

BAY OF BENGAL NEWS



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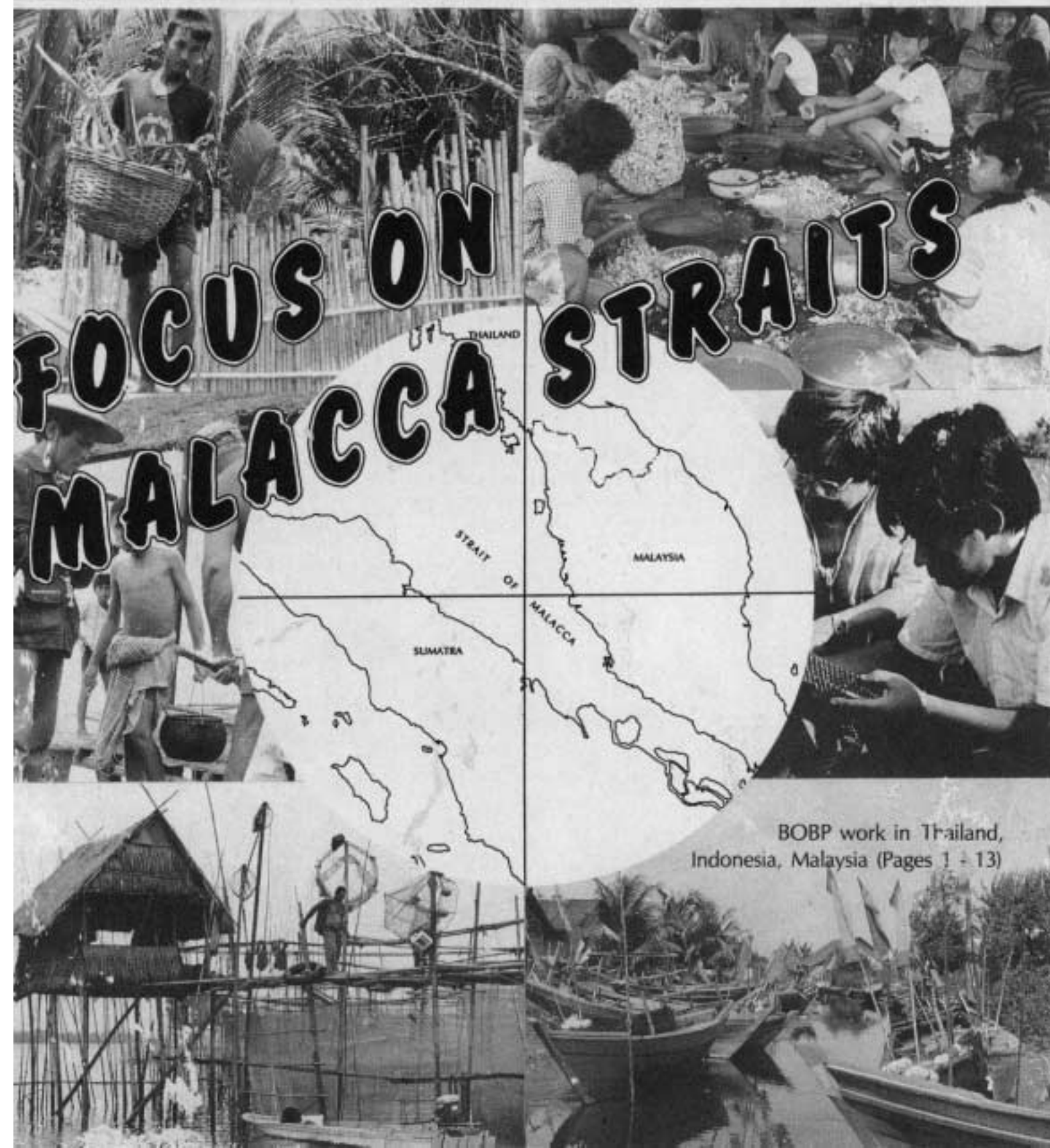
BOBP

For Fisheries Development

BAY OF BENGAL PROGRAMME

ISSUE NO. 30

JUNE 1988



BOBP work in Thailand,
Indonesia, Malaysia (Pages 1 - 13)

Two steps forward, one step backward: BOBP's extension activities in Ranong province, Thailand

Training activities and socio-economic surveys have been launched in Ranong province, Thailand, to prepare for a credit project and to determine directions for future work. Action-oriented extension has also been taken up in the province : experiments with crab traps, oyster culture and women's activities.

Q : THE BOBP's aquaculture demonstration project in Phang Nga and other provinces was very well known, but relatively little is known about the BOBP's present Thai project based in Ranong province. What is it trying to do?

A : The BOBP assists the Department of Fisheries (DOF) and the Provisional Fisheries Office (PFO) in Ranong province by exploring way and means of better reaching small-scale fisherfolk.

Specific questions to be addressed are : What are the fisherfolk's problems and needs? From where can assistance be mobilized to meet these needs? What are the development prospects? How should fisheries extension work be carried out to ensure people's participation and an equitable sharing of benefits?

Q : What's the rationale for a pilot project in extension?

A : The Thai fishing industry is in many ways very advanced : in some places it has led to over-capitalization and

over-fishing. Therefore, fisheries development efforts now focus on aquaculture. In this field too, Thailand is very advanced, with excellent R & D and training stations. But these stations have had an entirely technical orientation, and it is felt that in the Fisheries Administration much 'more could' be done in extension to assist the small-scale fisherfolk who are usually not able to pick up new techniques on their own. In this context, the demonstration project mentioned in the previous question, carried out during 1979-85 by the Phuket and Satul brackishwater stations, provided an inspiration. The farming of seabass and grouper in cages was very successfully demonstrated by that project. The present project is a sequel to that, but is not limited to aquaculture; it aims in general at improving on the extension effort of the provincial administration, with support from DOF and its specialised stations.

Q : What is the project set-up?

A : Located in Ranong, the project is to be a support unit of the PFO. It consists of a team leader, three biologists, half a dozen technicians and a few supporting staff such as secretary, drivers, etc. They maintain contacts with fisherfolk and carry out project activities. Specialists in fishing, aquaculture, economics, etc. will be requested whenever necessary from the specialised stations in Phuket, Songkla, Prachuap, Surat Thani, or elsewhere. The project will have strong provincial-level co-operation with the Community



Development Department (CDD)
There are more CDOs than fisheries officers, and they generally have better grassroots contacts with fisherfolk.

Q : What are the project's activities and achievements?

A : Late 1986, preparatory workshops were held in credit and extension. Substantive project work began April 1987. Orientation on participatory approaches to extension work was held for all staff connected with the project. The second exercise was fisheries training for the CDOs. After the training, the CDOs, project staff and the PFO undertook joint surveys of villages — covering general conditions, communication, social services, major problems, etc.

Two more specialised surveys were undertaken — costs and earnings of fishing units and credit needs. These surveys are of a preparatory nature, and their outcome will determine the project's future directions and activities.

At the same time, action-oriented extension work was also taken up. A new type of crab trap was demonstrated to some 15 fishermen in a short training course, and 25 traps were given to each to be tried out. Demonstration of oyster culture has started; women activities concerning cooking and nutrition have recently been taken up.

Q : What was learned from the surveys?

A : Ranong is the northernmost province on the west coast of Thailand and borders Burma. It has four administrative districts. The two southern districts face the Andaman Sea, the two northern districts straddle the Kaburi river which borders Burma and Thailand.

Only about half of the 55 villages of Ranong province can be considered as fishing villages; in the other half, the fishing population is insignificant but the general survey yielded profiles of all villages.

The surveys revealed that the most serious problem in fisheries is resources management and the biggest offender in this context is the push netter. The second-most serious problem is lack of alternative or supplementary job opportunities. Other problems mentioned by fisherfolk concern water supply, sanitation, and dependence on middlemen.



Facing page : Cooking classes for women — not merely to promote nutrition but also collective thinking and problem-solving. Top : Women from the *cooking c/asses* along with a few project staff and consultants. Above : Crab fattening — the feeding of adult crabs till they attain a profitable weight.

The surveys of costs and earnings and credit needs did not yield straightforward answers, and several questions are in the process of being rechecked. There seems to be a genuine need for credit, but it is very doubtful whether this can be met by institutional credit. As is the case with north Sumatra, Indonesia (described elsewhere in this issue), credit is closely linked with marketing. Traders exercise tight control over both, particularly in more remote villages, and provide essential services as well. Banks too are reluctant to start new credit schemes without satisfactory collateral.

The costs and earnings survey has provided interesting information about the relative economic performance of different fishing methods: this should be valuable for preparing a credit scheme. Seventeen fishing methods have been analysed, but since fisherfolk very often operate more than one method during different times of the year, it is difficult to obtain a good picture of the family income.

Q : How have the crab traps demonstrated to some fishermen performed?

A : There are conflicting reports. Some users were very happy to employ the new traps; some others returned them very quickly. One good sign of their usefulness was that a crab trader started manufacturing new traps and selling them to fishermen on credit — repayable in kind (fish catch). On the whole, however, the crabs don't seem to be a success. The latest report is that



only four of the original 15 fishermen regularly use the traps.

Such failure is nothing to be ashamed of, since the project is experimental in nature; not all activities can succeed. But what's unsatisfactory is that we do not know the reasons for the failure. Ultimately it must be economics, but other operational aspects may have been overlooked. The field staff who have handled this matter have filled in data sheets thoroughly, but they are inexperienced, and have not had enough contacts with fisherfolk to obtain the whys and why nots. In fact, this somewhat uncritical approach to data — without penetrating analysis —

has been one of the project's problems during its initial phase.

Q : How about the culture of oysters?

