

Recommendations

At the conclusion of the assignment, a draft report was presented to the Department of Fisheries. The report's recommendations included a national workshop to seek more opinions on the legality of restricting the harvest of SMA fishing to communities responsible for the SMAs, capacity building for programme staff, legislation review, programme activities to

support participating communities, and partnership with SPC in developing project proposals and national workshops for the implementation of EAF management.

The integration of EAF management into CBFMP will be an important activity of the programme in the near future. This will be jointly organised by SPC and the Department of Fisheries through a national workshop

with SPC providing resources. SPC is also committed to assisting the development of CBFMP in Tonga through: 1) development of an EAF management model, 2) production of awareness materials, 3) development of the first community-based EAF management model, and 4) timely reviews of the programme when needed.



Developing Yap's sea cucumber regulations

One of the major activities during this period was to assist the Marine Resources Management Division (MRMD) in the State of Yap, Federated States of Micronesia, in developing regulations for the sea cucumber fishery. The harvesting of sea cucumbers in the State of Yap has been an important activity, especially in outer-island communities, as it provides significant income. Over recent years, harvesting and export of the animals has greatly increased.

By law, customary marine tenure in Yap allows resource and reef owners full authority to own and harvest the resources of their respective marine areas. Because of the way the law is structured, MRMD cannot limit the harvest of the animals. The only strategy for the state government to control exploitation of the resource was to apply restrictions on the size and volume of products to be exported. Therefore, the state government placed a moratorium on the

export of sea cucumber until regulations to control and monitor exports are ready. SPC was asked to assist with the development of those regulations.

The draft regulations have been submitted to the Attorney General's Office and the legislative authority for public hearing and gazetting.



NEARSHORE FISHERIES DEVELOPMENT AND TRAINING SECTION

During September and October 2008 Fisheries Development Officer (FDO) Steve Beverly assisted the Vanuatu Maritime College (VMC) in Santo, Vanuatu, with the practical fishing modules for a course called Sea Safety and Fishing for Pacific Island Fisheries Officers. Following the course at VMC Steve left for Nelson, New Zealand, to participate in the Fourth Regional Course for Managers of Medium-to-Large Size Fisheries Enterprises at the New Zealand School of Fisheries (25 to 29 October).

The course at VMC was conducted over a four-week period by VMC staff with assistance

from the FDO. There were 11 students in the course, each from a different PICT. The students were:

- Nonu Tuisamoa from American Samoa;
- Joe Kaukura from Cook Islands;
- Alvin Sinem from Yap;
- Nena William from Kosrae, Federated States of Micronesia;
- Semiti Korovavala from Fiji Islands;
- Iareta Awerika from Kiribati;

- Lee Polin from Marshall Islands;
- Jeb Bop from Nauru;
- Ben Logai from PNG;
- Solomona Tufuga from Samoa; and
- Maani Petaia from Tuvalu.

The first week of the course was dedicated to introductory material including an overview of fishing methods, sea safety and survival (Figure 1), safe operational plans (SOPs), fire fighting, first aid, seamanship, knots and splicing, chartwork and navigation, and boat handling.

The boat handling included pre-departure checklists, starting and stopping the motors, leaving a dock, and returning to a dock. The two vessels used for this exercise, F/V *Emm Nau* (Figure 2) and F/V *Etelis* (Figure 3), were used during previous courses for fisheries officers at VMC (see *Fisheries Newsletter #125*) and were used for all fish aggregating device (FAD) fishing and deep bottom fishing exercises during the 2008 course. A third boat, F/V *Island Flyer* (Figure 4), was used for horizontal longline fishing. *Island Flyer* is a private boat that was chartered just for the course, while *Emm Nau* and *Etelis* belong to VMC.



