



**Secretariat of the Pacific Community**

**FIELD REPORT No. 13**  
**on**  
**TUNA FISHERY**  
**DEVELOPMENT STRATEGY**  
**FOR**  
**THE COOK ISLANDS**

**17 August to 7 September 2001**

by

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Secretariat of the Pacific Community  
Noumea, New Caledonia  
2001

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This field report forms part of a series compiled by the Fisheries Development Section of the Secretariat of the Pacific Community's Coastal Fisheries Programme. These reports have been produced as a record of individual project activities and country assignments, from materials held within the Section, with the aim of making this valuable information readily accessible. Each report in this series has been compiled within the Fisheries Development Section to a technical standard acceptable for release into the public arena.

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Prepared at  
Secretariat of the Pacific Community headquarters  
Noumea, New Caledonia, 2001

## **ACKNOWLEDGEMENTS**

The Secretariat of the Pacific Community would like to acknowledge the Cook Islands Ministry of Marine Resources, and in particular Mr Navy Epati, Secretary of Marine Resources; Mr Ian Bertram, Director of Research, MMR; Mr Sifa Fukofuka, Director of Development, MMR; Mr Josh Mitchell, Director of Policy, MMR; Ms Lara Manarangi-Trott, Fisheries Officer, MMR, Mr Metu Koroa, Aitutaki Station Manager, MMR; and Mr Sonny Tatuava, FAD Programme Manager, MMR.

In the private sector, the Secretariat would like to acknowledge the cooperation and support provided by Mr Tapi Taio, Managing Director, Taio Shipping Limited; Mr Josh Taio, Fleet Manager, Taio Shipping Limited; Mr Brent Fisher, President, Cook Islands Fishermen's Association; Mr Wayne Barclay, President, Cook Islands Game Fishing Club; Mr Lucky Matapuku, ex-longline vessel owner; Mr Bill Doherty, interested investor in the tuna fishery; Mr Don Dorrell, Director, Coastal Environment International Ltd; and Mr Unakea Kauvai, Director, Ms Terai McFadzein, Manager Credit, and Ms Vaine Nooana, Manager Business Development, Bank of the Cook Islands.

## SUMMARY

The Government of the Cook Islands requested technical assistance from the Fisheries Development Section of the Coastal Fisheries Programme in June 2001, to assist with the drafting of a Tuna Development Strategy for the country. In response to this request, the Fisheries Development Adviser travelled to the Cook Islands from 17 August to 7 September 2001 to undertake this work, as well as some associated work on a fish aggregating device (FAD) research project.

Two meetings were held with local fishermen and others with an interest in the development of a tuna fishery, one in Aitutaki (23 August 2001), and the other in Rarotonga (30 August 2001), to seek input and ideas on possible development projects that could be explored. Meetings on the same subjects were also held within the Ministry, as well as individual meetings with some of the main stakeholders.

The Cook Islands was divided into three main areas for this exercise, Rarotonga, other southern group islands and northern group islands, as the logistics and needs were quite different in each location. In Rarotonga, infrastructure in the form of port development for small craft with adequate protection from cyclonic weather and sea surge was considered the most important issue. This included several possible harbour sites. In the other southern group islands, Aitutaki was identified as an island that would need the current port facilities expanded, while in other island locations in this group, only small wharf and launching ramp arrangements are suggested. In the northern group islands, only small wharf and launching ramps are suggested at this point in time, as well as some lead lights on passages to assist fishermen at night.

Domestic development of a tuna fishery can be split into two main areas, small-scale and medium-scale, with large-scale development possibly requiring joint venture access for larger vessels. On the small-scale side, an ongoing FAD programme will greatly assist local fishermen through providing known fishing locations, which will reduce running costs. Fish quality will need to improve though if fishermen are looking to export. From here local fishermen may want to look at getting into larger vessels. This could be assisted by MMR if they were to purchase several appropriate vessels as training vessels, and have them run commercially by the private sector.

A good shore processing and packing facility will also have to be constructed in Rarotonga, especially for handling export quality fish as the result of a tuna longline fishery developing. Again this needs to be private sector driven, with the Government of the Cook Islands providing an enabling environment for this to occur. Possibly reclaimed land as a result of port developments can be set aside for the private sector to construct a processing/packing facility.

Another important part of developing a tuna fishery is for MMR to clearly define their role, especially in managing the tuna resource that passes through the Cook Islands EEZ. MMR needs to look closely at their regulatory framework, and make sure that anything they do is in line with local legislation and any international conventions they are a signatory to. Other areas MMR will need to consider include surveillance and compliance, observer and port sampling coverage, data collection, and licensing conditions for all vessels allowed to participate in the tuna fishery.

MMR also has an extension role, providing training, especially in the more remote locations in the outer islands. Training can cover a range of topics, including sea safety, fish quality, small-scale fishing methods, business management, and refrigeration. Staff at MMR will also require training in a range of areas, including fisheries management, so the tuna management plan for the country can be implemented effectively. MMR also has a large role to play in liaising or providing information to interested fishermen, so they have the knowledge to try new ideas to develop the tuna fishery. This information can also include how to approach lending institutions, like the Bank of the Cook Islands, to seek funding for a fishing venture.

## RÉSUMÉ

En juin 2001, le gouvernement des Îles Cook a sollicité l'assistance technique de la section Développement de la pêche, qui relève du programme Pêche côtière. La section était invitée à aider les autorités à élaborer une stratégie de développement de la pêche thonière pour le pays. Le conseiller pour le développement de la pêche a répondu à cette demande en se rendant aux Îles Cook du 17 août au 7 septembre 2001, pour entreprendre ce travail et participer à un projet de recherche sur les dispositifs de concentration du poisson (DCP).

Il a tenu deux réunions avec des pêcheurs locaux et des personnes intéressées par l'expansion de la pêche thonière; l'une à Aitutaki (23 août 2001), l'autre à Rarotonga (30 août 2001), afin de recueillir des observations et des suggestions de projets de développement à creuser. Il a participé à des réunions sur le même thème au ministère et a eu des entretiens particuliers avec certains des principaux intéressés.

Pour les besoins de cette mission, les Îles Cook ont été divisées en trois grandes zones : Rarotonga, les îles du nord et les îles du sud, les besoins et les impératifs logistiques étant très différents d'une zone à l'autre. À Rarotonga, le principal problème à examiner était d'ordre infrastructurel. Il fallait construire un port destiné à accueillir des petites embarcations et offrant une protection adéquate contre les cyclones et la houle. Plusieurs sites pourraient convenir. Dans l'archipel du sud, l'équipement portuaire actuel de l'île d'Aitutaki devrait être étoffé, tandis que, dans d'autres îles, il suffirait de construire une petite jetée et d'aménager des rampes de mise à l'eau. Dans les îles du nord, seules sont suggérées pour l'instant la construction d'une petite jetée et de rampes de mise à l'eau et la mise en place de balises lumineuses dans les passes pour guider les pêcheurs la nuit.

Le développement de la pêche thonière nationale peut s'orienter vers deux axes : la pêche artisanale et la pêche commerciale, celle-ci pouvant s'étendre à la pêche industrielle sous réserve de la création de coentreprises pour disposer de plus gros navires. En ce qui concerne la pêche artisanale, un programme suivi de mouillage de DCP sera d'une grande utilité pour les petits pêcheurs locaux, car connaissant les sites de pêche, ceux-ci encourront moins de frais d'exploitation. Si les pêcheurs veulent exporter, ils devront toutefois améliorer la qualité du poisson. Les pêcheurs locaux voudront ensuite embarquer sur des navires de plus gros tonnage. Le ministère des Ressources marines pourrait les aider en achetant plusieurs navires appropriés qui serviraient de bateaux-écoles et en en confiant l'exploitation commerciale au secteur privé.

