP is sponsored by the governments of Denmark, Sweden and the United Kingdom, by member-governments in the Bay of Bengal region, and also by UNFPA (United Nations Population Fund) and AGFUND (Arab Gulf Fund for United Nations Development Organizations). The main executing agency is the FAO (Food and Agriculture Organization of the United Nations).