The second week of the course was devoted to fishing around FADs — trolling, vertical longline and handline fishing. The first day of the week was spent making up gear and preparing *Emm Nau* and *Etelis* for an early departure on the following day. Under the FDO's supervision, students prepared vertical longlines (VLLs), branchlines for the VLLs, several lures for trolling, palu ahi rigs, jigging spreaders, and scatter-bait rigs. At the beginning of each day of fishing two students were assigned to be captain for the day, one for each of the two boats. Their first task was to fill out an SOP. Next they checked that all fishing gear, bait, ice, and food were loaded on the boats before starting the motors and getting underway for the fishing area. Figure 5 shows the vessel track for *Etelis* going to the FAD and



Figure 1 (top). Students practising abandon ship drill during the sea safety module.

Figure 2 (middle). F/V *Emm Nau* rigged for trolling and deep bottom fishing.

Figure 3 (bottom). F/V *Etelis* fishing at the VMC FAD.





returning to the school during first two days of fishing. This track was made by an ArgoNet small boat tracking system. Fishing was generally quite good; the boats landed 50–100 kg of combined yellowfin tuna, skipjack tuna, and rainbow runner each day. Some of the fish was retained by the school's kitchen while some was frozen to be used for bait.

At the completion of each day's fishing the designated captains filled out catch logs and profit and loss forms. The sales figures in the profit and loss statements were nominal estimates based on local fish prices and no real money changed hands during 'fish sales'.



The second week of the course was devoted to horizontal longline fishing. The owner/operator of *Island Flyer*, Geoff Brenton, brought his boat across the channel to the college from his place on Aore Island. *Island Flyer* is an 8 m fiberglass catamaran with twin 200 HP Mercury outboards, equipped with a homemade hydraulic longline reel that is powered by a portable petrol powered hydraulic system. This was not ideal for longline fishing but served the purpose as a training platform. The students rigged floats and floatlines and made up monofilament branchlines in a branchline bin that they made from a large plastic drum. For the next three days, longline trips were made in the same vicinity as the FAD so that the students could fish the FAD



Figure 4. F/V *Island Flyer* with homemade longline reel.

Figure 5. ArgoNet track of two trips to the VMC FAD.

Figure 6. Golden snapper caught on *Etelis*.

during the longline soak in order to catch bait for the following day's fishing. The FAD was productive but the longline fishing was not. However, the boat and the gear served well for technical instruction in setting and hauling a longline.

On the last day of the third week, the students made up deep bottom fishing gear and loaded *Etelis* and *Emm Nau* with drop lines and rigs for snapper fishing, which took place most of the fourth week. Three bottom fish trips were made in all. The best fishing of the course took place just northeast of VMC off a small island off the east side of Santos (Aesi Island), in about 200 m of water. *Etelis* dropped anchor and *Emm Nau* tied up on the stern of *Etelis*. Both boats caught several golden snapper (*Pristipomoides multidens* — Figure 6).

On the final day of fishing the weather deteriorated and the students were suffering from fatigue. The boats came back early with few fish. In the evening VMC hosted the participants and instructors at a fish dinner that was followed by a presentation of Safety Certificates and Fisheries Extension Officer Certificates. Mark Gooderham (Figure 7), the new CEO at VMC, congratulated each student for a job well done as he passed out the certificates. Steve left for New Zealand the same day.

On Monday Steve accompanied participants in the Fourth Regional Course for Managers

Figure 7. Captain Mark Gooderham, CEO of VMC.

Figure 8. Fish on display in the retail section of the Auckland Fish Market.

Figure 9. Harvesting salmon in Pelorus Sound, New Zealand.



of Medium-to-Large Size Fisheries Enterprises (Nelson School of Fisheries) on a field trip to Pelorus Sound where they visited a salmon farm

(Figure 9) and a mussel farm. The course participants got to see salmon being harvested but were not able to see the mussel harvest. On the following day,

Steve gave a presentation to the course on improving profitability in domestic longline fisheries.