Si la pêche thonière à la palangre se développe, il faudra construire une usine de transformation à terre et d'emballage à Rarotonga, surtout pour traiter le poisson de qualité destiné à l'exportation. Là encore, ce sera au secteur privé de prendre l'initiative, les autorités des Îles Cook se chargeant, quant à elles, de créer des conditions favorables. Les terrains éventuellement récupérés à la suite des travaux d'aménagement portuaire pourront servir à la construction par un exploitant privé d'une usine de transformation et d'emballage.

Autre aspect important de l'expansion de la filière thonière, le ministère des Ressources marines devra définir clairement son rôle, en particulier en ce qui concerne la gestion des stocks de thonidés présents dans la ZEE des Îles Cook. Le ministère devra examiner attentivement le cadre réglementaire en vigueur et s'assurer que toute disposition prise est conforme à la fois à la législation locale et aux conventions internationales dont le pays est signataire. Il devra également s'intéresser à la surveillance, à l'application des règles, aux activités d'observation et d'échantillonnage au port, à la collecte de données et aux conditions d'octroi de licences à tous les navires pratiquant la pêche thonière.

Le ministère des Ressources marines a aussi un rôle de vulgarisation à jouer en dispensant des formations, en particulier dans les régions les plus reculées des îles périphériques. Ces formations pourront porter sur des sujets variés : la sécurité en mer, la qualité du poisson, les méthodes de pêche artisanale, la gestion d'une entreprise, la réfrigération, entre autres. De leur côté, les agents du ministère devront suivre une formation dans plusieurs domaines, dont la gestion des pêches, afin que

le plan national de gestion des ressources en thonidés puisse être appliqué efficacement. Il importe que le ministère garde le contact avec les pêcheurs intéressés et leur communique des informations pour les inciter à expérimenter de nouvelles idées de développement de la pêche thonière. Il pourrait ainsi leur apprendre les démarches à faire auprès des organismes de prêt, tels que la Banque des Îles Cook, afin d'obtenir des fonds pour financer une entreprise de pêche.

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## 1. INTRODUCTION AND BACKGROUND

The Cook Islands had an exclusive economic zone (EEZ) of some 1,830,000 km<sup>2</sup>, which extends over 20° of latitude. SPC (1997) has estimated the total allowable catch (TAC) in the Cook Islands EEZ for the surface fishery (purse seine and pole-and-line fishing for predominantly skipjack tuna and juvenile yellowfin tuna) at 44,000 mt, and for the longlining fishery (targeting larger and more valuable species such as bigeye, yellowfin and albacore tunas, and broadbill swordfish) at 6000 mt. The Cook Islands does not have the capacity to enter the surface fishery at this point in time, as the boats and gear needed for this fishery are expensive and requires specialised equipment, and the profit margins can be minimal given the fluctuating cannery prices for the catch, that are often low. Therefore this strategy does not look at development of the surface fishery at present, although, leaves it open to be looked at in the future.

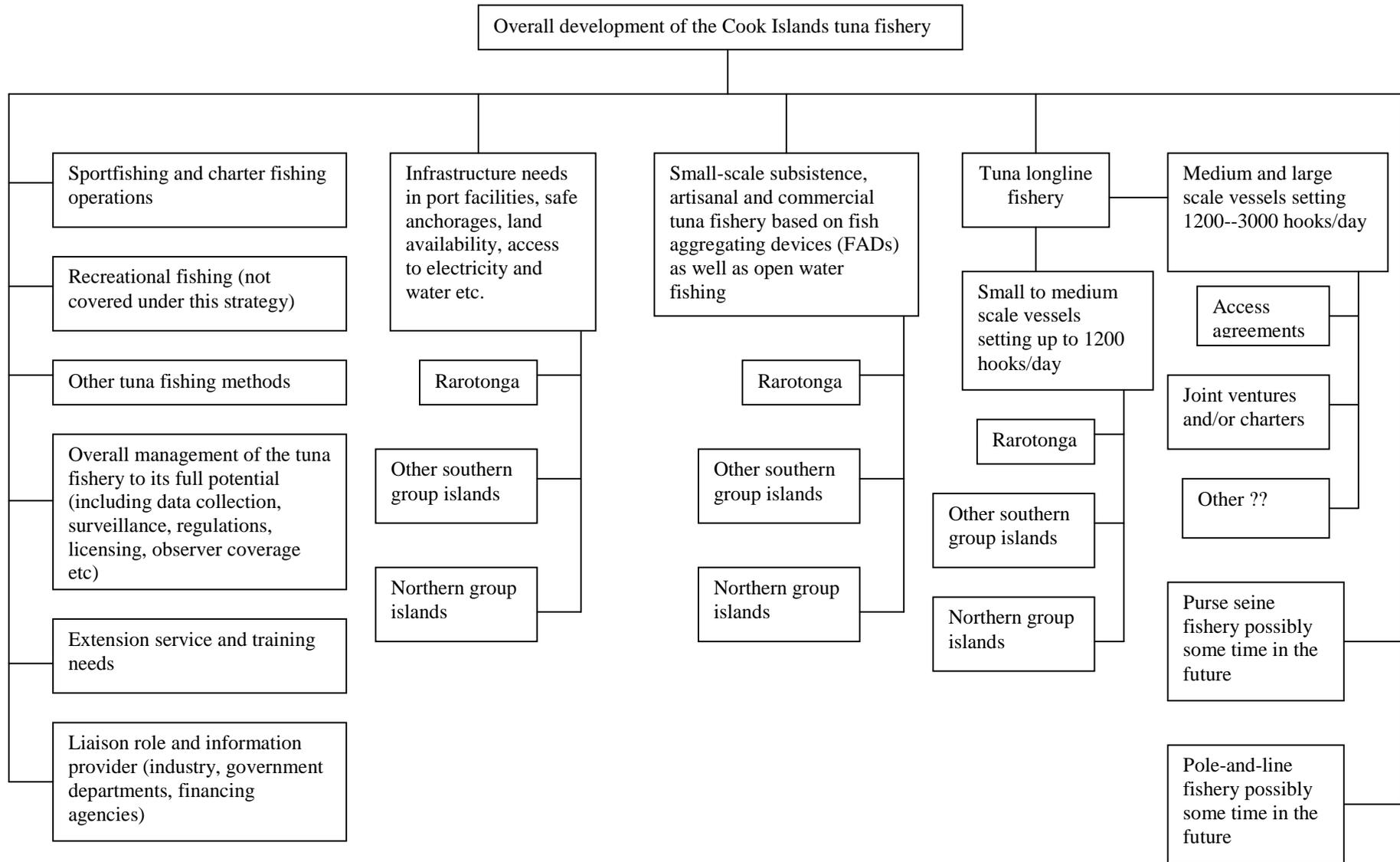
The country is naturally divided into two island groups, northern and southern, and SPC (1997) suggests that the EEZ can usefully be considered as a northern and southern zone. The most likely small- or medium-scale fishing method to be commercially viable for Cook Islanders to develop in the Cook Islands is tuna longlining, although different strategies may be needed when looking at the characteristics and logistics of the northern and southern groups, especially the infrastructure currently in place. The question that this strategy will explore and try to address is how this can be achieved with maximum benefits to the country, and the people of the country.

There are many other sectors that make up the tuna fishery in the Cook Islands, besides the more large-scale operations mentioned above. Figure 1 lists the main components that make up a national tuna fishery, to try and show the complex nature and diversity that needs to be considered when looking at development. On the fishing side, subsistence, artisanal and small-scale commercial fishery, which covers trolling and mid-water fishing techniques around fish aggregating devices (FADs) and along the outer reef edge, gamefishing and sportfishing charter operations, and recreational fishing need to be considered. For the drafting of this strategy, charter fishing operations are considered part of the small-scale commercial fishery, while recreational fishing is not included at this point in time.