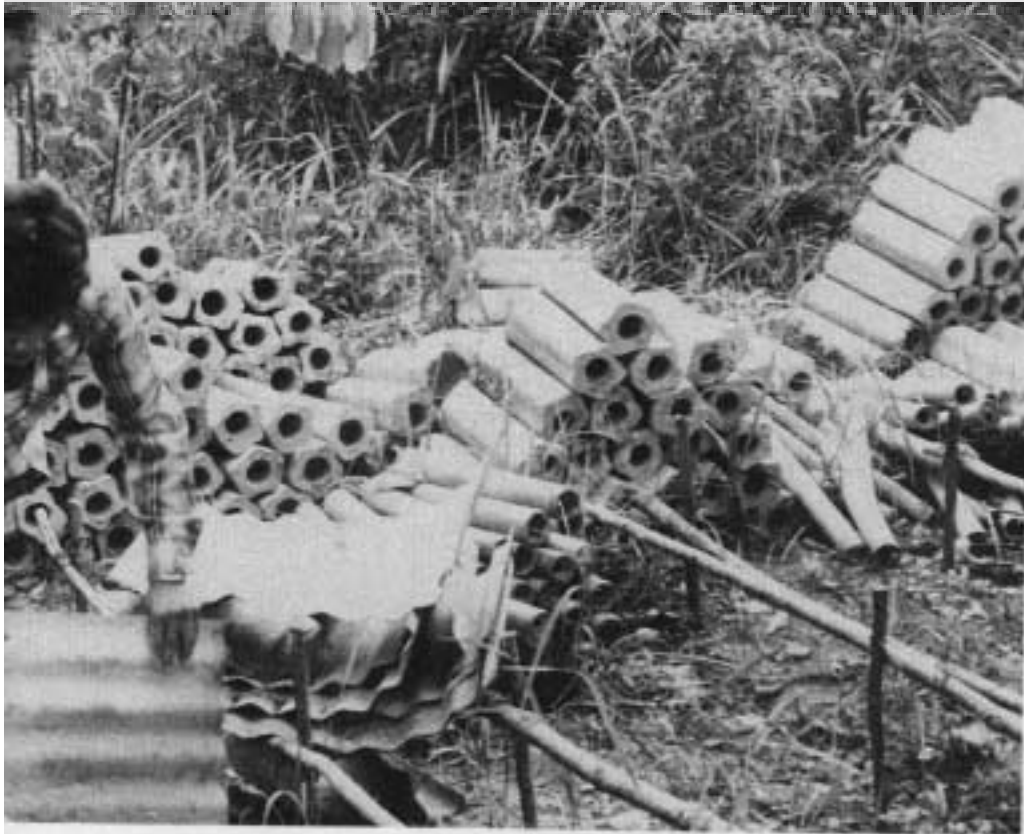
A : Oyster culture is a very lucrative business in many areas of Thailand. Surat Thani, just across the peninsula from Ranong to the Gulf of Thailand, is a good example. The small-scale oyster culture industry there is described briefly on pages 6-7. There's no tradition of oyster culture in Ranong, but there is no reason why it shouldn't succeed here as well.

This activity began with a study tour of Surat Thani by 40 potential oyster farmers. On their return, 25 farmers were selected for a short training course in oyster biology and culture. Thereafter, two groups of 10 members each were formed to undertake culture trials. They started to fabricate cement poles for grow-out culture; the project provided the cement.

Top : Cement poles are being fabricated for an oyster culture farm. Below : Cement pole with oyster attached to it is being taken out of farm. Right : Oyster is being scraped off a cement pole.



At the same time, the project assisted in attempts to collect spats (young oyster) in Ranong and Phang Nga. In Ranong, the effort failed more or less completely, while some spats were obtained from Phang Nga. The quantities were insufficient for commercial purposes, and efforts had to commence anew in Surat Thani. It now seems that sufficient quantities can be obtained from there for the oyster culture trials starting in Ranong this summer. In the long run, farmers will have to rely on purchase of spats from Surat Thani or other places unless spat



collection activities in Ranong succeed. An experiment was also made to use spats from the hatchery in Prachuap — it failed. More research is called for before commercial use.

Meanwhile, small quantities of oysters are being cultured in a couple of villages with spats obtained from Phang Nga and from natural beds in Ranong. The growth is very encouraging.

Q : What are the project's activities with women?

A : A series of lessons in cooking and nutrition has just started and there is no feedback yet. The purpose is twofold. The cooking itself emphasized utilization of local products and a balanced diet. Equally important is group action among women; when they come together for the cooking lessons, they will certainly discuss other matters. Hopefully there will be joint action on these too.

Q : Plans for any other activities?

A : Crab fattening is spreading rapidly in the south Asia region, and the project hopes to demonstrate this and introduce it in a few fishing villages. The idea is to keep crabs caught in the wild in enclosures for about a month and increase the body weight by feeding. As with oyster culture, potential farmers will go on a study tour to areas where this is already practised on a commercial scale. They will then be assisted in preparing suitable ponds for keeping the crabs; if the experiment

succeeds, the project will be reimbursed its outlays.

The project's 1988 workplan also mentions cage culture demonstration for seabass and groupers; and squid traps. After preparation of the work plan it was found that both these methods are practised quite widely in Ranong province; there are in fact worries about their spreading too fast, leading to over-exploitation (squid traps) and pressure on feed supply and grouper fingerlings resources (cage culture). Therefore, the project will invite fisherfolk engaged in these activities to discuss the state of the art and the problem of resources management.

Q : How would you evaluate the project's progress?

A : The project has been operational for just about a year. One should be cautious about any assessment, but some observations are possible.

Technical activities have by and large been very well executed by the competent staff of the Department of Fisheries. The crab traps may not be a rage. Oyster spat collection has been less than inspiring. But such problems are inevitable in this type of development work. In extension work, however, progress could be much better. Knowledge and understanding of the fisherfolk, and cooperation with them, need to be improved.

The project's technical staff are naturally more interested in technical aspects, and lack the background or the training for genuine people-oriented approaches. This should perhaps have been looked after by the CDOs, but the cooperation between the PFO and CDO is hit, as in most administrations, by the bureaucracy. Red tape and frequent transfers seem to hamper cooperation. To overcome such shortcomings, a full-fledged sociologist will be engaged by BOBP to assist the team leader with extension approaches. Another sociologist will replace a biologist from the project team. Finally, attempts are being made to obtain the services of an FAO associate professional officer, also a sociologist, to further strengthen the BOBP input.

L.O.E.



Oyster Culture in Ranong — Surat Thani offers a model

by Panipa Hanvivatanakit
(Economist, Department of Fisheries, Thailand)

Oyster culture promotion is one of the activities of the BOBP's extension services project in Ranong province, in the western part of Thailand bordering the Andaman Sea. Demand for oyster is high, and the potential for raising the incomes of local communities through oyster culture seems good.

Oyster culture is a thriving enterprise in Surat Thani province in the Gulf of Thailand. To obtain guidelines for commercial operations in Ranong province, a costs and earnings study of oyster culture in Surat Thani was undertaken under the auspices of BOBP's Ranong project. It was carried out in July 1987. Data were collected from 10 farmers of Kanchanadit district, the biggest oyster culture area. The culture method studied uses concrete pipes on bamboo poles.

The average culture area of farms sampled was 3.5 rai (about half a hectare). It is a family business with an average of two members (per family of six), engaged in the culture operation.

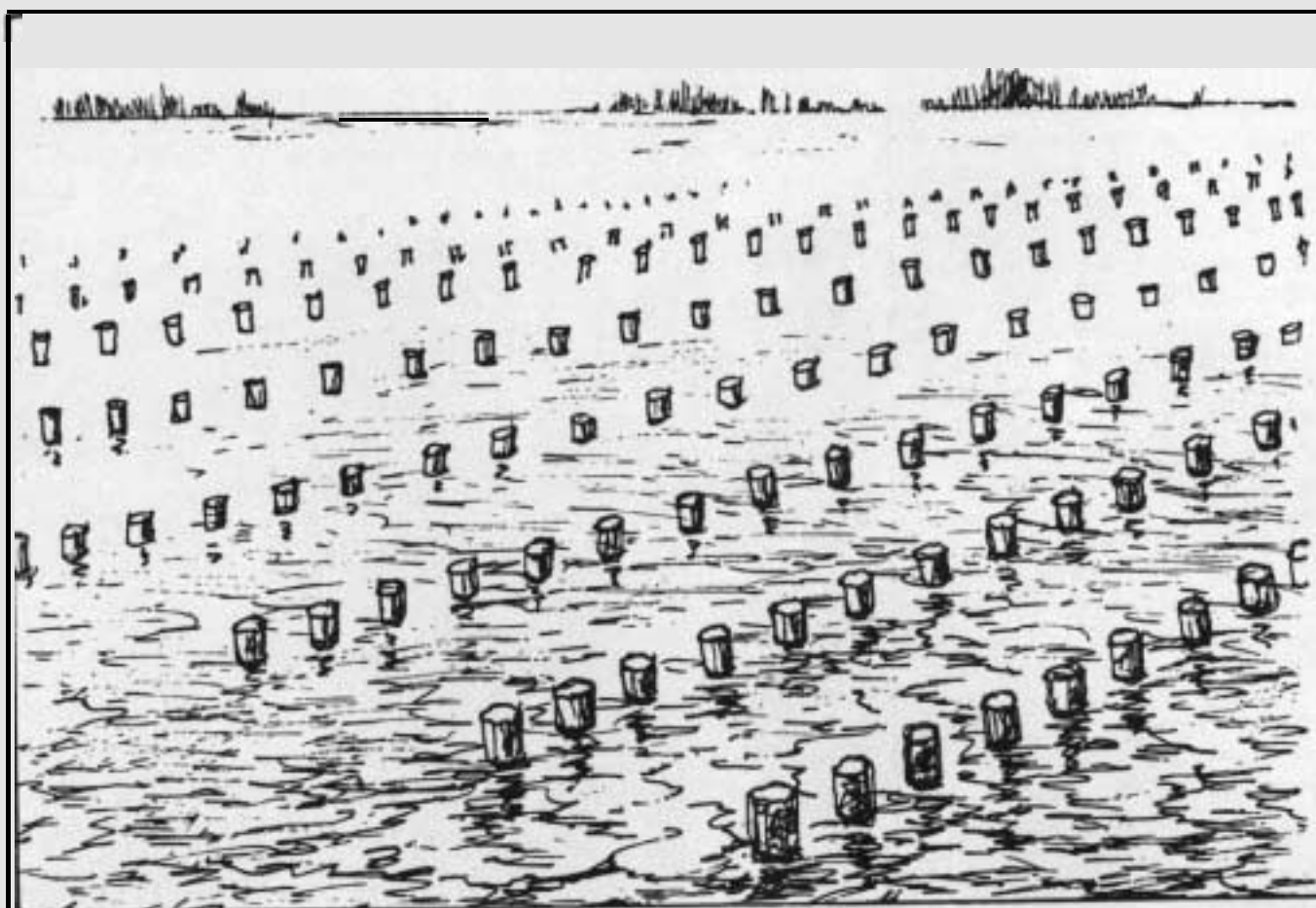
It is their main occupation and only 40% have other sources of income such as fishing. Average age of the head of the family (who is also the chief culturist) is 47; normally the family

Table 1 Initial investment costs of oyster farm (in Baht/rai)

Object	cost
Concrete pipes	7,527
Bamboo poles	1,724
Boat incl. engine	2,953
Bamboo fence	320
Petrol used in placing stake	389
Watching hut	2,732
Wages for placing materials*	2,175
Misc. (fee, etc.)	92
Total	18,012

* Includes a non-cash cost of Baht 417 for owl labour.

layout of concrete pipes used in oyster culture farm.



head and one other person take part in oyster culture. Some 80 per cent of the -people have completed primary education up to the fourth grade. Oyster culture experience ranges from two to eighteen years, the average being six.