FAO Expert Consultation on Best Practices for Safety at Sea in the Fisheries Sector

FAO organised an Expert Consultation on Best Practices for Safety at Sea in the Fisheries Sector (10–13 November 2008) as a response to a recommendation made at the 27th session of the FAO Committee on Fisheries (COFI) in March 2007. A large number of members expressed concern about the safety at sea of fishing vessels, especially small-scale fishing vessels. FAO was urged to continue collaboration with the International Maritime Organization (IMO) and it was suggested that FAO should develop guidelines on best practices for safety at sea and that COFI should consider developing an International Plan of Action (IPOA) on the subject.

There were nine experts invited to the consultation and four resource persons. The SPC Nearshore Fisheries Development and Training Adviser attended as a resource person, along with Dr Yugraj Yadava (Director, Bay of Bengal Programme [BOBP]), Brandt Wagner (Senior Maritime Specialist, International Labour Organization [ILO]) and Hiroyuki Yamada (Marine Technology Section, IMO). Experts participated in their personal capacity and came from a range of countries including Iceland, Japan, Oman, Philippines, South Africa, Sweden, Canada and Venezuela. Most had a professional background in maritime safety and few had fisheries-specific experience. The FAO Technical Secretariat consisted of Jeremy Turner (Chief of FAO Fishing Technology Service) and Ari Gudmundsson (Fishery Industry Officer — Vessels, Fishing Technology Service).

The expected outcome of the Expert Consultation was a report, including:

- (i) a draft outline for guidelines on best practices for safety at sea in the fisheries sector, together with recommendations regarding their scope, special needs of developing countries, and any special considerations and goals; and
- (ii) appropriate next steps that might be taken following the completion of the Expert Consultation.

Participants were informed that the draft outline resulting from the consultation will be developed by FAO, with inputs from the consultation participants, into the Guidelines on Best Practices for Safety at Sea in the Fisheries Sector. These guidelines will be published as part of the FAO Technical Guidelines for Responsible Fisheries series, i.e. as a subset of the Code of Conduct for Responsible Fisheries.

The principle objective of the guidelines should be the improved safety and health of those working in the fisheries sector through the development of national strategies. This objective should be achieved through the use of a set of readily understood guidelines. It was emphasised that the guidelines should take a holistic approach to ensure that all factors having an influence on safety are comprehensively covered, and that awareness-raising on safety issues should be accorded a high priority.

The consultation agreed on an outline for the development of guidelines on best practices based on a series of four inter-linked pillars. In each of these pillars, three layers of guidance would be provided: a first layer directed at policy level; a second layer setting out more detailed procedures and checklists; and a third layer providing detailed working instructions, case studies and reference material. During the four days of the meeting the four pillars were 'built' as follows:

Under the first pillar a baseline assessment of safety issues will be carried out through data collection and analysis of accidents within the fisheries sector in order to identify and provide the necessary information to permit an understanding of problems where they exist. In addition, the results of the analysis will provide benchmarks in support of monitoring and evaluation units.

The second pillar will consist of an inventory or baseline survey giving a comprehensive overview of all aspects of a national fisheries sector, in particular the human resources engaged in the sector, as well as available aquatic resources, technology and supporting services. Such an inventory will be useful in drawing attention to the diversity of fisheries, which range from subsistence fisheries to industrial fleets.

Within the third pillar, the information provided under pillars 1 and 2 will be analysed in detail

in order to identify safety problems and their causes. This information will then be used to develop corresponding solutions and measures for their mitigation and prevention.

The fourth pillar will then concentrate on the implementation and promotion of the strategy. This would include how to advocate, manage and influence change and evaluate progress.

It was stressed by the Expert Consultation that as guiding principles, the guidelines should recognise the need to adopt a participatory approach through consultation with stakeholders and the creation of a broad-based empowerment structure to ensure ownership of the process by the ultimate beneficiaries: the fishers and their families. It was further highlighted that the guidelines should recognise the need for regional and subregional cooperation in promoting safety at sea, especially in small-scale fisheries. It was also stressed that whereas the guidelines should have a global perspective, the intent is for action at national and local levels. All stakeholders should therefore hold a clear and shared vision of the objectives. It was further emphasised that to ensure a participatory approach the language used in the guidelines should be as simple and non-bureaucratic as possible and that the document itself should be user friendly, taking into consideration the relatively wide target audience and application of the guidelines at the national and local levels. It was noted that the guidelines would be of particular value to those individuals or groups who champion the cause of improving safety in fisheries.