The Ministry of Marine Resources (MMR) is the primary government department responsible for developing and managing the marine resources in the Cook Islands. In looking at this closely, this responsibility covers many areas, including data collection, providing an extension service and arranging or running training programmes, dissemination of information, surveillance of the tuna fishery including observer coverage, and working with the fishing industry, other government departments, and investment agencies to support development. Infrastructure is also a major area for government to consider, as without basic infrastructure the private sector will be reluctant to invest and develop. Without all of these elements, development of the tuna fishery in the Cook Islands will be greatly restricted.

The government's aim in developing the tuna fishery, as outlined in draft policy documents (Anon. undated a and b), is for the government to create an 'enabling environment' for private sector activity, without becoming involved in commercial activities. This strategy fully supports this aim, and has been developed with considerable input from different sectors of industry to ensure their ideas have been incorporated, because without their support and acceptance, development will continue to be slow.

Another consideration for government is how this development fits into other government policies and requirements under international conventions and agreements that the Cook Islands is a signatory to. A new international commission will be established over the next 3–5 years to manage the tuna resource and associated species, in the western and central Pacific Ocean. It is therefore important for the Cook Islands to develop its domestic tuna fishery in order to strengthen its participation in the new commission. The Cook Islands is not in a position to really develop the surface fishery (purse seining and pole-and-lining) at present, however, tuna longlining has a real potential and this is the area that development should focus on initially.



**Figure 1: Main components that make up a national tuna fishery and need to be considered in its development**

The Fisheries Development Adviser of the Secretariat of the Pacific Community, Lindsay Chapman, travelled to the Cook Islands to undertake this work (as well as work on a separate but related project on fish aggregating devices—FADs) from 17 August to 7 September 2001. The suggestions contained in this report are based on information collected during fieldwork in the Cook Islands at that time. The suggestions do not account for any changes that may have occurred to legislation or other circumstances, since the time of this work. Therefore, some of the information and suggestions may not now be relevant based on changes that may have occurred since that time.

Two meetings were held with local fishermen and others with an interest in the development of a tuna fishery, one in Aitutaki (23 August 2001), and the other in Rarotonga (30 August 2001). Meetings were also held within the Ministry, as well as individual meetings with some of the main stakeholders. The information and ideas collected during these meetings and discussion have been incorporated into this report. Appendix A lists all those whom meetings were held with, and those who attended the group meetings in Aitutaki and Rarotonga.

## **2. GOAL, OBJECTIVES AND STRATEGIES**

The goal, objectives and strategies presented here are for the development of the tuna fishery throughout the Cook Islands. However, when looking at development options in future sections of this strategy, the country has been divided into three areas, Rarotonga, other southern group islands, and the northern group, because constraints, issues and infrastructure requirements differ between these three areas.

### **2.1 Goal**

The overall goal of this tuna fishery development strategy is:

To have a sustainable and profitable industry harvesting at or near the total allowable catch (TAC), fully owned by Cook Islanders, employing the maximum number of Cook Islanders, with maximum retained value in the country (Anon. Undated(a)).

### **2.2 Objectives**

The objectives of this tuna fishery development strategy are to:

- Provide an enabling environment that will promote and encourage private sector development in the fishing, processing and support sectors in the Cook Islands;
- Promote sustainable and responsible domestic development and harvesting of the tuna resource in the Cook Islands EEZ in an environmentally friendly way, to provide both food for local consumption and export-oriented income;
- Maximise the benefits and economic return to Cook Islanders, local communities, and the Cook Islands as a whole;
- Create employment opportunities for Cook Islanders, with a focus on the outer island and their specific needs;
- Ensure accurate data is collected from all tuna fishery activities in the Cook Islands, ensuring that all bycatch and any interactions with protected species are recorded; and
- Ensure that all development within the Cook Islands' tuna fishery is consistent and compatible with any obligations or requirements as set out in local legislation and/or international agreements that affect the Cook Islands.

## 2.3 Strategies

The following are some examples of strategies that can be used to meet the objectives, and overall goal, of the tuna fishery development strategy.

- The identification of infrastructure needs in Rarotonga and the outer islands of both the northern and southern groups, and the development of projects to address the identified needs;
- The development of specific proposals in identified areas for external funding, that will address part or all of the development objectives;
- Specifically look at options for development in the outer islands, which could include post-harvest activities to increase the value of the landed catch;
- The continuation of an ongoing FAD programme, with the main islands of Rarotonga and Aitutaki being focused on first, and expanding to the outer islands as they start development projects;
- Develop and implement a long-term data collection system for all tuna fishing activities in the Cook Islands, with regular analysis of the aggregated data provided to industry for their information and benefit;
- Review all government duties and taxes for materials used in the fishing and processing sectors, including fuel, bait, electricity, water, gear, machinery and spares, and look at making these items tax and duty free, or possibly implement a rebate system, to encourage domestic development in the tuna fishery;
- Provide a tax holiday for several years for new operators, or current operators who are investing in boats and/or shore processing facilities, or upgrading them, as a development incentive;
- Provide information to all potential investors or entrepreneurs to encourage them to invest in some part of the tuna fishery;
- Provide training for small-scale operators in different fishing techniques and business management, to ensure they have the best chance of running a viable fishing business;
- Look into different boat designs currently in use in the region, that can be used to develop the small-scale and medium-scale fisheries, especially tuna longlining, in the Cook Islands;
- Explore different options, including cooperatives and community group ownership, to get suitable vessels into the outer islands to develop tuna fisheries, and ways to market the catch;
- Develop the capacity of the Ministry of Marine Resources to be able to conduct research and provide an extension service to encourage private sector development in the tuna fishery; and
- Work with the Bank of the Cook Islands (development area), other banks and lending institutions, to ensure adequate funding at affordable interest rates and workable terms and conditions, are available for loans to Cook Islanders wishing to enter or expand in the tuna fishery.

### **3. INFRASTRUCTURE**

Infrastructure is the main area where government can contribute to fisheries development in general, by creating the ‘enabling environment’ needed for private sector development. Basic infrastructure can be provided or funded by government, or through directed aid projects that the government supports.

#### **3.1 General**

Duties and taxes on imported items are an issue that affects all those in the fishing and processing sectors, regardless of location in the Cook Islands.

##### *3.1.1 Tax and duty on essential items for the fishing industry (catching and processing)*

Many essential items needed by the fishing industry attract different rates of taxes and duties. These items include the purchase of boats, outboards, diesel engines, spare parts, fuel, fishing and processing gear and equipment, sea safety gear, machinery (ice plants, freezers etc), bait, and even building materials for building boats and constructing fish processing facilities. Exemptions can be applied for on some items through the Development Investment Board (DIB), with a NZD 100.00 non-refundable application fee for each application.

In order for development to be stimulated, the government could look at providing these materials tax and/or duty free to recognised fishermen (a fisherman is someone who can prove that over 60% of income is derived from catching or processing fish or marine products). An alternative to making items tax and/or duty free is to have a rebate system, so that individuals have to claim back the tax and/or duty paid on items needed for their fishing or processing operation.

The Forum Fisheries Agency (FFA) has the expertise and experience to undertake a review of the current taxes and duties as they relate to the fishing industry in the Cook Islands, and make recommendations accordingly. Such a review should be undertaken as soon as possible.

##### *3.1.2 Tax holiday for new development and expansion of existing operations*

Another incentive for private sector development and expansion of existing operations is to look at tax holidays. This could be tied to the level of investment for new operations, or the funding level of expansions to existing operations. This could form part of an overall review of taxes and duties as they relate to the fishing and processing sectors.