The farms consist of rows of concrete pipes mounted on bamboo poles (see sketch). The pipes are about 15 cm in diameter and about 40 cm in length. The manufacturing of pipes in Ranong is shown in the photograph. The poles are mounted in the muddy bottom so that the lower part of the concrete pipe is just above the bottom. The distance between tubes/poles in a row is 0.5 m and the rows are about 2 m apart. In the area surveyed there were 1,814 pipes per rai. The depth gradient of the bottom is very low and the farms are located about one km from the shore. The tidal amplitude is normally 2 - 3 meters.

The spat (young oysters) are usually collected on bamboo poles and after four months "harvested" and cemented on to the concrete pipes for the growout period. The latter varies between 18 and 36 months at an average of 22 months. The harvest is staggered i.e. oysters reaching marketable size are gradually removed throughout the year.

The initial investment in the oyster farm was calculated at Baht 18,012 per rai. The main items of expenditure are : concrete pipes, bamboo poles, boat, watch hut and wages for setting out the poles/pipes (See Table I). The total cost of production per rai works out to Baht 15,615 (Table 2), or nearly Baht 2.50 per oyster shell.

The average yearly production in the farms studied was 6,332 shells per rai. Oysters sold at Baht 5.34 per shell in the area. This gives an average income of Baht 33,762 per rai. The net profit works out to Baht 18,147. In terms of return on investment, the net profit is a healthy 116 per cent.

The costs can be further reduced if the concrete pipes are made by the fisherfolk themselves. The one problem that has to be squarely faced is short-falls in spat availability. In Surat Thani, many farmers buy additional spat at 1 baht each to supplement their own catch. A government hatchery programme is also experimenting with oyster spat production to aid oyster farmers.



Manufacture of concrete pipes for oyster culture.

Table 2 Cost of culture (in Baht per rai and per shell)

Cost item	Baht/rai
1. Variable costs	
Labour cost	3,125
— Placing pipe	21
— Watching	682
— Turning pipe	794
— Harvesting	1,628
Fuel	1,595
Gloves	99
Maintenance	500
Interest on loan	287
Total	5,606
2. Fixed costs	
Licence	65
Depreciation of equipment	1,647
Depreciation of concrete pipes	622
Total	2,334
3. Opportunity cost of own input	
3.1 Family member labour cost	5,191
3.2 Interest of investment in variable costs	638
3.3 Interest of investment in fixed costs	1,845
Total	7,674
4. Total cost (1 + 2 + 3)	15,614

Getting bank credit for fisherfolk in North Sumatra; 'Indonesia : self-reliance is the first step

by Philip Townsley

Fisherfolk on the Malacca Straits coast of Sumatra are highly dependent on the 'toke' : the fish buyer-cum-trader who extends them a range of services in return for their fish. Are alternatives for a better life open to fisherfolk without the 'toke'? This article examines the question.

"The trouble with we Acehnese", said Pak Otto, "is we're so damn stubborn. Take an example. I wanted to build a path from one kampong in the village to another. It was going to save a 45-minute trip by sampan (traditional boat). You could have walked it in 10 minutes with a path through the forest. But when I tried to organise people in the village to help out, what was their reaction? 'You're not getting us to do any forced labour (kerja paksa)'."

Pak Otto is the village head of Pangkalan Siata, a small village of fisherfolk

and farmers buried in the mangrove swamps of northern Langkat district in North Sumatra, Indonesia. He continued, "We got it built in the end, of course, but...aduh!..." He raps his knuckles on his head.

His frustration with local fisherfolk's refusal to "be reasonable" is not unfamiliar to those involved in work with them on the coast of North Sumatra facing the Malacca Straits. In Northern Langkat district, the problems may be more marked among fisherfolk of Acehnese descent, who have a long tradition of fiercely inde-

pendent thinking. But everywhere in the fishing communities along this coast, the inability of previous development programmes aimed at small-scale fisherfolk to make real impact has often led to talk of fisherfolk's "poor mentality".

The reaction of the fisherfolk of Pangkalan Siata to another major problem is fairly typical. The dominant fishing activity among the 150 – odd fishing households spread along the banks of the Salahaji river is push netting for Acetes shrimp. The captured shrimp is processed by



fisherwomen and children into a salted shrimp paste. The fisherfolk of Pangkalan Siata only half prepare the paste and then sell it to an ethnic Chinese dealer in a nearby village, Pulau Kampai. He completes the processing into "terasi" (a popular ingredient in Indonesian cooking), labels it, and sends it off for sale as far afield as Jakarta. It is an arrangement that people in Pangkalan Siata feel gives them a poor deal, with lower prices for their product than they would get if they had their own label and marketing outlet. Their immediate suggestion as a solution is not, however, to try and set up "their own" label but to find someone who can do it for them and provide an outlet for their "terasi". We need a "toke", they say.

For people attempting to assist small-scale fisherfolk to improve their earnings and thus be more self-reliant and able to decide their own future, such a response is somewhat perplexing. The "toke" is the ubiquitous fish buyer and trader who forms the lynchpin of the local fisheries economy. He is widely perceived by outsiders as one of the principal constraints on small-scale fisherfolk development. He holds them in a vice of dependence and indebtedness which allows them little scope for improvement. He dictates prices paid for fish at the point of first sale, allowing little or no room for competitive pricing, and controls access into the marketing chain, taking fish products back to major distribution centres such as Medan. The "tokes" themselves often operate on behalf of much larger consortiums who effectively control the marketing system and are able to ensure a flow of necessary inputs back into the fisheries to ensure a steady supply of fish into the system. For fisherfolk, however, the "toke" is evidently much more than a simple fish dealer. He is a source of vital, flexible credit whenever it is required and for whatever purpose. He often ensures the supply of basic necessities for a 'community or an household, quite apart from the equipment and operating requirements of fishing operations. His loans carry no direct interest and repayment is flexible. He is often an integral part of the community, and fisherfolk may be tied to him by any number of bonds of kinship,



Processing of shrimp into paste at Kuala Serapuh village in Langkat district.

patronage and indebtedness, many of which are as yet poorly understood. And above all, as indicated by the fisherfolk of Pangkalan Siata, when they feel that they need a "toke," he relieves them of the enormous burden of having to deal with the headaches of arranging product inputs, marketing their catch, keeping accounts, transporting fish, buying ice and all the other day-to-day concerns of a fishing operation beyond actually catching fish. In many respects, the "toke" can be seen as the perfect manager.

The crucial and complex role of the "toke" in the small-scale fisheries of Langkat district of North Sumatra was one of the critical issues to emerge from preliminary field enquiries conducted by BOBP's extension sub-project in Indonesia. The extent of the

toke's control and the complexity of his links with fisherfolk has implications for the future directions to be taken by the BOBP sub-projects, which aim at improving the earnings of fisherfolk by preparing a bankable credit scheme meant for them. In fact, the BOBP is preparing a detailed study of the role of the "toke" in local fisheries, his links and ties with fisherfolk, and his place in the larger marketing system in North Sumatra.

From field enquiries it is abundantly clear that fisherfolk would have little incentive to approach formal credit institutions for loans when they already seem to receive loans and a whole range of other services from informal sources — services which any government extension agent would find very hard to improve upon. Many

past efforts to extend bank credit to fisherfolk in Indonesia appear to have floundered on this very point. While the modes and mechanics of bank credit can be made more flexible and brought down to the level of fisherfolk, banking institutions—even those that work together with fisheries and extension services — cannot provide in Indonesia, the sort of “local service” and security that the “toke” offers.

However, the fact remains that within the current system fisherfolk can do little but keep their heads above water. So BOBP and their counterparts, the Provincial Fisheries Service in North Sumatra, have decided to try to approach the problem from the “other end”. If a formal credit system trying to reach down to fisherfolk cannot hope to compete at present with the existing system, could fisherfolk themselves try in some way to improve their position in relation to that system? If they have to rely on the current marketing network, could they gain access to it at a more advantageous point? Could they use their existing resources better? Are there areas and activities which are more independent of the dominant marketing/credit complex? And, above all, how could fisherfolk themselves go about assessing these possibilities?

BOBP's preliminary field enquiries seem to reveal some potential along these lines – villages where the hold of fish traders on fisherfolk's activities is weaker, activities which could be developed on a small scale, income-generating activities which fisherfolk could manage themselves, or are already beginning to develop. Not surprisingly, given the already intensive fishing effort in the inshore waters of Langkat, the greatest potential seems to exist onshore or in the backwaters and rivers of the mangrove areas. From the data collected and the experience of the staff carrying out the enquiries, a short list of activities with scope for development has been drawn up. Fattening of mangrove crabs in pens and ponds, fish drying and salting, and shrimp paste “terasi” processing have been suggested, besides existing economic activities. While the economic and technical feasibility of such activities needs to be ascertained, it was felt that, by

encouraging fisherfolk to assess the viability of their planned or current activities themselves, the BOBP project could also get fisherfolk to take more responsibility for economic activities hitherto left to the “toke”. The prospect is somewhat daunting! Try and translate the information generally obtained in a feasibility analysis for an enterprise or a business plan into terms accessible to small-scale fisherfolk. To guide them to look carefully at each aspect of their activity to see what is currently happening, what are the weaknesses, and what could be changed. And then how to go about changing it. The goal would be for fisherfolk to be able to themselves approach banking institutions, whenever required, to request credit on terms they understand. And *if* they decide that it is a better solution than going to the “toke”.

