

In the mid-1970s the Indonesian government realized a need for furthering effective in-service training of government fishery development field staff. An improved system of extension service was agreed upon and technical assistance was sought from FAO/UNDP to lead its establishment.

In February 1980, the project document was signed, starting a four-year program of training, trials and demonstration in five provinces: North Sumatra, East, Central and West Java and South Sulawesi in marine capture and freshwater culture fisheries. The project objective is the improvement of well-being of Indonesian fishing communities. Twelve FAO staff, assisted by short-term consultancies, cover fishing and gear technology, boats and engines, shore establishments, post-harvest handling, processing and markets, extension methods and training, social sciences and management.

After a preliminary study of selected fishing communities in the provinces, training of extension supervisors began while technical innovation was tried with equipment similar to that of the traditional, usually small-scale, fisheries.

From late 1981, about a hundred field extension workers were posted to project areas, given preliminary training for their tasks and supervised by project and government staff. Later in 1982 and through 1983, a second group is receiving similar training and follow-up, while the first group moves to more specific training and assistance in tackling particular problems in their working areas. It is hoped that, by the conclusion



Fishing boats near Indramayu, north coast West Java. Extension workers give advice on gear purchase and maintenance. Photo by Conner Bailey.

Extension Services Support to Small-Scale Fisheries, Indonesia

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of the project, a nucleus of trained field agents and their supervisors will lead the way, first to strengthening the whole extension service in the five project provinces, then to a similar establishment in all the other provinces of the country.

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In seeking to offer improved living standards for fishery communities, it was

soon clear that the natural resource limitations in sea fisheries at least, are unlikely to allow better income from increased catches. On the contrary, the ever-increasing recruitment into the small-scale fishing industry, by young men usually following the family tradition, others trying to enter a low-investment job and former trawler fishermen returning to the crowded canoe fleets, is allowing even smaller shares of available yields and threatening the vulnerable inshore stocks. Management controls can hardly be imposed in such a diffuse fishery, and in any

case, would force greater hardship, at least in the short term. Improved fishing methods then, have application only where a resource is relatively less exploited, or can benefit some without detracting from others, in long-lining for example, and particularly in finding "new" resources that can be feasibly utilized with wider market outlets.

With little hope of increasing catches, the project next seeks better means of

Small sail-powered fishing craft, South Sulawesi. Photo by Conner Bailey.



marketing and caring for fish after catching, to improve food value and hopefully, wholesale prices paid for better quality. To this end, schemes are underway for improved handling and selective sales to foster consumer discrimination. Minor ways of direct help include purchase and operation of boats and gear which are either cheaper or longer-lasting (or both!); advice on simple maintenance techniques to extend the working life of boats and gear and information about the fisheries of other regions and countries to offer some new ideas.



Above: Improvement in fish handling is also part of the extension project. Here buyers inspect a catch by small-scale fishermen at Aceh, Sumatra. **Right:** Small-scale retail fish market in Labuan, West Java. Photos: Conner Bailey.

Extension work is not confined to technical aspects, but may encourage self-help schemes for village improvements, health, transport, communications—even family planning, domestic help and sport. In such ventures, the fishery field workers are encouraged to link with the appropriate technical advisers from the other fields to ensure uniformity of message and approach. The project administrators also maintain contact with other specialist organizations.

The major problem still remains however: too many fishermen are seeking limited stocks of fish. Encouragements to go further afield, with bigger boats and engines, etc., are not only beyond the scope of this small-scale project, they may be self-defeating unless firmly controlled. It is therefore necessary to reduce entry into the capture fishing industry in any way possible. Legislation would be difficult, unpopular and open to abuse, so there is a need for alternative employment in ancillary and related marine industries, particularly in the

culture of fish in the sea. Since the very popular fixed-platform liftnet fisheries appear to lend themselves to combining with a little cage culture, possibilities may exist here gradually to divert the capture fishermen to fish culture.

Alternative employment with fish culture may be possible but at present appears socially less acceptable. The extensive, in area and operation, tambak (brackishwater pond) fish culture covers huge areas of Sumatra, Java and Sulawesi, and in places of silt accretion, new ponds are being made from the sea (which incidentally, increases the rate of accretion). However, this increase is relatively small and employs few people. Intensification and improved culture technology could employ many more, and give

very much higher yields—especially in income—for lucrative shrimp culture. However, this requires not only higher capital, higher risk and higher technology levels for those already engaged in tambak fisheries, but a change in attitude of mind for traditional fishermen, from capture fisheries at sea to a totally different land-type farming which does not appeal to most of them.

The project's staff then, are increasingly concerned with offering change, gauging reaction to it, and modifying the offer, in an attempt to utilize the sea resources as beneficially as possible for the coastal communities and the environment on which they depend.

In this, opportunity is taken, however appropriate, to benefit from shared knowledge. Development and environmental projects of government, international and bilateral and non-governmental organizations touching on this project's work have been helpful through information on resources and manpower, operation of credit, shared training, and discussions to share experience.

In marine capture fishing, establishment of relationships has taken some time and little change has taken place. The field agents are gaining acceptance in some places however, and assistance with engine repairs, operations and maintenance has proved popular. The test of effective fishing and post-harvest extension has yet to come.

In the freshwater fish culture field, opportunities exist, and are being taken to improve practices, increase yields and incomes, improve distribution and so benefit producers. Most of the innovations are, happily, low investment, need little or no extra effort and most importantly, can give indication of benefit in a short time. With these ingredients,



acceptance is quick, and the effects are already apparent. The field extension agents themselves are given accommodation by farmers, who take interest in their progress and frankly comment on their activities. Simple innovations, like the self-feeder; increased, mixed or alternative stocking; more care with handling; simple analysis and improvement of water quality have already spread in the project area. Where there's a way, there's a will! ●