##### *3.1.3 Cost of electricity*

Electricity is a necessary commodity for the running of machinery and equipment necessary in a fish processing and storage facility. In fact, refrigeration equipment requires a lot of electricity to make ice, chill and/or freeze fish and store it. Electricity is provided in Rarotonga by a statutory body, which is still basically government controlled. Any usage of electricity of over 180 units per month attracts the highest, or commercial rate of NZD 0.49/unit. This will be a large expense for anyone looking at establishing a processing and storage facility, including ice production, and may act as a disincentive to such a facility being established.

In many countries, the commercial rate for electricity is lower than the normal domestic rate, as an incentive to industry to develop and expand. Possibly the government, through the appropriate statutory body, could offer a cheaper commercial rate for fish processing and storage facilities, at least for the first few years of operation until they become established. This could be through a rebate system based on the volume of electricity used. Any drop in the current charge for electricity, even for a limited period, will add to the incentives for someone to set up such a facility.

In the outer islands, the Island Councils are responsible for the provision of electricity and the collection of charges, although the government assists in times when major expenses occur with fixing or replacing equipment, or on some of the islands with small populations, the provision of fuel to run the units. Again, the government could look at providing a rebate to anyone wishing to set up a processing and storage facility in any of the outer islands as an incentive for this to actually occur. This could be done through the Island Council or direct to the government, whichever is easiest to implement and administer.

## **3.2 Rarotonga**

Rarotonga is the most developed location in the Cook Islands, with an international airport and sea port.

### *3.2.1 Port development at Avatiu Harbour*

The existing port facility at Avatiu Harbour is very limited and becomes easily congested with shipping, visiting yachts and local fishing vessels. It is not a safe anchorage for all weather conditions, and fishermen say they are reluctant to invest in larger vessels until they have a safer anchorage in which to moor them. Plans have been drawn up to have the western side of the harbour dredged out and wharves put in for local fishing vessels, although nothing has progressed beyond this initial planning stage.

When developing the plans further, care needs to be taken to ensure that a full project is developed. That is, there are other components that need to be considered as part of the port development. Such items include the need for a good launching ramp for trailer boats of all sizes, possibly a crane arrangement close to the ramp to also launch and retrieve boats from their trailer, a retaining wall to support the wharves, the dredged site (in fact the whole harbour) to have a minimum depth of 3.0 m at low tide, and a contingency to re-dredge occasionally to ensure the minimum depth is retained over time. Other items that need considering are presented below under separate headings to highlight their importance.

### *3.2.2 Protection of the Avatiu Harbour (and the central business district) from cyclonic seas*

All of the islands in the Cook Islands are subject to cyclones from time to time. The last major cyclone to hit Rarotonga was ‘Sally’ on 1 January 1987. The cyclonic seas or sea surge caused a lot of damage (estimated at NZD 38 million—Dorrell 1999), with the waterfront and buildings along the waterfront from Avatiu Harbour to Avarua Harbour sustaining the worst of the damage. The breakwall that was in place at the time was washed ashore by the seas, and did little to protect what it was put in place to protect. In fact, the result of this disaster is that the insurance companies will now not insure businesses for damage by sea surge (a result of cyclonic activity), so the current businesses along the waterfront are taking a very big gamble.

Studies have been conducted by Australia and Japan, as to the size and type of breakwall arrangement needed to protect this same waterfront area in future cyclones (Dorrell 1999). Unfortunately, these reports have not been considered seriously, and a small breakwall arrangement, similar to that destroyed by cyclone ‘Sally’ has been constructed. One can only expect that the same result will occur if a similar strength cyclone were to hit Rarotonga in the future.

It is therefore imperative that if port development work is to be considered, that it be properly protected. The Cook Islands has one breakwall out by the airport of the COPED (COastal Protection Energy Dissipater) design and construction, which basically eliminated damage from that area with cyclones that had passed by Rarotonga since it was constructed. The COPED system itself has been rigorously tested in a wave tank in Australia, with remarkable results (Walker and Cox 1999). It would be a logical step to use this system for the protection of any port development work in Rarotonga. If this is not acceptable to government for whatever reason, then at least the design for breakwalls as recommended in past studies should be constructed.

Therefore, a full study should be undertaken as part of any port development work, to assess how best to protect the investment of those that fund the work. Protection is an important part of the whole project, and if the port development is left vulnerable to cyclonic seas and sea surge, the project may still not achieve its purpose.

### *3.2.3 Land availability for fisheries-related construction around the Avatiu Harbour*

If the Avatiu Harbour port is developed and adequately protected from cyclonic seas, then the private sector will require availability to land adjacent to the port on which to construct facilities to support the fishing industry. These facilities include processing/packing plants, a slipway for hauling out medium-sized vessels, and support services (ships chandlery, fishing gear suppliers, engineering works etc). Land availability will need to be considered at the planning stage, to ensure that it is available. This land could be on the existing waterfront area, or from land reclaimed as part of the dredging process. Any land that is set aside for private sector development should also be protected from potential cyclonic sea or sea surge conditions.

### *3.2.4 Development of the Ngatangia Harbour area*

Many fishermen operate out of the small Ngatangia Harbour, which is more on the windward-side of the island. Infrastructure is basic at present, and there is scope and potential to develop this port along similar lines, although on a smaller scale, to Avatiu Harbour. Any port development work at Ngatangia should also include the incorporation of a launching ramp, possibly a crane arrangement, dredging to a suitable depth, etc, as suggested for Avatiu Harbour. Land availability will also be an issue that needs to be addressed, as some private sector support services may want to establish facilities in support of the fishing industry. Again, any development should be adequately protected from sea surge as a result of cyclonic activity. Development of the Ngatangia Harbour would be secondary to the development of the Avatiu Harbour, and a full study and costing should be undertaken to fully develop a plan for this proposed work.

### *3.2.5 Development of the Arorangi passage area to a small-boat harbour*

The Arorangi area is on the lee side of the island, and there is a small passage in the reef. This area was identified by local fishermen as an area with potential for a small-boat harbour, through the dredging of an area where vessels to be moored. The development of this area would be small in comparison to the other proposed harbours, and is rated as a third priority behind the development of the other two sites. Again, a study should be undertaken to draw up plans and come up with a costing for the project, including adequate protection from adverse weather conditions.

## **3.3 Other southern group islands**

Rarotonga has been treated separately to the other southern group islands because of the development and infrastructure that currently exists. Aitutaki also is much more developed to the other islands in the area, so this will also be looked at separately on its infrastructure needs for development or expansion of tuna fishing activities.

### *3.3.1 Aitutaki*

Aitutaki has a fairly well developed port, although it is quite small. It is adequate for the existing fleet of small fishing craft that work out of the main harbour area. However, as tourism and fishing expands, the current port will become too small and will need expanding. It would be wise to look to the future and have a study with costing undertaken now on possible port development, including wharves and land being set aside for private sector development of support services. The study should also include a new launching ramp and possibly a crane as well for launching and retrieving trailer boats.

There are 4–6 flights per day from Aitutaki to other destinations, mainly Rarotonga, although these are all by small aircraft, the largest being the 30-seater SAAB. The runway itself is not sealed, and this adds to the wear and tear on the aircraft every time they land and take off. If the runway was sealed, possibly more flights would operate out of Aitutaki or larger aircraft could be used, and possibly there would be freight space available on these flights to bring fish in from other destinations, or to take fish from Aitutaki to Rarotonga. There are plans to seal the runway at Aitutaki, and these plans should be implemented as soon as possible.

### *3.3.2 Other islands*

The other islands in the southern group have very little infrastructure in place at present. Each island could have some basic port facility or wharf built, and this could include a small area for boats to tie up or anchor. With the small passages that exist in many of these locations, lead lights should also be placed to allow fishermen safe night-time access through the passages to the wharf area. Also a good launching ramp and crane arrangement to launch and retrieve boats should be developed either as part of the port facility, or if no port facility is to be developed, as a stand alone project.