This activity will require markedly different inputs from those developed in past BOBP extension activities. On the one hand expertise in small enterprises, or better, tiny enterprises. On the other, a patient approach of listening to fisherfolk and communicating ideas in forms easily accessible to them. In keeping with this new approach, activities will be commenced on a very limited scale in 3-4 villages. For any activities to be developed, the question of possible impact on local resources, and particularly the mangrove environment, has to be kept constantly in mind. Variations in approach because of variations in conditions from one village to another have to be carefully assessed.

But in Pangkalan Siata, people are already talking about how to be more independent, how to acquire control of their work and their livelihood. Encouraged by Pak Otto, they are contacting a local cooperative and the voluntary women's association for help in establishing a label for their own “terasi”. BOBP's extension project could help them think through their own ideas and put them into action. And perhaps they will finally say “we don't need's 'toke'.”

Facing page, above : Landings at a typical fishing village in Langkat district. Below : Purse seine landings of anchovies at Kuala Serapuh, Cebang, Langkat district.







OYSTER CULTURE IN MALAYSIA

Charges Angel provides an update of work on this BOBP-supported project activities relating to spat collection, species identification, and a marketing study.

The March 1988 Bay of Bengal News provided a glimpse into the startup of BOBP's oyster culture project in Malaysia. In this issue we'll take a closer look at the work accomplished since the first phase started January. Spat collection will be the dominant activity during the first year of the project, although some limited growout trials already started.

A somewhat more complicated species picture has emerged during the course of our initial work. In addition to *Ostrea folium* and *Crassostrea belcheri*, it looks as if *Saccostrea echinata* will also be an important species, especially in areas of higher salinity. Such sites include the northeastern side of Langkawi Island and Pangkor Island. We will also have to verify the identity of some of the

oysters on the east coast of Malaya at our Mercang, Trengganu site. Many, if not most of them, have purple muscle scars on the inner shell surfaces, as opposed to the normally white adductor muscle scars of *C. belcheri*. Such distinctions have more than passing academic interest, since each species is adapted to a range of environmental factors (temperature, salinity, and turbidity) which encourage the best growth and survival. *S. echinata* is farmed in Australia where it is known as the black-lipped oyster. Experimental culture in some Pacific island nations and in Indonesia shows that it has farming potential, although its growth may be slower than *C. belcheri*.

Harvesting by local fishermen has exploited oyster beds at Mercang and

Muar. Because much of the harvest is shucked locally, our field biologist found plenty of old oyster shell to use as cultch (substrate to which young oysters attach). Ahmad Ali, our field biologist at Mercang, located a supply of old motorcycle tires which will also be useful as source of cheap cultch.

For the present, oyster shell cultch is put in bags made of fish netting and suspended slightly off the bottom from rafts at Mercang, or placed directly on the rocky and sandy bottom at Muar and Sungai Linggi. Some of the shell will be hung on wire "rens" or strings, which lend themselves to intertidal rack culture.

Ruslan Shamsudin is furiously at work at his site on Langkawi Island preparing rafts and cultch for catching flat oyster



(*O. folium*) spat. We examined the reproductive state of flat oysters near the main town of Kuah and found most of the oysters in an advanced state of maturation. In fact, a few were already brooding larvae (unique to the genus *Ostrea*). All indications were that a major spawning is imminent from late April through May. This doesn't necessarily mean there will be a large set, but preparations have to be made nevertheless.

Zulkifli Mahmood has had some success getting several thousand spat of the black-lipped oyster at Pulau Pangkor. This was a good test of a new cultch designed to obtain single spat for intertidal tray culture. A 30 cm long tube about 5 cms in diameter is formed from extruded plastic mesh (Netlon) and dipped in a mixture of cement and lime. These collectors can be suspended from rafts or racks, or placed on the bottom in net bags. More spat seem to set on the inside of the tube and as many as 500 can be taken from a single collector.

After the spat reached 1.5 to 2 cms, Zulkifli put them in small trays suspended from FRI's mussel culture raft at Deep Bay, Pangkor Island, for several weeks of nursing. Mortality was very low and the spat were put in intertidal trays early April for trial growout.

Experience over a wide geographic area in tropical coastal waters shows a relationship between rainfall and spawning in tropical *Crassostrea* species. Major rainy periods had



Suspending a "ren" from a rack set up at Sungai Linggi in Malaka state. *C. belcheri* is abundant here, but not extensively harvested.

passed in both Mercang and Muar by the time we were able to get cultch materials out. Indeed, no spat have been collected at Mercang and very few at Muar. That doesn't mean that our biologists at those locations, Ali Ahmad and Hasbullah Zakariah, will have time to rest -they'll be very busy preparing more cultch in anticipation of coming spatfalls. Indeed some rains are expected during April at Muar. Major setting is not anticipated in Mercang until later this year or early next. But we are encouraged by the large numbers of juvenile oysters found at that site.

Although oysters are popular in Malaysia, very little quantitative market data is available. A recent study con-

cluded for BOBP by a FAO- supported marketing project based in Kuala Lumpur focussed on hotels and restaurants in the city, also on the potential for export to Singapore.

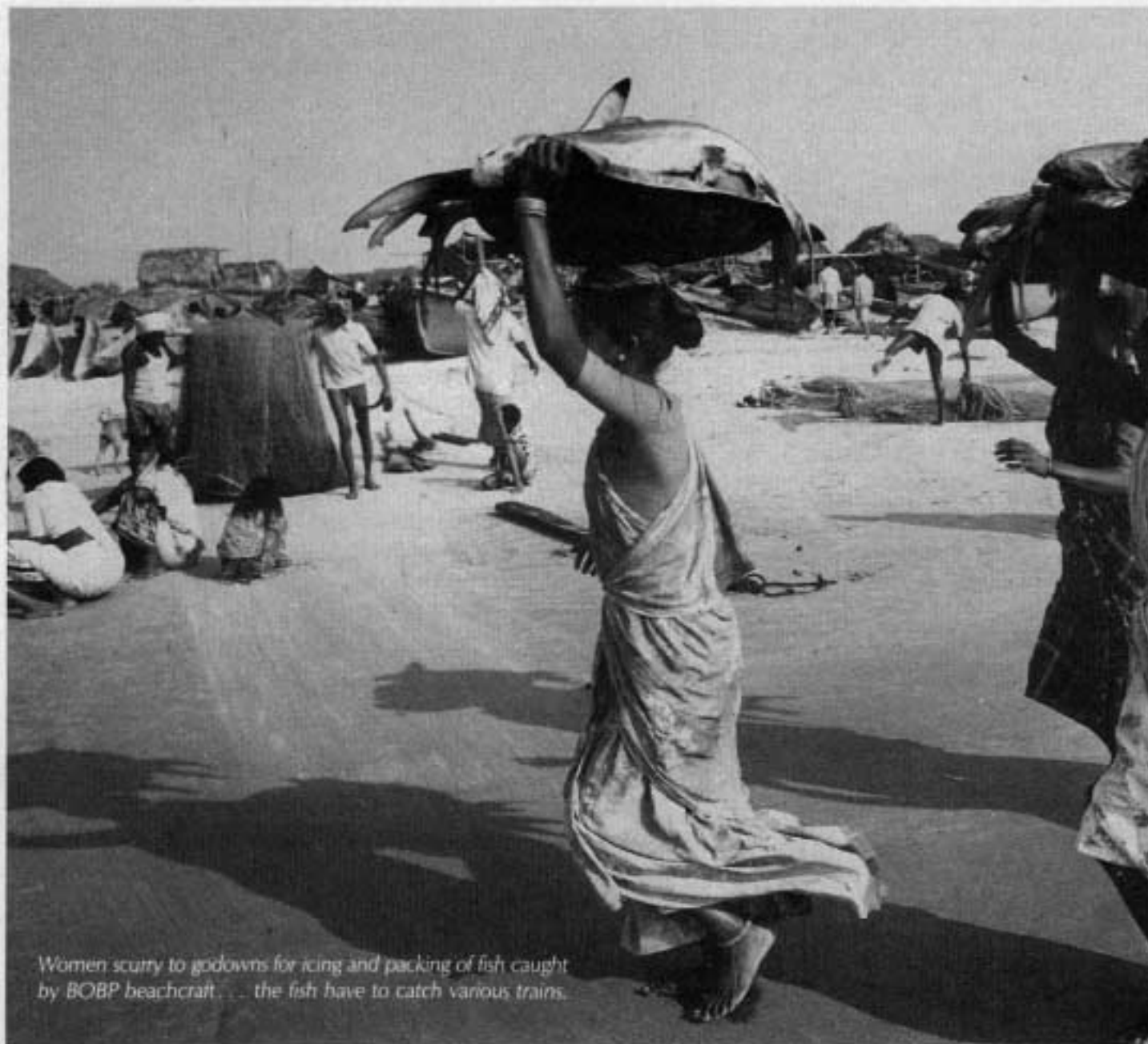
A supplementary study was later undertaken by BOBP on the more significant but more widely dispersed market outlets for oysters in Malaysia — small restaurants and hawker stalls in Kuala Lumpur, Penang, Alor Setur, Taiping, Malacca and Johor Baru. The study also focussed on market behaviour (buying and selling practices, price determination, relationships between producers, wholesalers and retailers, creditors), demand and supply patterns, etc. It is hoped that this study will yield useful information.



Extreme left : Project field biologist Ahmed Ali displays' old oyster shell and discarded motorcycle tyres which can be used as a source of cheap cultch (sub-starte to which young oysters attach).

Centre, left : Hazbullah Zakarraah examining Net/on cultch in the Muar River. The river bottom here is sandy and rocky, allowing the cultch to be placed directly on the bottom.

Left : Zulkifli Mahmood displays oyster spat collected and nursed at Deep Bay on Pangkor Island. These one-month old spat will be transferred to intertidal Netlon trays' at a nearby village for growout trials. Most of these oysters are of the black-lipid variety.

