

# Turning the tide on tuna

Robin Taylor reports on efforts to halt the decline of an important industry

Indonesia is one of the largest tuna fishing countries in the world. Catches by its fishing fleets account for about 15 per cent of the total Indian Ocean tuna catch taken each year. In 2000, Indonesia's tuna catch, estimated at 177,000 tonnes, was worth about US\$200 million to the country's economy through export sales alone. However, in recent years catches have been declining, both in total numbers and the average size of the fish caught.

"All the signs are bad," says Craig Proctor of CSIRO Marine Research, who is part of an ACIAR project helping to improve Indonesia's capacity for monitoring, reporting on and managing its tuna fisheries. "Boats are having to travel further from their ports to catch enough fish to make a profit, and the size and age of fish continue to decline."

Mr Proctor says these trends are important indicators of the health of a fishery.

"Generally, the larger the number of fish being landed and the larger the size of those fish, the healthier the fishery," he says. "Declines in either, and particularly in both at the same time, indicate that fishing practices are unsustainable and that the fishery is likely to collapse if these practices continue at the same scale."

Indonesia and Australia have exclusive economic zones that overlap the spawning grounds of several commercially important tuna species. The area of the Indian Ocean bordered by the southern coast of Indonesia and by Australia's north-western coast is the only known spawning ground for Southern Bluefin Tuna.

Indonesia's longline fishing of the Southern Bluefin Tuna in this area is of great concern to fisheries scientists and managers in both countries. The international management agencies for the region, the Indian Ocean Tuna Commission (IOTC) and Commission for the Conservation of Southern Bluefin Tuna also have strong interests in seeing fishing practices modified to ensure sustainability of the fish stocks.

To achieve this sustainability, effective catch monitoring is essential to feed into management plans. A previous ACIAR project involving the same research partners introduced Indonesian fisheries authorities to improved methods of catch monitoring, and the current project is building on this earlier work.

The former project, in collaboration with IOTC, Japan's Overseas Fisheries Cooperation Foundation (OFCF) and Australia's Department of Agriculture, Fisheries and Forestry, established port-based monitoring teams at the main tuna landing ports, staffed by Indonesian fisheries graduates. During each month of the past three years, the teams have sampled more than 30 per cent of landings at each port.

The follow-on project now aims to investigate all historical sources of catch per unit effort (CPUE) data for Indonesia's Indian Ocean tuna fisheries, and to establish a new source of information through a trial on-board scientific observer program. Observers will be placed on longline vessels operating from Bali to record catch data for tuna and by-catch species and also to document vessel operations. Both industry and government in Indonesia have expressed strong support for the program.

Existing CPUE data sources include a student-level observer program that has been operating out of Bali for the past 10 years. Students doing their final year of fisheries high school training are required to do one trip to sea on a longline vessel and carry out observer data-gathering duties dur-

ing the voyage of three to five weeks. These data are being entered into a database and investigated for any useful patterns.

"In this way we will ensure maximum use is made of the existing CPUE data and hopefully, in combination with information obtained from the new observer program, be in a better position to interpret long-term catch trends of the fisheries," says Mr Proctor.

Two trainees, graduates from the Faculty of Mathematics and Information Sciences at Bogor Agricultural University, have been recruited to the Research Centre for Capture Fisheries (RCCF) in Jakarta to be trained in fisheries stock assessment.

The trainees, who will be trained in both Australia and Indonesia, are also involved in ACIAR's shark and rays project.

"Indonesia's capacity to meet its reporting requirements to international management organisations will be greatly enhanced through the appointment and development of these trainees," says Mr Proctor.

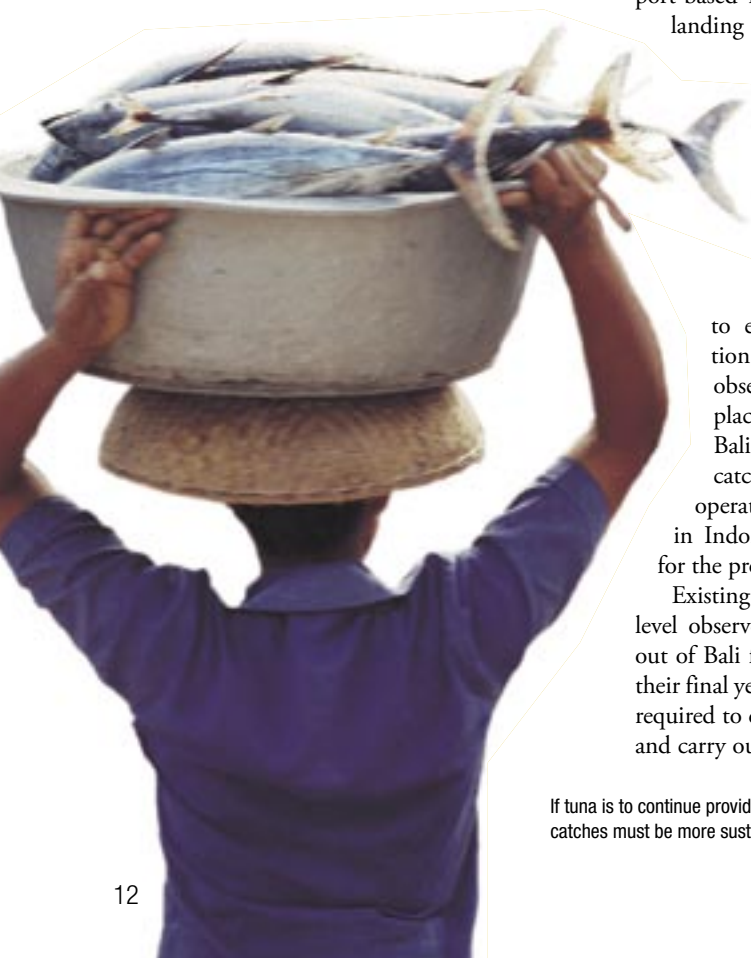
Last December in Jakarta, staff from project partners RCCF and the Directorate General of Capture Fisheries participated in an eight-day training course on fisheries monitoring-procedures delivered by IOTC and OFCF.

This training will help continue monitoring and stock assessment procedures beyond the term of the project, as Indonesia takes on full responsibility for their management. It is also hoped that the project will help forge stronger collaborative links between the marine research institutes, government fisheries agencies, provincial fisheries offices and port authorities.

Another key component of the project will be a review of tuna fisheries in eastern Indonesia. At least seven key landing ports in Papua, Sulawesi and Halmahera will be surveyed to fill information gaps on the scale and dynamics of Indonesia's tuna and billfish fisheries in the Western Pacific Ocean and Banda Sea.

"Our review in the east will be an essential preliminary step that should enable the newly formed Western and Central Pacific Fisheries Commission (WCPFC) and the Secretariat of the Pacific Community to develop strategies for establishment of port-based monitoring at select ports in the region," says Mr Proctor.

"This in turn will provide data to address a need that is given very high priority by WCPFC, which is for information on the impact of Indonesia's fishing fleets on stocks of yellowfin and bigeye tunas in the Western Pacific Ocean, and also address concerns about by-catch species."



If tuna is to continue providing a food source, catches must be more sustainable.