### **3.4 Northern group islands**

The northern group islands are also poorly developed when it comes to port facilities, with the exception of Penrhyn. Penrhyn has a large passage that allows ships to enter the lagoon, and there is a small wharf area that has been developed. There is also a large airstrip equivalent to that in Rarotonga, although it is not used regularly and the cost of freight is very high. Penrhyn could do with a good launching ramp and crane arrangement to launch and retrieve boats, as this would assist the local fishermen.

The other islands in the north could have some basic port facility or wharf built, and this could include a small area for boats to tie up or anchor. With the small passages that exist in most of these locations, lead lights should also be placed to allow fishermen safe night-time access through the passages to the wharf area. Also a good launching ramp and crane arrangement to launch and retrieve boats should be developed either as part of the port facility, or if no port facility is to be developed, as a stand alone project.

## **4. SMALL-SCALE AND MEDIUM-SCALE DEVELOPMENT**

Small-scale and medium-scale development in the tuna fishery in the Cook Islands will be difficult without a sizeable investment to establish processing facilities, with reasonable freezer, chiller and ice capacity. Wherever possible, such investment needs to come from the private sector, although in the outer islands, government may need to assist in the initial setting up of such facilities, especially if a cooperative, community group, or Island Council is trying to develop such facilities for the benefit of all fishermen on the island.

Vessel type, fishing method and gear, fish quality and preservation, transportation of catch to market, the actual marketing of the catch (domestic and export), all need to be considered in any development project, especially one being planned for the outer islands. This makes it very difficult to suggest specific projects or approaches, as any project or approach will need to address most if not all of these issues to ensure success and economic viability.

### **4.1 Rarotonga**

Rarotonga is the main marketing centre for fish and marine products in the Cook Islands, for both domestic sales and export to overseas markets. Rarotonga also has by far the highest population, is the most developed, has the most tourists, hotels and restaurants, and has the international airport and sea port.

#### *4.1.1 Fish quality and preservation*

The general quality of fish landed for sale in Rarotonga is poor at present, as very few operators use ice to preserve the catch while at sea. The exceptions to this rule are the tuna longline vessels who are fishing away from shore for around a week at a time, and a couple of local fishermen who understand the need for fish quality. The basic problem though is that demand for fish exceeds supply, and people and companies are prepared to purchase fish that has not been chilled in any way from the time it was caught until the time it was sold. Fishermen in general will not change their habits until they are forced to do so, especially if they have to add to their fishing costs by having to purchase an insulated container (ice box or ice bag) and ice to put it in each trip.

Fish bags can be purchased through the President of the Cook Islands Fishermen's Association, who is keen to see fishermen using ice to look after their catch. If the demand is there, other companies can also bring these items in to sell to fishermen. Ice is also for sale, however, the volume produced at present would not be sufficient to meet the needs of the fishing industry if all fishermen started to use ice. Fishermen can also freeze down plastic bottles of water in their chest freezers at home, and use this as a start.

The potential is there for fish quality to improve, and the easiest way to do this in Rarotonga (and the Cook Islands) is for the fish buyers to refuse to purchase fish unless it has been iced. This can be achieved through an awareness campaign for buyers and consumers, as well as some educating of the local fishermen. This is an area where the Extension Service of MMR can assist both the fishermen and fish buyers through training and public awareness.

#### *4.1.2 Processing and storage facilities and/or fish wholesaler(s)*

There is currently one small fish processing facility, which supplies small amounts of ice to local fishermen and purchases small amounts of fish. The facility is away from the fishing ports and away from the main marketing centre in town. The owner is keen to buy more fish to put through his facility, however, this will most likely happen when the local market demand has been met, as most fishermen sell direct to hotels, restaurants, and the general public, and avoid middlemen or wholesalers unless they can not sell their fish anywhere else.

One tuna longline company has been established with the company having two vessels in operation at present. The owner is looking at setting up a processing/packing facility to handle and process the catch from the two boats. Initially the catch will be sold on the domestic market while the current fish shortage exists, although the aim of this company is to export the higher-value species. The company is also looking at increasing the number of vessels they are operating. This will increase the landed catch, which will lead to the need for exporting as the local market will not be able to absorb a large increase in fish production. The one drawback at present is the availability of a suitable site to construct a fish processing/packing facility (already discussed under Section 3.2.3).

When development of the tuna fishery occurs, and this is underway at present with the tuna longlining company, there will become a point at which the local market needs will be met, and all fishermen will need to look for alternative markets for their catch, even if this is a seasonal trend. Fish quality will be crucial at this time, as people will be able to pick and choose what fish they purchase, or more importantly, what fish they will not purchase. When this occurs, there are several options open to the fishermen that are affected.

First, they can sell their catch to the existing processor at the price being paid at the time. Second, if the local longline company establishes a processing facility, they may be able to sell their catch to them at the price on offer. Third, the fishermen can freeze their catch at home if they have a chest freezer, and store it until there is a market demand for fish again. Fourth, the fishermen themselves can get together, possibly through their fishing association, and form a cooperative, with the cooperative putting in their own facility for processing, storing and marketing of the catch, as well as ice production, and possibly setting a stable price structure for buying and selling fish. Fifth, another

processor may set up a facility, either as part of another tuna longline company or just to buy and sell fish, and fishermen can sell their catch to this person or company at the price on offer.

Therefore there are several options open to the fishermen in Rarotonga to sell their catch when market demand is low. They can support the local private sector through selling their catch to them, and possibly buying ice from them as well, they can stay as individuals and freeze and market their own catch from home, or they can form a cooperative and set themselves up with an appropriate processing facility to meet their needs. The decision on which way to go will be up to the fishermen themselves, as these are all options that are private sector driven.

#### *4.1.3 Maintaining an ongoing FAD programme*

FADs form a large part of the small-scale tuna fishery in Rarotonga, especially in the tuna season. Fishermen rely on the FADs to hold tuna schools in set locations, allowing them to troll around the FADs to maximise their catch. In addition, mid-water fishing techniques are being used to further increase the catch of larger tunas from around the FADs. These mid-water fishing techniques allow fishermen to minimise their running costs while increasing their potential catch. The local fishermen have become very reliant on the FADs as part of their regular fishing practice.

Past FAD programmes have been mainly funded by the Cook Island Government (through MMR's recurrent budget and the PDF fund administered by FFA), with NZODA and FAO funding individual units, and with a contribution from members of the Cook Islands Fishermen's Association through a NZD 50.00/year fee. A FAD research project, funded from the New Zealand Pacific Initiative for the Environment (PIE) fund, will be carried out in Rarotonga and Aitutaki from mid 2001 to mid 2004. This project will provide five or six FADs for each location. However, there is no long-term funding for an ongoing FAD programme, which sheds some doubt on the future of this programme and the availability of FADs for local fishermen in the future.

FADs are considered a community resource, which no one owns, although local fishermen, charter operators and recreational fishermen all derive benefit from them. Therefore, to provide some stability to the small-scale tuna fishery, the government, through MMR, should continue to provide funding in the MMR's recurrent budget, and/or the PDF fund, to continue the FAD programme. In addition, the users, through the fishing association, should continue to contribute to the cost of these devices and their maintenance with their NZD 50.00 per year per person contribution.

#### *4.1.4 Getting local fishermen into larger boats*

Different fishermen want to develop their fishing capabilities at different rates or levels. Some fishermen are happy with the vessel and techniques they are currently using, while other want to upgrade to a larger and possibly more safe or stable vessel, while also looking at other fishing techniques to use. The problem though, is how can the government provide the enabling environment that will allow these fishermen to move into larger vessels. Port development and facilities have been identified as one area, although this alone will not be sufficient to encourage some fishermen to upgrade.