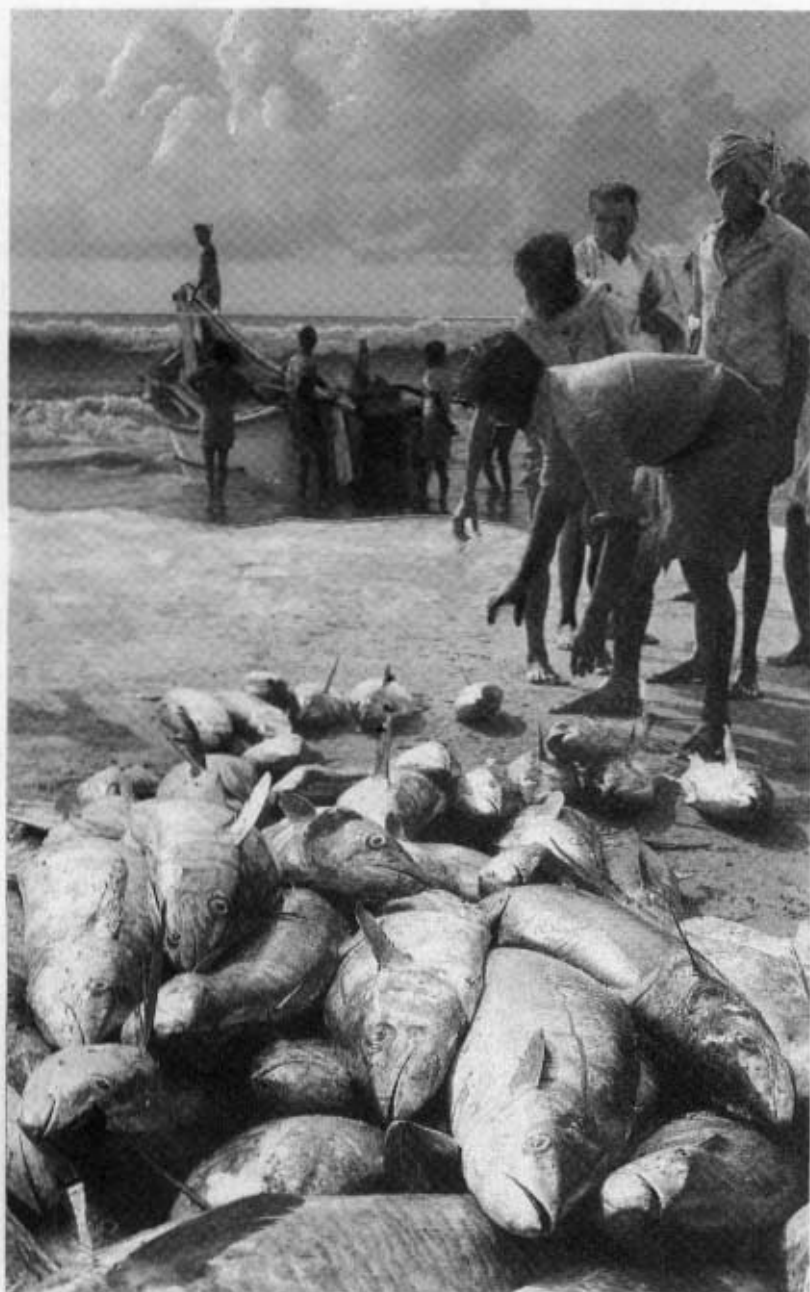


Women scurry to godowns for icing and packing of fish caught by BOBP beachcraft... the fish have to catch various trains.

BOBP beachcraft at Puri do the catches go?

To Howrah Delhi, Durg, Asansol, Madras, even Singa

BOBP beachcraft have recorded their biggest success in the rich waters off Puri in Orissa, India. An in-depth SIDA-funded three-month study was conducted recently of the highly organised fish marketing system at Puri. The study has confirmed the demand for beachcraft, their high catches, and their impact on the fish marketing system. For instance, a new market for seer-fish has opened up in Delhi, partly because of regular seerfish catches from beachcraft. The main findings of the study, presented on these pages, should be equally valuable for development planners, marketing strategists and researchers.



where

pore!

During February - May 1988, Ms Anna-Karin Forsgren and Ms Eva-Karin Dahl, two business management students from Gothenburg University in Sweden, conducted a study of fish marketing at Pun, focussing in particular on the marketing of BOBP beachcraft catches. They met fisherfolk, fish traders, merchants, processors,

exporters and officials in Pun, and also visited Delhi and Calcutta to follow up on the marketing of Pun catches.

Fish marketing at Pun — sale of fish at the shore, transport by women by headload to godowns, packing and icing of the fish in baskets, distribution by rail or truck to far-flung centres — is a highly organized and streamlined system. The Anna-Eva "Minor Field Study"* provides fascinating glimpses into this intricate system.

Some facts and findings from the study are presented here. A formal and detailed report will be published by the National Swedish Board of Fisheries.

Beachcraft operations and landings: Twenty four beachcraft** or BLCs operate off Pentakata in Pun (besides

some 1,100 teppas and 20 motorized teppas). They normally go out to sea around 10 a.m., and return around 5 a.m. the next day.

The BLCs operate at a maximum depth of 25 fathoms, and use large-mesh driftnets and occasionally hooks and lines. (Teppas use outboard motors, nets and hooks and lines. Some use sails, some do not).

- "Minor Field Studies" are sponsored by SIDA.

They are carried out in developing countries, usually in concert with SIDA-funded projects, for a duration of two or three months.

-- Of the 24 beachcraft, seven have been built in a private yard in Penthakata, five belong to a cooperative society, eight have migrated from Andhra Pradesh, 2 from Gopalpur-on-Sea and 2 from Paradeep.

In March 1988, the BLCs landed 74 kg of catch per trip, as compared to 25 kg/trip for motorized teppas and 15 kg/trip for traditional teppas. Thus the BLCs (referred to by fisherman and traders as "plastic boats") caught five times as much as traditional teppas, and three times as much as the motorized teppas, though the 1988 landings of BLCs were below 1987 landings.

Table 1 provides comparative data for the landings of teppas, motorized teppas and BLCs (those BLC that are monitored by the Fisheries Department). Table 2 compares BLC catch data for 1988 and 1987.

The major species landed by BLCs — and also by navas and motorized teppas — were seerfish (surmai), bekti, pomfret, shark, catfish and tuna.

Purchase of fish

Three types of traders — dealing in fresh fish, shark and dried fish — buy

Table 1
COMPARATIVE CATCH DATA — JANUARY-MARCH 1988
Teppas, motorized teppas and BLCs

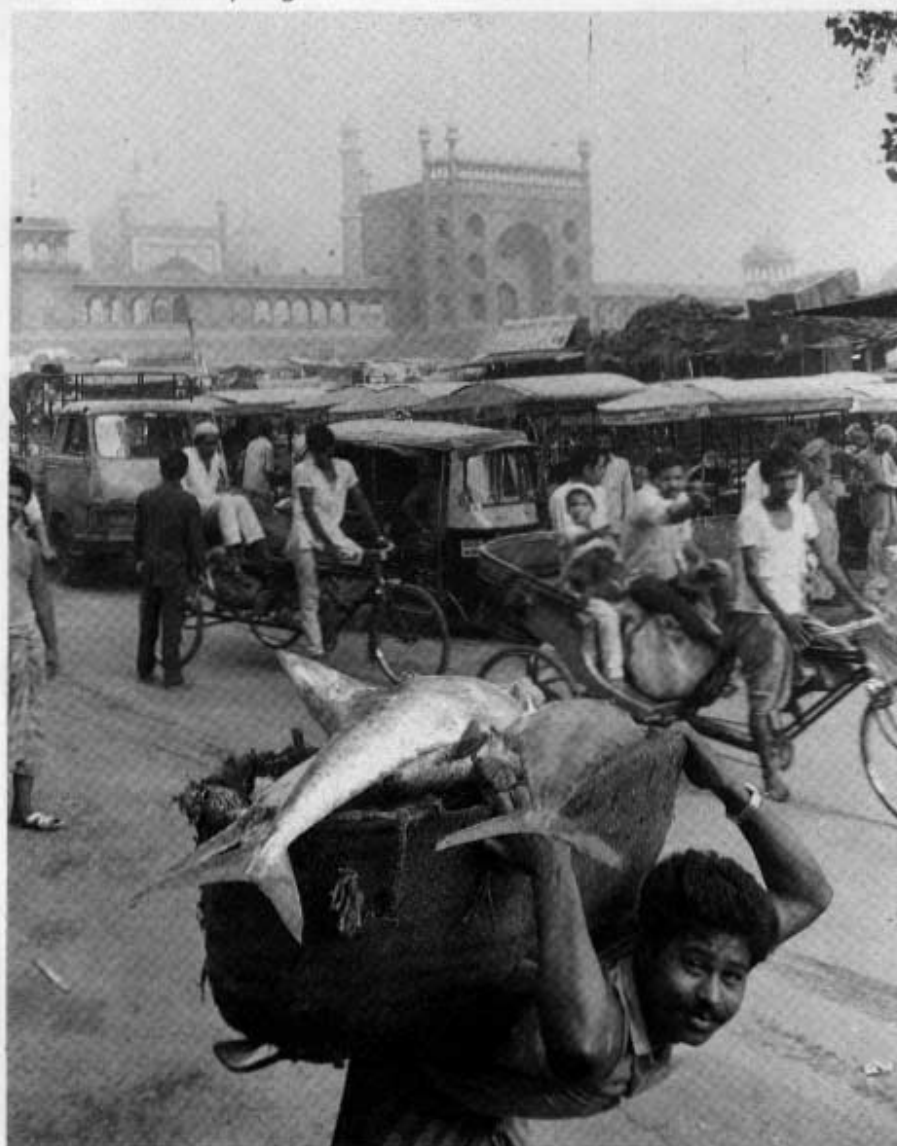
Month	Average catch/landing (kg)		
	Traditional teppas	Motorized teppas	BLCs
January	20	37	55
February	15	29	69
March	15	25	74

Source : Superintendent (Marine), Puri Fisheries Department.

Table 2
BLC LANDING AT PURI : CATCH DATA — 1988 & 1987
(Seerfish, bekti, pomfret, shark, catfish, tuna)

	1988			1987		
	Jan.	Feb.	March	Jan.	Feb.	March
Average landing/trip (kg)	55	69	74	72	143	291
Fishing days	16	16	16	8	22	21
Average earning/trip (Rs.)	521	767	1028	582	1242	1459

In Delhi young fish vendor proceeds to Jumma Masjid fish market with seerfish catch from Puri. Delhi buyers get Puri fish in 62 hours.