The review of the legal framework related to fishing vessel safety should be participatory (including all stakeholders — governmental and non-governmental — who have an interest or may be affected by decisions

on the matter) and interdisciplinary (lawyers and technical experts should participate in the exercise).

Recommendations on improving legislation on fishing vessel safety need to be flexible and to a certain degree general, so as to be useful to different countries with different legal frameworks and traditions. Special attention should be given to the development and implementation of appropriate and enforceable legislation for small vessels, including the carriage of safety equipment and training requirements. A model law may, therefore, not be the ideal instrument; rather, elements of solid legislation on fishing vessel safety may be identified, and certain options for their inclusion in a specific legal framework may be formulated to provide some guidance to countries. In addition to playing a 'command and control' role, legislation may be a significant tool in providing incentives, addressing training and education issues, and creating the basis for permanent institutional cooperation.

Following the presentation to the experts of a paper titled 'International Commercial Fishing Management Regime Safety Study: Synthesis of Case Reports', the Expert Consultation thoroughly discussed the relationship between fisheries management and safety at sea. The synthesis document, which describes a global study recently undertaken by FAO and the US National Institute for Occupational Safety and Health (NIOSH), concludes that fisheries managers should acknowledge the indirect and direct effects of fisheries resource management measures on the safety of fishing operations and that they should consider safety as part of their goals. The consultation reviewed the recommendations made in the synthesis docu-

ment and noted that it contained some very valuable observations. Based on the discussion, the recommendations in the synthesis document will be modified to address the following issues:

- Every fishery management decision affects safety.
- The title of the chapter on recommendations will be changed to 'Recommendations to move forward' since the chapter will now contain advice not only to fisheries managers, but also safety professionals and others.
- Reference will be made to the relevance of fishermen's safety within the ecosystem approach to fisheries.
- The report will recommend that fisheries managers and safety professionals work together and engage on issues of mutual concern.

The Expert Consultation considered the possible needs of developing countries to implement guidelines on best practices in the fisheries sector. It recognised that many developing countries have special needs that extend beyond simply translating the best practices into national languages and that this is certainly the case within the artisanal and small-scale fisheries sectors. It was anticipated by the consultation that assistance may be required to remove constraints to the development and implementation of a safety policy, and also to promote participation in regional and subregional activities related to safety at sea. In addition, possible issues were identified that may require technical and legal assistance, data collection and analysis, capacity building, scientific cooperation and the training of trainers and extension workers. Furthermore, it was noted that there would be a need to clarify how such assistance could be made available

through, for example, technical cooperation programmes and regional cooperation. The consultation recommended that special attention be given to the availability and affordability of safety equipment and servicing facilities, noting that such availability and affordability could influence promulgation of regulations.

The Expert Consultation concluded its work with the identification of a series of appropriate next steps in the development of the FAO Guidelines on Best Practices for Safety in the Fisheries Sector. Five recommendations were made to that effect:

1. The Expert Consultation, noting the recommendation contained in the report of the 27th session of the COFI that ‘...FAO should develop guidelines on best practices for safety at sea’, recommended that the FAO secretariat should now proceed with the development of the guidelines on the basis of the outline and general guidance developed by the Expert Consultation. The experts expressed their willingness to be involved in the work, either in the development or review of draft texts. The consultation noted the advantages of drawing on

the expertise available within the ILO and IMO secretariats and recommended that FAO strive to ensure coherence with IMO and ILO instruments, codes and guidance (including joint FAO/ILO/IMO publications) and integration with ongoing and related work by IMO and ILO.

2. The Expert Consultation noted with interest the quality of the findings of recent FAO regional workshops on safety at sea and suggested that their outcome be reflected in the guidelines¹.