Part of the problem is that fishermen are not aware of the variety of boats that exist, as they have grown up with the style of vessels currently in Rarotonga. The larger longline vessels that have come to Rarotonga in the last 10 years have been too large and expensive for local fishermen to consider. Educating fishermen in the different types of vessels and their suitability to fishing around Rarotonga will be difficult, as there are so many options. MMR could assist fishermen with ideas and possibly the sourcing of boat plans, depending on the style or type of boat a fisherman is interested in. Other services that MMR could provide in support of fishermen who get larger vessels are suggested in Sections 6.2.1 and 6.2.2. Another alternative is suggested under the next heading.

#### *4.1.5 Training vessel(s) to promote small-scale tuna longlining*

The idea of a training vessel, or possibly several vessel designs, has been discussed by fishermen and MMR, and there is some merit in this as a development option. Having one or two larger vessel designs in Rarotonga for fishermen to see and fish on may be the best step in getting fishermen to move up to the next level, as they can gain experience on the training vessel and make up their own mind if this is what they want. The main problem though is who will purchase them and who will operate them.

To progress, it would probably be best for government to support the purchase of one or two vessels, especially safe and stable vessels that are suitable for small-scale tuna longlining, setting from 300 to 500 hooks per set. One vessel could have a hand-crank reel-type operation, while a slightly larger operation could have a hydraulic system. If the government chooses to purchase one or two vessel designs, then they need to look closely at the operating side of these vessels, as they need to be fished commercially to allow local fishermen to decide if this is the type of vessel and fishing operation that they want to get into.

The government, or MMR in this case, is not and should not be involved in commercial enterprises or activities. Therefore the operation and running of the training vessel(s) should be done by the private sector. There are several options available. First the fishermen, either through a cooperative or the Cook Islands Fishermen's Association, could take on the management and operation of the vessel(s). MMR would only take a support role, ensuring that the vessel(s) were being properly looked after and maintained.

Another option would be for MMR to lease (possibly with the option to buy) the vessel(s) out to individuals or a company in the private sector, on the understanding that they needed to be operated commercially, they would need to take other interested fishermen for training and awareness, and the vessel(s) would need to be properly maintained. Under either scenario, whoever was responsible for the vessel(s) would also be responsible for all operating/running and maintenance costs plus the vessel should be insured. MMR can re-assess their position with the training vessel(s) after a couple of years and decide whether to sell the vessels off to the private sector or keep the existing scheme going.

Marketing of the catch from the training vessel(s) will need to be considered at the planning stage, because the potentially larger volumes of fish that can be produced from this type of fishing operation can have a great impact on the domestic market, and cause problems for the smaller operators. This type of development really needs to be tied into a processing facility with export potential, to minimise the conflict and ensure success.

## **4.2 Other southern group islands**

The southern group islands have the potential to market their catch in Rarotonga, provided they can catch and transport fish to Rarotonga at a profit. There are several options that have potential for some or all of the southern group islands.

### *4.2.1 Shore processing and storage facilities*

Like Rarotonga, each of the islands in the southern group have the potential to establish a shore facility for processing, packing and storing the catch (iced and/or frozen) from local fishermen. This would include ice production for local fishermen to use when at sea, to maintain fish quality. Most of the catch would be transported to Rarotonga for sale, mainly by air, with smaller amounts sold locally on each island.

The problem is that apart from Aitutaki, each of the southern islands only has a small private sector, which is very limited in the fisheries area, and the possibility that the private sector will establish a small processing facility is remote. Therefore, there is a case or justification for government to support the establishment of shore facilities, although they should not be involved in the actual

running of the operation once set up. This support can be either direct from government or through aid directed by government to such projects.

For a development project such as this to receive government support, several criteria should be met. First, the local community, Fishing Association or Island Council will need to form a group to operate and run the facility once it is established, preferably a person with business skills and experience should be responsible for management. Second, there needs to be some contribution by each location to show their commitment to the project. This would most likely be in land (and/or a building) being made available or possibly the cost, or part of the cost, of a building to house the facility being met by the island group. Third, a catch marketing strategy is needed to ensure that fish quality is maintained throughout the operation. Fourth, the managers of the operation need to have some business skills to be able to keep books and records, and plan for future replacement of the equipment. Maintenance of the machinery is another issue to be addressed, and possibly MMR can assist with expertise or training when needed.

Aitutaki with its tourism has a much larger local market for fish compared to the other islands in the southern group, although the infrastructure and private sector are not as well established compared to Rarotonga. In due course the private sector may establish a processing and storage facility, however, it will take time and requires some incentive to encourage prompt development. Therefore, it is up to the government to decide whether they want to assist or support the establishment of such a facility under the same criteria as suggested above for other islands in the southern group, or whether they leave this entirely to the private sector.

#### *4.2.2 Private sector collection vessel*

Not all islands in the southern group will want a shore processing facility. An alternative to this is for the private sector, possibly in Rarotonga, to set up a collection vessel, which would operate between Rarotonga and selected islands in the southern group. The collection vessel would bring ice to the island for use (sold to fishermen or covered in the purchase price of the fish), with the catch being purchased by the collection vessel and properly iced for the trip back to Rarotonga for sale. To improve profitability, the collection vessel could also transport supplies, transport passengers, and fish using the vessel each trip. The size of the vessel would dictate whether or not it could fish within 6 nm of each island (vessels over 10 m in length have to fish outside 6 nm), and the type of fishing techniques employed.

An essential part of this development option will be proper forward scheduling, so that each island is aware and can plan accordingly. Each island also needs to be aware of costs, especially the price paid for each fish species. The fishermen on the island also have to be behind the operation and support it, fishing hard when the vessel is there. If they do not, they run the risk of the operation moving to another island.

#### *4.2.3 FADs as part of development in some islands*

The cost of a FAD is high, both initially for the cost of the materials and deployment, and in ongoing maintenance. They are effective in most locations at holding tuna schools during the tuna season, although if they are rarely fished, they hold little potential for increasing fish catches. Therefore the use of FADs off islands in the southern group needs to be assessed on an island by island basis. For example, Aitutaki's current FADs are consistently used by all groups in the fishing sector (commercial, charter and recreational), thus there is a strong case for an active and ongoing FAD programme. This should be along the same lines as the FAD programme proposed for Rarotonga (Section 4.1.3), including the NZD 50.00 annual contribution by each member of the Cook Islands Fishermen's Association, and possibly the Game Fishing Club members, to the cost of the programme.

The other islands in the southern group could be considered for FADs if they are put in to ensure food security, or if they have a development project being implemented, such as a shore processing facility

or a collection vessel operation. Either development projects could benefit from FADs by assisting local fishermen improve catches of tunas. Funding for the FADs will need to be considered carefully. For projects that are funded with government or aid assistance, then the cost of several FADs can be included in the overall project. However, where the initiative is solely private sector driven, such as through a collection vessel, then government will need to consider including these locations in the overall FAD programme being implemented by MMR, and provide the necessary budget.

#### *4.2.4 Value-adding processes*

There is scope in the southern group islands to enter into value-adding of fish products as a cottage industry, which should require less funding than the establishment of a processing and storage facility. Value-adding can be through salting and drying, smoking or even the production of jerky (tuna or other species). If done correctly, these types of products can be vacuum-packed to reduce the need for chilling, although chilling in some instances will improve the shelf life. Salted and dried fish and jerky can have a shelf life of several months, provided they are looked after at each stage of the process. These processes allow greater flexibility in marketing, to fit in with air or sea transportation to Rarotonga or to other export markets.

#### *4.2.5 Introducing larger or new vessel designs*

There is no point in introducing new or larger vessel designs in the southern group islands until a development project is underway. The exception would be Aitutaki, as fishermen there are already talking about larger and better boats. In general though, if the idea of having training vessel(s) goes ahead in Rarotonga, fishermen from the southern islands can either travel to Rarotonga to undertake training, or possibly specific trips can be undertaken over the course of a year so that the vessel(s) travel to different islands to provide awareness and training. For training trips to the southern group islands, MMR should look at chartering or sub-leasing the vessel(s) so that those that are trying to operate the vessel(s) commercially are not being disadvantaged. The catch from training trips to islands in the southern group could be kept by the vessel operator to help cover the costs of the overall operation.