BLC species. There are no local retailers and no women among the buyers. The traders are usually from Andhra Pradesh and Bihar.

After the fish is bought, women labourers carry it on headload from seashore to godown. It is rapidly packed in bamboo baskets insulated with leaves; the baskets are wrapped in gunny bags for despatch to the railway station.

When finally loaded, each basket weighs 250 kg. In baskets meant for Howrah, 150 kg of fish is packed with 80 kg of ice. In baskets for Delhi and Madras, 100 kg of fish is packed with 130 kg of ice. "The whole operation is smooth, rapid and extremely efficient" says Eva.

Distribution of fish outside Orissa

Around 90% of the BLC landings in Penthakata are sold outside Orissa. Two factors account for this high figure: Orissans are not great fish eaters — annual per capita consumption in the state is only 1 kg, compared to 3 kg for all of India. Second, the people of Orissa prefer freshwater and brackish-water fish to marine fish. Normally, 60% of Orissa's entire marine fish production goes outside the state.

Where do these fish go?

Calcutta is a major market: high purchasing power, virtually insatiable demand. All types of fish go to Howrah

(the Calcutta wholesale market) but *bekti* needs special mention. Its price is Rs. 31/kg at Howrah, and Rs 35/kg at retail markets in Calcutta, as compared to 21 in Madras (retail) and 23 in Delhi.

Bekti is very popular at Bengali wedding receptions. Prices can touch Rs. 60/kg during the wedding season. In fact, Calcutta wholesalers send traders in Orissa cards with important dates marked on them, to ensure extra supply of *bekti* on those days.

While Calcutta is the main receiver of marine fish from Puri, marketing has been diversified in recent months. Example: Formerly, Delhi received only occasional baskets of seerfish from Orissa. From January 1988, Delhi has become an important and regular market for seerfish — thanks partly to BLC landings of this species. Till the Delhi market opened up, Madras used to be the main market for Puri seerfish.



Dilip Banerjee

Pomfret attracts buyers at the Howrah fish market.

Table 3
PRICES (RS/KG) AT DIFFERENT MARKETS

Species	At beach (landing price)	Puri (Retail)	Bhubaneswar (Retail)	Calcutta (Wholesale)	Delhi (Wholesale)	Madras (Wholesale)	Calcutta (Retail)	Delhi (Retail)	Madras (Retail)
Bekti	12	14	18	31	14	15	35	23	21
Seerfish	12	12	17	12	25	21	18	30	32
Pomfret	10	12	15	15	30	16	20	35	20
Shark — medium	—	—	—	—	—	11	—	—	—
— big	8	—	—	—	—	6	—	—	16
Catfish	5	7	10	8	7	7	12	13	12
Tuna	4	5	—	8	7	5	12	12	9

Table 4
TIME SEQUENCE : TRANSPORTATION OF PURI FISH TO FINAL DESTINATIONS

Destinations	Puri auction	Train dep.	Train arr. at destination	When sold wholesale at final destination	When sold retail at final destination	Time taken between Puri landing and final sale	Comment
Delhi	08.00-10.00 Day 1	09.20 Day 1 09.20 Day 2	21.30 Day 2 21.30 Day 3 +ice	07.00-14.00 Day 3 07.00-14.00 Day 4	Day 3 Day 4	62 hours. 86 hours	If the fish consignment misses the right train, and has to catch the next one, total time between Puri landing and final sale will go up by about 24 hours.
Howrah	"	18.45 21.00 Day 1	06.15 08.10 Day 2	07.00-18.00 Day 2	Day 2	38 hours	
Tatanagar	"	09.20 17.40 Day 1	19.10 Day 1 04.40 Day 2	Day 2	Day 2	38 hours	
Madras (via Kordah Road)	"	17.00, Day 1 to Kordah Road 05.00, Day 2 to Madras	04.45, Day 3 Madras	07.00-12.00 Day 3	Day 3	62 hours	

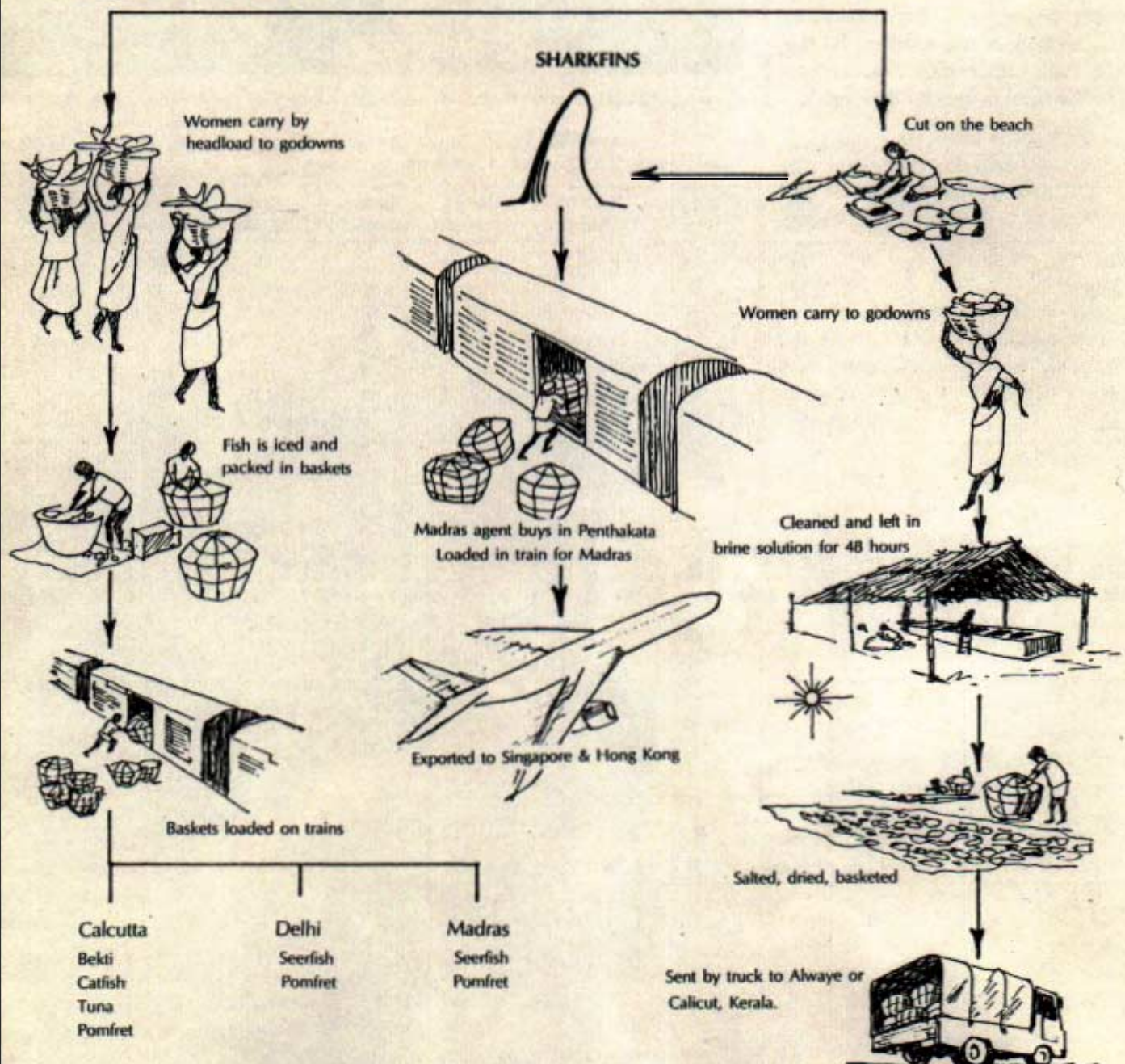
Note: Puri fish are also transported by rail to Karagpur, Asansol, Durg, Rourkela and New Jalpaiguri. Landings at Puri are around 4 a.m.

Flow of beachcraft catches from Puri beach to various destinations



Fish species other than shark

SHARK





Cutting of shark at *the Puri fish* market.

Till recently, Madras was also the main market for shark meat, but Puri traders now send it to Kerala and obtain a better price there. An enterprising Madras trader buys sharkfin from Puri and exports it to Singapore.

The prices of fish species landed at Puri in wholesale markets of other cities are given in Table 3.

Train transport of Puri fish and its receipt at various destinations

Most of the Puri fresh fish is transported by train. The fish carrying capacity of trains is generally insufficient in relation to both demand for and supply of fish. Table 4 indicates the time sequence for the flow of Puri fish to a few destinations. For example Fish landed in Puri early morning catches the 9.20 Jagannath Express for Delhi (day 1). It arrives in Delhi at 9.30 p.m. the following night (day 2). It's sold at the

Jumma Masjid wholesale market at 7 a.m. the following day (day 3) and is available at the retail market a few hours later. Thus 62 hours lapse before the Delhiwallah buys a Puri seerfish.

If the Puri fish misses the Jagannath Express on the day of catch, it is repacked in ice and catches the train the next day. In this case the Delhiwallah buys it on day 4, 86 hours after the auction. However, well-iced fish is edible and palatable even now.

People in the business suggest that BLCs and navas should carry ice on board to ensure that more fish of better quality is available to consumers, and that fishermen get a better price for their catch. Better fish carrying capacity by trains, and insulated rail cars, are also suggested. Cold storage facilities are perhaps needed close to wholesale markets.

But is there enough ice supply in Puri for all the BLCs? At present there are five ice plants in Puri, including two in Penthakata. Traders say that if all BLCs take ice, the present supply will not be enough. The supply will then need to be augmented.

Dried fish from Puri

Unsold fresh fish, usually ribbonfish and anchovies, are dried and sold 'outside Puri (often to Andhra Pradesh, because of the contacts Telugu fisher-folk of Penthakata have with the Andhra Pradesh market). The dried fish also goes inland to locations in Orissa and West Bengal. Larger sizes of dried fish — which means BLC catches — go to Madras, Goa and Calcutta.

Shark

"In Sweden", says Anna, "we were told that shark are not eaten in India.