3. Following extensive discussion on the draft executive summary of the ‘International Commercial Fishing Management Regime Safety Study: Synthesis of Case Reports’, the Expert Consultation recommended that FAO should freely distribute the templates used in the development of the case studies to countries wishing to carry out a case study on their own fisheries. Agreeing with the report’s main finding that fisheries management has indirect and direct effects on fishing safety, the consultation also recommended that FAO should undertake further research into impacts of fisheries man-

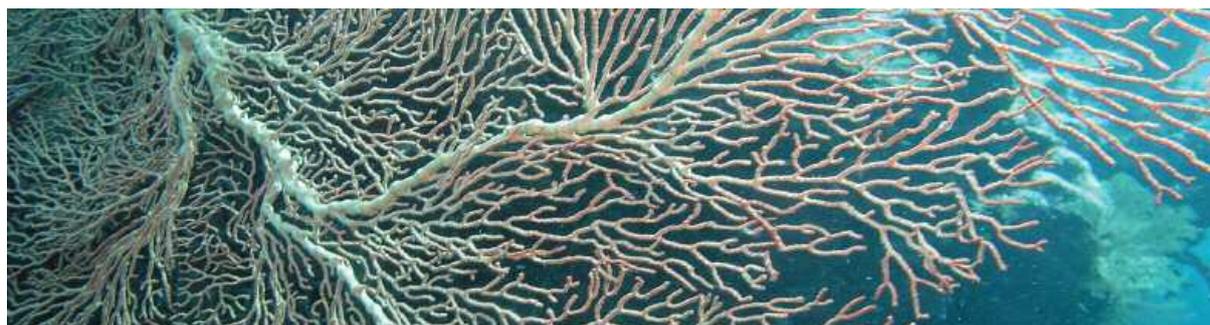
agement on safety, for the purpose of developing training materials that could lead to an improved and shared understanding between fisheries managers and safety professionals on issues of mutual concern.

4. Considering the socio-economic and environmental elements of safety at sea, the consultation recommended that FAO and regional fisheries management organisations undertake to promote safety at sea as part of the ecosystem approach to fisheries.

5. The experts, aware that the guidelines constitute only voluntary guidance, considered and sought ways and means to ensure that they would lead to the development of national fisheries safety strategies. As a means of according additional authority to the guidelines, the consultation strongly recommended the development of an IPOA on safety in the fisheries sector, of which the guidelines would be an integral component.



- BOBP/FAO Workshop in Chennai, India, October 2001;
- FAO TCP/RLA/0069 Regional Project in the Caribbean Region, 2000–2001;
- FAO/SPC Regional Expert Consultation in Suva, Fiji Islands, February 2004;
- FAO/South West Indian Ocean Fisheries Commission (SWIOFC) Regional Workshop in the South West Indian Ocean, Moroni, Comoros, December 2006;
- FAO Regional Workshop in Latin America and the Caribbean in Paita, Peru, July 2007



Community Based Fisheries Diversification in Small Island States

10-14 November 2008

INTRODUCTION

SPC was asked by the Japan International Cooperative Agency (JICA) to collaborate in training Pacific Island fisheries officers in the practical fishing component of the JICA course on Community Based Fisheries Diversification in Small Island States. In November 2008, SPC Fisheries Development Officer (FDO), William Sokimi, began working with the JICA course coordinator, Hideyuki Tanaka, to implement a workshop on FAD fishing methods.

The workshop was attended by eight officers from around the region, with one representative each from Fiji (Tekata Toaisi), Marshall Islands (Candice

Guavis), Samoa (Ferron Fruean), Solomon Islands (Lionel Luda), Tonga (Sione Mailau) and Vanuatu (Graham Nimoho), and two from Papua New Guinea (Ephraim Ridley and Peter Logomina). They were joined by 10 local fishermen from the Suva/Nausori corridor (Tagaloa Tane, Toma Ratujese, Adrian Panapasa, Aisake Biu, Saimoni Ratukadreu, Uraia Rabakele, Semi T Molidegei, Taniela Gonerara, Robert Garnett and Sam Zinck).