### **4.3 Northern group islands**

The northern group islands present a totally different set of issues or problems that need consideration for development. The main constraints are that populations are very small, great distances exist between these islands and Rarotonga, and the limited and sometimes irregular transport schedule, both by sea and air. In fact, many of the northern islands are closer to Samoa and American Samoa than they are to Rarotonga.

Transporting fish to market will be the biggest problem for the northern islands. The distance will be too great to use a collection vessel. The air service is limited, the cost of airfreight is high, and the distance and carrying capacity of the planes used basically eliminates airfreight as a real option, although small amounts can be carried at times. This leaves sea freight, and with limited and irregular services, frozen product would be the only real option available. However, to produce frozen fish, a processing and storage facility would be needed on each island. With limited population and a limited private sector, the only way a processing and storage facility will be established is if it is fully supported by government. A cooperative-type arrangement could be used to operate and run the facility once established (refer Section 4.2.1), although the actual electricity cost to run the freezers and the maintenance of the machinery may also need to be supported by government. Marketing of the catch can be to neighbouring islands (Rakahanga selling fish to Manihiki), or by transporting it by sea freight to Rarotonga for sale.

The use of FADs can be explored as part of the government support to fisheries development in the northern islands, as a way to increase catch. New or larger vessel designs can also be considered in the overall development of each island in the northern group. So too can the introduction of value-adding processes. The government will need to weigh up the costs involved, and decide what the

benefits are to the country and the communities in each island by providing the level of support they choose.

## **5. LARGE-SCALE DEVELOPMENT**

Large-scale tuna longlining holds some potential for development, especially in the northern area of the Cook Islands EEZ. Varying amounts or types of benefits can accrue to the Cook Islands through large-scale tuna longlining, although these will depend on the type and duration of operations. The Cook Islands government will have to assess the benefits that will accrue to the country as part of their decision making process if they go down this path.

### **5.1 Foreign fishing under an access agreement**

The Cook Islands government has allowed foreign fishing access to Taiwanese and Korean tuna longliners in the past through bilateral access agreements, the last of which expired in 1994 (with Taiwan). There is scope for fresh bilateral negotiations (government to government) with Korea, or possibly other nations such as Japan or even Samoa. Taiwan would also be interested, however, the 'one China' policy of the Cook Islands precludes the opportunity for the government to negotiate directly with Taiwan.

The government could consider bilateral access as a short-term option or opportunity to get vessels in to fish the Cook Islands EEZ to provide catch data on the resource. The licence fee charged under a negotiated agreement will probably be the only benefit that will accrue to the Cook Islands, as the vessels will more than likely fish in the northern half of the EEZ and probably not make any port calls. Therefore, the level of fee should be considered very carefully, as other countries in the region are receiving around USD 10,000 per licence for all or part of a fishing year. If the government goes down this path, they should seek assistance from FFA in drawing up their access agreement to ensure the conditions of access are consistent with the regional approach.

### **5.2 Fishing via joint venture arrangements**

Another possibility for large short-term access for foreign vessels, or locally-based foreign vessels, is to allow access under a joint venture arrangement. This is an area that should be left to the private sector to arrange, as the government policy is to not get involved in commercial activities. The government, through MMR, would still be issuing and charging for the licences to fish in the Cook Island EEZ, so would still be gaining revenue from this activity. Initial joint ventures would best be kept to a short period (say 3 to 5 years), to allow these arrangements to be reviewed after a reasonable length of time, with an assessment of the actual benefits that have been achieved.

Another benefit from a private sector joint venture approach to developing the large-scale tuna longline fishery is that the companies can negotiate with countries, like Taiwan, that the government can not. This opens a few other opportunities for short-term development, and the government should support this while ensuring that any joint venture company set up remains 51 per cent owned by Cook Islanders.

There are a growing number of local tuna longline companies being established in the Pacific region, and some of these may be interested in increasing their area of operation by entering into a joint venture with local Cook Island fishing interests. Such companies are more likely to invest in shore facilities as well, which could generate other benefits to the Cook Islands through employment and foreign exchange on product exported from the country. This would be a good alternative to using vessels from distant water fishing nations, where the benefits to the country are generally small.

### **5.3 Mothership fishing operation**

Another approach for developing tuna longlining in the northern half of the EEZ is to have a mothership with several vessels working to it. The target species would be albacore tuna, and this would probably make up around 80 per cent of the catch. The mothership would receive the catch from the longliners at regular intervals (every 1, 2, 3 days or so), freeze and store it. The mothership itself could be a small cargo boat with a blast freezer (to actually freeze the catch) and refrigerated containers (to store the catch). The mothership would be moored in a safe anchorage for protection.

When the mothership is full or has an adequate load, it could transport this directly to American Samoa and unload at the canneries there. The mothership would then take on fresh provisions, fuel and bait (and ice if needed) for the fishing vessels, and head back. On arrival back at the safe anchorage, the tuna longliners unload their catch from the previous several days fishing, take on fuel, bait etc, and head out fishing again. The operation could continue like this for as long as the vessels want to stay at sea or the fuel, bait and provisions last.

An operation like this could be set up by locals, or a joint venture could be established to bring in the necessary vessels. Review of such an operation should be taken after a relatively short time (say 3 to 5 years), so the government can then assess if they want to continue this type of operation in the development of the tuna fishery in the Cook Islands.

## **6. MMR's ROLES AND RESPONSIBILITIES**

MMR is the government department that is primarily responsible for the development and management of marine resources in the Cook Islands. In looking at developing the tuna fishery, MMR has many roles and responsibilities that it needs to fulfil, and these are covered in the following sections.

### **6.1 Overall management of the tuna fishery**

MMR is responsible for the overall management of the tuna fishery in the Cook Islands, and they have commenced the drafting of a National Tuna Management Plan (NTMP) with assistance being provided by FFA. Part of this process is the revising of the Ministry of Marine Resources Act, with both documents to be finalised in the near future. Development of the tuna fishery can not happen in isolation of the management, as they are interconnected processes. For example, management decisions can effect how development occurs, and vice versa.

During the development phase of this strategy, many management-type issues were raised by fishermen and local stakeholder groups, and these points are presented here for consideration by MMR and FFA in the finalisation of the NTMP.

*Providing a regulatory framework or plan to manage the fishery:* It is important that the NTMP and the national development strategy complement each other. This includes the regulations developed under the NTMP, as these will be the rules that all fishermen will need to abide by. These rules should allow for, and possibly protect, the domestic development and expansion of the tuna fishery by Cook Islanders, within the prescribed framework of the NTMP.

*Surveillance and compliance of those in the fishery:* The Cook Islands is going to need good surveillance of its EEZ to stop illegal fishing, and to enforce the regulations that are put in place for the tuna fishery under the NTMP.

*Areas of access for different sized tuna longline vessels:* Currently all vessels over 10 m in length have to fish outside 6 nm and have to be licensed. For a tuna longliner setting hundreds or possibly thousands of hooks each set, this is too close to shore as there is always a risk that currents or weather conditions may cause the gear to drift into the reef or FADs, causing damage and getting caught or

lost. There is also the need to protect the small-scale fishermen, charter operations, and recreational anglers, by having a realistic buffer zone around islands and reefs. In looking at vessel size alone as the criteria that determines the distance offshore that the vessel can fish, one needs to be careful as some vessels smaller than 10 m can still set 300 to 500 hooks per set. One also has to consider larger vessels and how far offshore they need to fish. Possibly a rule of thumb could be as follows:

- Vessels under 10 m in length setting more than 200 hooks at one time (outside 6 nm);
- Vessels 10 to 20 m in length (outside 12 nm);
- Vessels over 20 m in length (outside 25 nm); and
- All foreign vessels regardless of length (outside 25 nm as a minimum).