At the Howrah wholesale fish market near Calcutta, bekti from the Puri BLCs commands a good price.

I discovered that quite the opposite is true... The shark from Puri are utilized 100%:

Shark are cut on the beach, carried to the godown by female labourers, cleaned, left in brine solution for 48 hours to reduce urea content, then salted, dried and packed in baskets. Trucks, each carrying a load of 14 tons, take the shark meat to Alwaye and Calicut in Kerala.

Shark fins are sun-dried, not salted. A Madras agent, buys shark fins from all

Anna Forsgren (right) and Eva-Karin Dahl — who conducted the "Minor Field Study" on fish marketing at Puri.



the traders in Penthakata and export them to Singapore and Hongkong. The Madras agent pays a price ranging from Rs. 60/kg to Rs. 400/kg for fins that vary in length from 5 to 40 cm.

Recommendations

The study recommends that fishermen should be encouraged to carry ice on board, and that BOBP could perhaps carry out trials. As for the BLCs themselves, the study recommends that fishermen should be encouraged to set up a spare parts supply for BLCs, so that there is no risk of breakdowns, and the BLCs' potential is fully tapped. The ice introduction should be combined with a non-formal adult education programme for fisherfolk.

Comments on the study

Coordinating the Anna-Eva fish marketing study has been the BOBP's post-harvest fisheries project, which is funded and executed by the ODA (U.K.) Mr. David Walker, adviser of the project, says: "From a fish marketing study we need hard facts, not folklore.... The work of Anna and Eva

represents the first in-depth study I have seen of fish marketing relating to India's east coast. An immediate follow-up to the study is that it will help the fish marketing studies that the ODA project has planned for other east coast states of India".

"There is no central organization helping to coordinate fish marketing throughout India", says Mr. Walker. "There is not enough promotion of the vast domestic market for fish... an organization like MPEDA, which taps overseas markets, is perhaps needed for the domestic market."

"If a fisherman is to get rewarding prices for his labour, there should be more competition for his product. He should have access to more outlets, there should be more information. At present the system is open for exploitation by middlemen.... The middlemen do sometimes play a valuable role but perhaps slice off more of the cream than they should. The Anna-Eva study is a very good first step towards gathering the baseline information that project planners need"

— S.R.M.

Loans for Tamil Nadu fisherwomen -prospects and problems

Fisherfolk everywhere in the Bay of Bengal region — the women and the men — describe credit as their main need. Women often use the credit more productively than the men — they ensure a better impact on the families' living standards.

In Tamil Nadu, BOBP helped initiate group loans for fisherwomen several years ago, under its 'link worker training' project. The BOBP's pilot role ended 1985, but the FWES (Fisherwomen's Extension Service of the Tamil Nadu Fisheries Department) has continued the catalytic role with fisherwomen. Forty four co-operative societies for fisherwomen have been set up in various parts of the state; they have launched a variety of activities, including bank loans, for their 6,500 members. So far, these members have received loans totalling Rs. 2 million — both from the cooperative societies and directly by banks.

How well are the loans being used? How regularly are they being repaid? Let us take the example of Chemmencheri fishing village. The Central Bank of India at Kelambakkam has been

advancing loans to FWES society members of Chemmencheri.

Mrs. Vedavalli Jayapal, 30, has received three loans of Rs. 300, Rs. 600 and Rs. 1,000. They have been repaid promptly and in full.

Mrs. Sulochana Kesavan, 35, has received four loans — for Rs. 200, Rs. 300, Rs. 500 and Rs. 700 — for trading in dry fish. Of these, the first three loans were fully repaid, and Rs. 250 from the final loan remains to be paid.

Mrs. Kodiammal Varadhan, 48, has done even better. She has repaid in full all the four loans received so far — for Rs. 200, Rs. 300, Rs. 500 and Rs. 700. These cases are not, of course, typical; many women have defaulted. During 1983-84, when the BOBP-supported link worker scheme was on, some 150 Injambakkam women availed of loans ranging from Rs. 200 to Rs. 500 and repaid them in full. In 1985, some 60 women got loans; only 20 have repaid in full.

The bank is unwilling to extend further loans unless all the FWES members repay previous loans. But those who **have** paid up, feel that if they are

Manager Lakshmanadas of the Central Bank of India at Kelambakkam hands over a loan to a fishewoman from Chemmencheri.



issued fresh loans, defaulters will clear arrears in anticipation of fresh loans. The FWES proposes a 'loan repayment camp' in the village to improve repayments.

Why are there so many defaulters? Poor fish catches and incomes, particularly during the off-season; the ravages of drought; lack of monitoring and coordination by the Fisheries Department, which is under-staffed for the purpose; lack of leadership among fisherwomen, after termination of the link worker scheme.

"A coordinator or link worker can make all the difference between indifferent and regular loan repayments," says social worker N. Valli, who has worked in several fishing villages. "She can bring group pressure to bear on defaulters; she can also collect loan repayments herself and hand them over to the society". One complaint of defaulting fisherwomen has been that when they have money and want to repay, no official is available to collect the money and the co-operative society office' is closed.

"Coordination is the key to success even in a slick and streamlined business set-up," says a bank official. If a credit project with an informal group like fisherwomen is to succeed, such co-ordination is all the more essential. Hence the need for a "link worker" scheme for fisherwomen or for a strong FWES set-up — it provides the link without which the fisherwoman-banker connection gets snapped.

Loan repayments are better when women have independent sources of income. The FWES experience confirms this. Women who have obtained jobs or assets or improved their earning capacity through training, have repaid loans more regularly than others.

Some useful FWES activities in this context are providing jobs for fisherwomen as teachers, as ayahs, as fish stall and cooperative society counter girls; distribution of nylon yarn for net-webbings (Kanyakumari district); training in shell handicrafts (Azhuthal in Kanyakumari district), and in fish and prawn handling (Mallipatinam in Thanjavur district); the starting of a net-weaving unit (Devaneri). More such FWES activities are needed — to increase both the earnings and the credit-worthiness of fisherwomen.

— S.R.M.

glimpses into BOBP projects

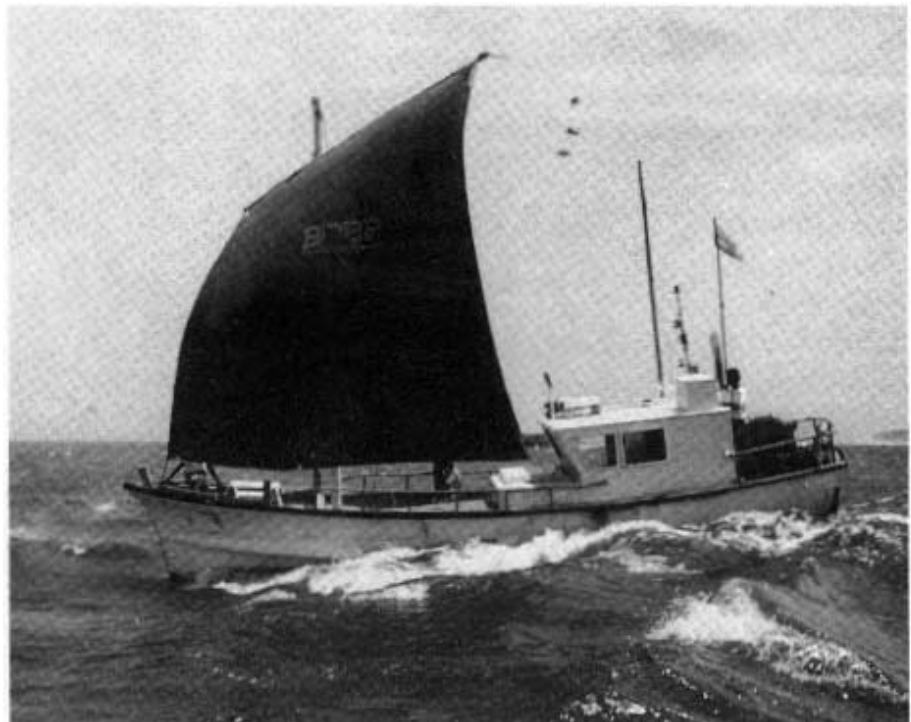
SRL-15, Sri Lanka's smallest offshore fishing craft

The results are impressive. During six and a half months of demonstration fishing off Galle harbour in the south of Sri Lanka, the SRL-15, an offshore fishing boat designed by BOBP, has caught 13,855 kg of large pelagic species. Gross earnings: Sri Lankan Rs. 325,554. Net earnings: Rs. 241,938. Since the capital cost of the boat and its fishing gear is Rs. 600,000 its viability has been proven.

Some mechanical boat details: SRL-15 is a 9.65 m, 3.2 ton boat — the smallest offshore fishing craft in Sri Lanka. It can stay out at sea for six days and operate up to 150 miles from shore. It can simultaneously engage in drift gillnetting, drift longlining and trolling and carry 2 km of driftnet, 6 km of drift longlines and 5 trolling lines. It is propelled by a 20 hp diesel inboard engine featuring electric and hand start.

The fish hold has a total capacity of **2.1m³ — 1.3 tons of fish can be preserved in ice-chilled sea water.** The fuel and fresh water tanks have a capacity of 220 and 180 litres respectively. There is a dipping lug **sail of 22m² for motor sailing and emergencies;** and steering and working facilities for a crew of four in the aft offset cabin. The elevated aft deck provides overhead space for four crew members to sleep and rest, and free deck space to install a drift longline drum.

Fishermen and crew are very pleased with this boat. They are astonished that they can operate so far from the shore and stay at sea so long without fatigue. They are also happy with the comforts provided by SRL-15. Its low running cost and high fishing potential in offshore waters have



SRL-15, BOBP's offshore fishing boat for Sri Lanka, under sail.

stood out during the lean fishing season, when other boats are in the red.

The BOBP has an agreement with Mr. W.J.C. Fernando, a boat owner, for the operation of SRL-15. Mr. Fernando, who also owns a traditional 31 tonner and a 11 ton Abu-Dhabi-type offshore boat, has been impressed by the performance of SRL-15. Particularly by the fuel efficiency of its engine — according to him some 30 per cent better than the 30-33 hp engine of comparable traditional boats.

The final version of SRL-15 is the product of three years of close collaboration with fishermen, for development and modification of the original prototype — a good example of people's participation.