The workshop covered seven focus areas:

- Situation of FAD fisheries in the Pacific region.
- Methods of monitoring and evaluating FAD fisheries.

- Small craft safe operational plans (SOPs) and safe boat handling principles.
- Common fishing methods used at and around FADs.
- Construction of FAD fishing gear.
- Practical FAD fishing exercises using the gear and methods outlined during the course.
- Review of fishing trips and catch results.

METHODS AND FISHING GEAR USED DURING THE PRACTICAL FISHING EXCURSIONS

1. Trolling with single and double lures per mainline (Figs 1 and 2).
2. Jigging with weighted rod and feather lure (Figs 3 and 4).



Figure 1 (top left): Double trolling squid lures

Figure 2 (top right): Rapala lure for single trolling

Figure 3 (bottom left): Jigging rod with feather lure

Figure 4 (bottom right): Feather lure and straw lure used with jigging rod

3. Fishing for yellowfin tuna and large pelagic fish using the chum bag method – an advanced application of the drop stone method (Fig. 5).
4. Bait jigging using artificial lures (Figs 6 and 7).

PRACTICAL FISHING EXERCISES

Four boats were used during the practical fishing trips with the course participants and JICA coordinator rotating between the different vessels over the three fishing days.

All fishing operations centred around a subsurface FAD that was deployed in November 2007 off Nukubuco sandbank. The fishing trips were conducted during flat calm seas with a low breeze on all three days.

The calm seas allowed the boats to drift slowly, providing ideal conditions for jigging and chum bait fishing.

Trolling using double and single lures, jigging with rod and sinker and the chum bag method all produced good results. There was no opportunity to practise live bait jigging as there was no suitable focal point. This was one of the disadvantages of having to fish the subsurface FAD without an echo sounder or surface position marker.

To avoid mayhem when fish were caught, each boat was equipped with three lines when trolling and one chum bag and one jigging rod with feather lure when mid-water fishing.

CATCHES

Good catches were made, mainly due to the input of two experienced local fishermen, Tagaloa Tane and Sam Zinck, who quickly grasped the concepts being demonstrated. The fishing methods were not in fact very different from the old drop stone methods that they previously used but were more refined and quicker to employ.

After each trip, the fish were counted (Fig. 8), measured, and shared amongst the participants and boat crew. A debriefing exercise was then carried out to assess the activities for the day and plan the next day’s fishing activity.

The total fishing time over the three days was 14.5 hours, dur-

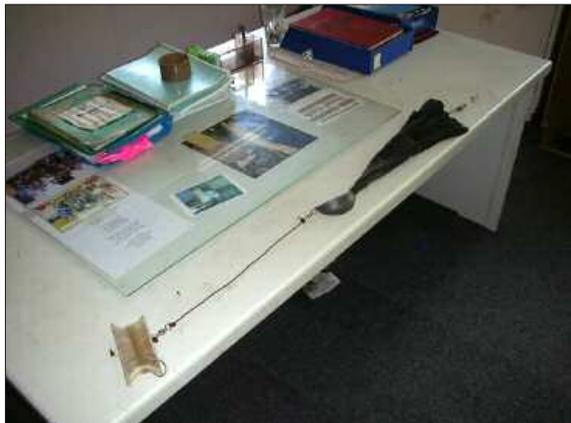


Figure 5: Chum bag used for catching yellowfin tuna
Figure 6: Straw lures used for jigging bait
Figure 7: Feather lure used for jigging bait
Figure 8: Part of the catch

ing which 70 fish were caught with a total weight of around 576 kg (43 yellowfin tuna weighing around 510.5 kg; 26 skipjack tuna weighing around 60.0 kg; and one 5 kg mahimahi). Weights were estimated by matching the fork lengths for each fish against a length/weight chart (Fig. 9).

Trolling accounted for 46 fish of which 15 were caught on Rapala lures and 31 on squid skirt lures. Twelve trolling hooks were used between the three boats; i.e. 4 hooks per boat; one lure each on single lines and one mainline with double lures. Therefore, the CPUE for trolling was 3.8 fish per hook.

The chum bag method caught 14 yellowfin tuna (Figs 10 and 11), with only one chum bag being used per boat. The CPUE for the chum bag method was 4.7 fish.

Feather and rod jigging caught 10 fish – 9 yellowfin tuna and 1 mahimahi. Three jigging rods with feather lures were used between the three boats (one per boat) so the CPUE for this method was 3.3 fish.

- Day 1 – 14 yellowfin tuna (78.5 kg) and 9 skipjack tuna (30.5 kg)
- Day 2 – 14 yellowfin tuna (216 kg) and 17 skipjack tuna (29.5 kg)
- Day 3 – 15 yellowfin tuna (216 kg) and 1 mahimahi (5 kg)

DEBRIEFING AND PRESENTATION OF CERTIFICATES

The course closed with a final debriefing session and presentation of Certificates of Participation to the local fishermen who took part. Parcels of fishing gear were also presented to the fishermen as a token of appreciation from JICA for their cooperation during the workshop.



Figure 9 (top left): Measuring the fork length



Figure 10 (top right): Casting the prepared chum bag

Figure 11 (right): Tuna caught with the chum bag method



FAD construction and deployment in Wallis Island

3–15 December 2008

In the first two weeks of December 2008, SPC Fisheries Development Officer, William Sokimi, provided technical assistance to SARP (Service des Affaires Rurales et de la Pêche) in Wallis and Futuna to construct and deploy three FADs around Wallis Island and two in Futuna. The Wallis Island FADs were deployed during the visit and plans were made to deploy the two Futuna ones in early 2009.

The FAD gear was purchased from New Zealand with part of the mooring rope and joining components ordered being lighter than the SPC recommended design.

CONSTRUCTING THE FADs

A major aim of this programme was to train four SARP staff in planning, constructing and deploying FADs. Three FADs were constructed and ready for deployment within three days while two more had been constructed by the end of the second week after the deployment of the first three.

The three Wallis Island FADs were designed to be deployed in depths of 700 m, 800 m and 1000 m, while the two Futuna FADs were designed for depths of 850 and 1200 m. Except for differences in mooring length and the positioning of the supplementary buoyancy floats, all the FADs were constructed similarly. The buoyancy of the flotation section was around 245 kg while the buoyancy in the middle mooring section varied with the different mooring lengths of the polypropylene rope. The flotation section included seven 30G-2 pressure floats and 15 purse seine floats strung along a 20 m x 24 mm nylon rope. The middle mooring consisted of a 20 mm polypropylene lead core rope spliced to a 16 mm polypropylene Danline rope. Since the

depths for all five FADs differed, the supplementary buoyancy float was strategically positioned in each mooring to prevent the rope in the catenary curve from tangling with the float while at the same time being within the safe depth rating for the float.

Anchor system

The anchor system consisted of two grapnel anchors constructed from a 1.5 m length of 76 mm galvanised pipe and two 6 m lengths of 25 mm rebar rods doubled up at the centre then pushed through the galvanised pipe (Fig. 2).

The combined weight of the two grapnel anchors plus 20 m of 16 mm chain was around 160 kg. Ideally, it would be preferable to have at least three times the buoyancy lift for the anchor system so the anchor system should have been around 700 kg plus. However, since it was impossible to carry this weight on the deployment vessel, several old engine blocks were included in the anchor system to bring the weight to around 350 to 400 kg (Fig. 3).

SELECTION OF SITES AND FAD DEPLOYMENT

All FAD sites were selected from charts compiled by the French Navy in 1997. These sur-



Figure 1 (top): FV *Hakula* which was used for deploying the FADs

Figure 2 (middle): Grapnel anchors

Figure 3 (bottom): Old engine blocks used in mooring system

veys produced accurate Bathymetric charts that were much more detailed than working off the results of 81 waypoints in a 2' latitude x 2' longitude survey area.