BOBFINS — Unidisk version

The article on BOBFINS (Bay of Bengal Fisheries Information System) in the December 1987 issue of *Bay of Bengal News* has generated some requests for BOBFINS floppy disks. BOBFINS is now available in a unidisk version — in a single diskette. Users wanting a copy of this version must make sure that their system has the following hardware features:

- 1 Megabyte Ram Works Card
- 128k - Saturn card
- 1 unidisk drive

BOBP & shrimp feed

The March 1988 *Bay of Bengal*

News (Issue No. 29, pages 8 - 11) carried an article on "The BOBP experience in shrimp feed formulation". The Sri Lanka feed mill referred to in the article informs us that the cost per pellet feed indicated on page 10 is an old figure and no longer valid.

Table 2 of the same article, "Practical diet formulations used during various BOBP shrimp culture trials, by ingredient and project location," contains some numerical errors.

While these errors are regretted, the basic premises and postulates of the article remain unchanged.

Abstracts of BOBP publications

Published here are abstracts of BOBP publications out in recent months.

BOBP/REP/33 : Non-formal/ *primary* education for *children of* marine fisherfolk in Orissa, India. U. Tietze and Namita Ray. Madras, India, *December* 1987.

This paper describes a BOBP-supported pilot project in non-formal education for fisherfolk children of coastal Orissa, carried out during 1984- 86. It describes in detail the curriculum material prepared for fisherfolk children and the training imparted to teachers who used the material at 40 non-formal centres in Orissa's four coastal districts. It also summarizes proposals for wider implementation of the project in Orissa and for adapting it to another state (Andhra Pradesh).

BOBP/REP/39 : investigations on the mackerel and scad resources of the Malacca Straits. Colombo, Sri Lanka, December 1987.

This report summarizes the findings and results of investigations concerning the mackerel resources of the Malacca

Straits. They were undertaken during 1983-86 under the BOBP's UNDP-funded project "Marine fishery resources management in the Bay of Bengal" by a working group consisting of fishery biologists from Indonesia, Malaysia, and Thailand. Available data on the mackerel resource of the Malacca Straits were examined, lacunae identified, improvements to data collection systems suggested and the status of the resource analysed. The report suggests management measures to prevent an uncontrolled increase in fishing effort directed at mackerels and scads.

BOBP/REP/40 : Tuna in the Andaman Sea. Colombo, Sri Lanka, December 1987.

This report summarizes available knowledge on tuna resources in the Andaman Sea area. It is based on cooperative investigations in Thailand and Indonesia and on discussions at two meetings of a working group established for the purpose under BOBP's auspices. It recommends a wide range of activities to enhance knowledge on tuna in the Andaman Sea area.

BOBP/REP/41 : Studies of the tuna resource in the EEZs of Maldives and Sri Lanka. Colombo, Sri Lanka, May 1988.

This report summarizes available knowledge on the status of tuna stocks in the exclusive economic zones of Maldives and Sri Lanka. It identifies a number of lacunae in the existing knowledge and suggests the action to fill them. It emphasises the need for an international management regime for Indian Ocean tuna.

BOBP/REP/42 : Report of the twelfth meeting of the *Advisory Committee*. Bhubaneswar, India, 12-15 January 1988. Madras, India, April 1988.

This report records the recommendations of the twelfth meeting of the Advisory Committee of the Bay of Bengal Programme for Fisheries Development. . It also includes the annual report for 1987, and the 1988 workplan for the BOBP project "Small-scale fishetfolk communities in the Bay of Bengal" (GCP/RAS/118/MUL) which became operational in 1987.

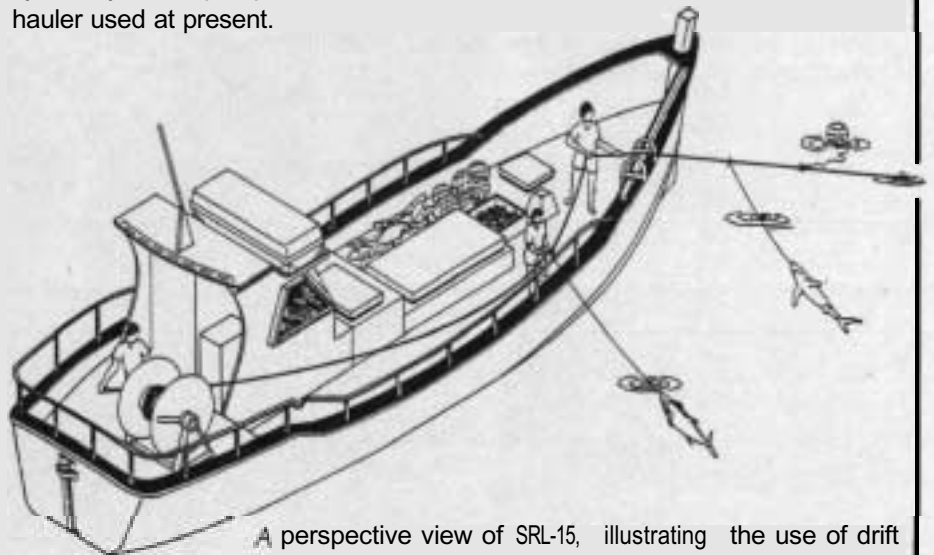
Manual drums for drift longlines in Sri Lanka

The BOBP has fabricated and tested a manual drum to be operated by small harbour-based fishing boats that use drift longlines. The drum will make possible better handling of drift longlines and greater storage capacity, thus improving the working conditions and earnings of small-scale fishermen.

The drums have been tested and demonstrated with SRL-15, the BOBP boat operated commercially by local fishermen for capturing large pelagic species (tuna, shark and billfish species) in Sri Lanka's offshore waters. The trials have shown that use of a manual drum enables the drift longline to be 30% longer; this makes possible higher earnings that more than offset the cost of the drum and its maintenance. It also eases fishing gear handling. Fishermen using the drum have requested the boat owner to get a new drum made for another 3%ton boat.

The fishermen (and the same boat-owner) also use a 1 l-ton offshore boat that operates 2,000 m of drift longline. They believe the drum will be even more effective with this class of boat. They wish to experiment with a hydraulic drift longline drum driven by the hydraulic pump of the driftnet hauler used at present.

As a follow up measure, BOBP will design and construct at cost a final version of the manual drum for the 3 1/2-tonner. It is hoped that other boat owners will also take to such drums for the fishermen's benefit.



A perspective view of SRL-15, illustrating the use of drift longlines with drums.

DEVELOPMENT AND THE BUREAUCRACY

BOBP's activities are path-finding in nature. They promote understanding of a problem and explore solutions; they identify development potential and show how it can be tapped; they also experiment with and develop tools to augment fish production in the small-scale sector. Like other earnest endeavours, BOBP has notched up some successes and experienced some failures.

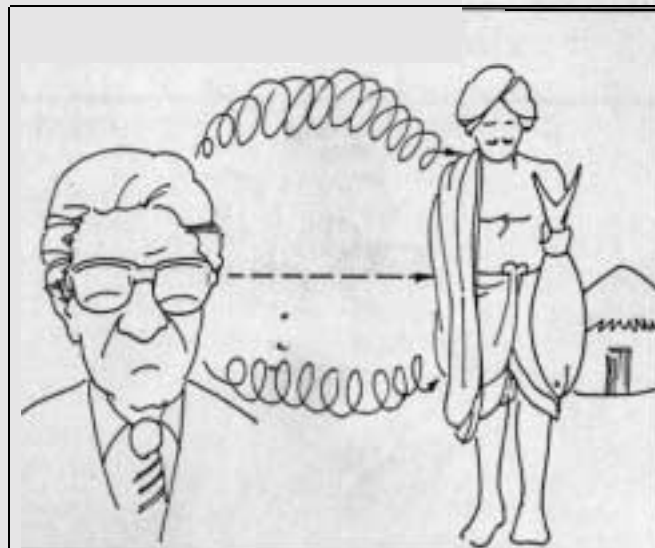
Initial success in some activities led to support from governments concerned through follow-up action. Introduction of beachlanding crafts in India, the aquaculture demonstration project in Thailand, and cockle culture in Malaysia are examples of how government support can convert initial success to enduring achievement.

Whether the success of a project will be sustained, multiplied or forgotten depends largely on the follow-up, on the interest exhibited and support extended by the government.

When the feasibility of a pilot project is established, it is the government's responsibility to decide whether it should be followed up, and if so how and when. It is the delay in the decision-taking process that leaves the others — the formulator of the proposal, the donor agency, the implementing authority and the intended beneficiaries — helpless and frustrated. True, there are several doors to knock at in the bureaucratic complex before a proposal emerges as a project; but can't the waiting time be reduced?

The frustration from waiting time isn't of course peculiar to BOBP follow-up projects. The pipelines for the future are clogged with proposals for bilateral and multilateral projects of various kinds. A five-year "formulator-y" period is not uncommon for projects, and there are proposals that have been under "active" consideration for up to 10 years!

But is it governments alone that are bureaucratic? The donor agencies are no exception! They go about in circles instead of a direct straight line. Firmer decisions are needed earlier. The preparatory phases of projects and programmes are characterised by endless requests for information, investi-



gations and visits by missions to satisfy the bureaucracy of donor agencies. By the time the project materialises, most of the preparatory work is of historic value; conditions have changed, there is in fact a new stage with a new cast and the old script is no longer valid.

All these bureaucratic delays of course add to the costs of development. More important is the reduced "revenue" or impact from the delayed development effort.

How can bureaucratic systems be made better? If they can't, what are the alternatives?

Lars O. Engvall

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 bordering the Bay of Bengal — Bangladesh, India, Indonesia, Malaysia, Maldives, Sri Lanka, Thailand. The BOBP's main project is "Small-scale fisherfolk communities in the Bay of Bengal" (GCP/RAS/118/MUL). Executed by the FAO (Food and Agriculture Organization of the United Nations) and funded by Denmark and Sweden, the project develops techniques, technologies and methodologies through pilot activities to improve the conditions of small-scale fisherfolk in the seven member-countries. The project began in 1987 for a duration of five years. It succeeds an earlier BOBP project, "Development of small-scale fisheries in the Bay of Bengal", which terminated 1986. A five-year post-harvest fisheries project, executed and funded by ODA (U.K.), is also part of the BOBP.