The Wallis Island FADs were loaded and deployed individually for safety reasons. Flags were connected to the FADs when the deployment sites were revisited five days later to confirm the FAD settling positions

All the FADs were deployed using the 'U' formation, where the flotation section was released first then the vessel angled up current towards the shallower depths while paying out approximately half the mooring length before turning around, landward/downwind side, and returning towards the flotation section. Once all the rope had been paid out, the depth and position were checked again before the anchors were released. This

deployment method tends to put less strain on the mooring rope as the anchor makes its way to the bottom. All the anchor chains were hung over the side before the anchors were released to ensure that once they were let go, nothing was attached to the vessel.

Wallis Island fishermen should now be able to reap the benefits of the FADs.



Tuvalu Fishermen's Association facilitates capacity training

Sustainable, dynamic 'self help' capacity is the vision of the Tuvalu National Fishermen's Association (TNAF). As part of achieving this vision, the association facilitated training on outboard motor maintenance and small fisheries business management for members in Vaitupu in April 2008.

The training reflected one of TNAF's priorities – to help its members become self-reliant in sustaining their small fishing operations. With the cost of parts increasing, the importance of regularly servicing their outboard motors was noted as crucial – most outboard motors on Vaitupu are never serviced after purchase. The training was conducted by Ioapo Lapo, who is a Japanese-trained Yamaha motor mechanic and also the licensed dealer for Yamaha outboard

motor parts in Funafuti. Under his guidance, participants undertook hands-on servicing of operational motors using basic parts as well as identifying and fixing problems in motors that had been broken down for some time.

The training, the first of its type on the island, was well received by all the fishermen, who said that it was easier and faster to learn through practical lessons rather than theory. At the end of the training, it was stressed that fishermen need basic skills in maintaining and repairing their outboard motors to minimise engine breakdowns early in their operation and ensure their safety at sea.

The practical training was complemented by training in small fisheries business management, which was presented by the

association's executive officer, Mrs Fa'au Telii, who is a certified ILO trainer. She focused on maintaining records for small fishing operations to determine if a profit was being made and stressed the need to differentiate between business and personal finances.

Both training sessions targeted registered TNAF members. A number of active fishermen have not yet registered as members but were very much interested in the training, which was the first carried out under TNAF's work plan. Similar training is planned for the other islands when funding support is secured.



Shell carving

In another initiative, the association organised a training workshop on making shell jewellery for its members in Funafuti in August 2008. The workshop was facilitated by Francis Sylva Wairiu. Francis, a Solomon Islander from Guadalcanal, makes seashell jewellery as a home-based business in Honiara. He was identified by

the Solomon Islands Small Business Enterprise Centre (SBEC) and accepted the training consultancy through SPC/DevFish.

The workshop focused on practical lessons, with training on using specialist tools such as a 'dremel' cutting tool and grinders. The trainees were

guided through the procedures of identifying appropriate shells, cleaning and preparing them for cutting, drawing designs on the shells and cutting them out, and then sanding and smoothing out the cut shapes. The cut shapes are polished with 'rouge dialux' to reveal the lustre of the shell.

By the end of the training, participants had made simple shapes for pendants, earrings and necklaces. They were amazed at the natural shell patterns revealed through cutting simple cross sections of shells and acknowledged that the training had shown them the potential monetary value of the plentiful seashells lying on the beaches.

The main aim of the training was to identify an opportunity for association members and their spouses/family to earn additional revenue, especially during non-fishing periods. There were about 20 trainees – 15 female and 5 male including two youths.

TNAF is the umbrella association of all the fishers' associations in

Tuvalu and was formally established in 2006. Its main function is to represent fishers' interests with the national government and development partners. TNAF secured assistance from SPC, through the DEVFISH project, to fund the position of executive officer.