*Data provision and validation of data:* Having and collecting accurate data is an important part of any development strategy for the tuna fishery. This includes the validation of data through various means, and the need for MMR to be able to guarantee confidentiality of the data that is provided to them. The following points could be considered in the collection and validation of catch and effort data, including size monitoring of the catch.

- All tuna longline vessels, and where possible small-scale operations as well, should provide data to MMR, in a form specified by MMR, to ensure accurate catch and effort records are available;
- MMR needs to ensure confidentiality of data that is provided to them, so that fishermen feel comfortable with providing accurate data, plus MMR can provide some basic analysis of the aggregated data back to those who have provided it;
- MMR needs to ensure that observers are placed on the larger vessels from time to time to validate catch and effort records, as well as monitoring all bycatch;
- All vessels over say 10 m in length should be fitted with an automatic location communicator to verify fishing location; and
- Port sampling be undertaken at landing points in the Cook Islands to provide scientific data on the size composition of the landed catch.

## **6.2 Extension services and training**

Extension services and training are a major component of MMR's work with the fishing industry as they try to assist in the small-scale and medium-scale development of the tuna fishery. This is especially true in the outer islands, both in the northern and southern groups, as people in these locations need to be kept up to date on new ideas and technologies, and be included as part of the developing tuna fishery.

### *6.2.1 Training in fishing techniques and fish quality*

Training covers many areas, and special expertise and skills are needed by people to be a good trainer. MMR staff have the necessary skills and expertise in some areas, when it comes to small-scale fishing techniques and fish quality, however, they need to call on those with other expertise to assist in areas where they are lacking. Below are some areas of training that are necessary for the development of the tuna fishery in the Cook Islands.

*Small-scale tuna fishing methods:* MMR staff are currently providing training in mid-water tuna fishing techniques, especially in association with FADs. These can be very productive fishing methods and this training should continue throughout the country over the coming years.

*Small- and medium-scale tuna longlining:* MMR staff are currently lacking in the skills to assist local fishermen with this technique. MMR can seek technical assistance from SPC to provide training in this area, either with their staff or with private sector companies who are starting to use this method.

*Fish quality:* MMR staff have the expertise and are trying to increase fish quality and encourage fishermen to use ice on their catch when fishing. This is difficult though, as the market will purchase fish that have not been iced as discussed in Section 4.1.1. MMR staff need to continue their training in this area, possibly educating the buyers and public as well as the local fishermen.

*Sea safety:* MMR staff have the expertise and are conducting training in this area at present with assistance from the local Harbour Master. This will continue to be an important area as fishermen get larger boats and fish further offshore. This training should be continued throughout the country over the coming years.

*Vocational training in schools:* This is a new area of training that has not been developed as yet. With the focus on developing the tuna fishery, there will be a need for people to work on boats as crew, engineers, and skippers, or in processing facilities, or at MMR. To start young people thinking about a career in a fisheries-related field, MMR could work with the Department of Education to develop a vocational training course that can be presented to high school students in year 4 or 5. Interested students could then gain experience through attachments during their school holidays.

*Business management skills:* Training courses in business management already exist, however, they are not necessarily specific to the problems and issues encountered in the fishing industry. MMR could work with an appropriate training institution in the Cook Islands to develop a specific training course on running a small fishing business, and encourage the teaching of this course throughout the Cook Islands over the coming years.

*Refrigeration courses:* Over the coming years, it is assumed that ice plants and cool rooms/freezers will be established in some of the outer islands. Maintaining this machinery could be a problem, so people from each island where this type of equipment is installed need to receive some basic training to be able to maintain the equipment. MMR should look at the best way to organise this training and ensure it happens.

*Surveillance activities:* MMR staff themselves will need training in the best surveillance procedures, especially recording information when preparing a prosecution case. The training can probably be received through either the Australian or New Zealand defence forces.

*Data collection, input, and analysis:* There should be enough expertise with existing MMR staff to train up others to undertake the tasks of data collection, data input into data bases, and extraction of data for basic analysis.

*Observing and port sampling:* MMR has one trained observer on staff who could assist with the training of others. However, given the specialised nature of the training, it would be best if MMR requested assistance from both SPC and FFA to assist organise and run this training.

### 6.2.2 Attachments for specific training needs

There are some forms of training where the best approach is to have people do specific recognised courses or work in a commercial environment to quickly gain the skills that are needed. This can be within MMR or can be in the private sector in areas where MMR is promoting development. Below are some areas for attachment training that may be necessary in the short-term to assist in the development of the tuna fishery in the Cook Islands.

*Tuna longline fishing:* Tuna longlining is a relatively new method being introduced to the Cook Islands, and there are limited skills presently available in-country. One way to quickly gain these skills is to attach people to a commercial fishing vessel in a neighbouring country where this method is well established. The vessels that people are attached to should be similar to those to be used in the Cook Islands. MMR could send one of their staff, and/or sponsor one or more people from the private sector. The attachment(s) would be for one to two months, to ensure the people get a good grounding in the commercial use of tuna longlining gear and the technique used.

*Qualified staff at MMR:* MMR needs to ensure that they have adequate staff with the qualifications they require to meet their current and future requirements in developing and managing the marine resources of the Cook Islands. This is especially true for management of the tuna fishery, as the Cook Islands will be one of almost 30 members to the new tuna management commission. The Cook Islands will need staff with training or education in international law, international management of a highly migratory species, and management in general. People need to commence training now to have the skills in several years time to meet this future need.

*Skipper and engineer qualifications:* The fishing industry is going to need qualified skippers and engineers to take charge of larger fishing vessels as they enter the tuna fishery. Cook Islanders have the ability, although are lacking the training. MMR may want to look at sponsoring (fully or partly) one or two people from the private sector per year to go overseas to do the necessary training and gain the qualifications needed to skipper vessels that will be working further offshore.

### 6.2.3 *Maintaining FADs for the fishing industry*

MMR currently maintains an effective FAD programme in Rarotonga and Aitutaki, with a few FADs off other islands in the country. This is a very necessary programme that needs to continue in the future (refer Sections 4.1.3 and 4.2.3), because FADs are a community resource for all to use and small-scale fishermen rely heavily on them to assist their catches. MMR needs to ensure they have adequate funding set aside each year, either in their recurrent budget or through the PDF fund, to maintain the current level of servicing of FADs and to replace FADs that are lost.

## **6.3 Liaison role and information provider/dissemination**

MMR has a major role to play in liaising between the different sectors that make up the tuna fishery (commercial and recreational fishing groups, government departments, environment groups, financing agencies etc), and providing information and advice to these sectors, while taking on board the views and ideas that come forward from these sectors. To facilitate this information exchange and liaison role, MMR should consider forming a committee with representatives of the main groups or sectors that make up the tuna fishery. The committee could be called something like the ‘Cook Islands Tuna Fishery Development Committee’, and should have regular meetings at least two or three times per year, especially during the coming years when development of the tuna fishery is being encouraged.

The role of the committee would be to discuss issues and concerns that arise from the different sectors, and come up with workable solutions that lead to the overall development of the tuna fishery by Cook Islanders. The committee should not be too large and possibly consist of around nine members from the main sectors, which means that not every small group or government department will have a representative. It would therefore be the responsibility of the committee members and MMR to ensure that the views of the smaller groups and government departments are canvassed and taken on board during committee meetings.

### 6.3.1 *Working with the fishing industry*

MMR has a good working relationship with the fishing industry, although as the industry develops and expands, MMR will have to ensure they keep their relationship going with new entrants. MMR also needs to ensure that each sector of the fishing industry has an equal voice, have the same access to information and advice, and have their views taken on board and considered. If the development

committee approach is adopted, then the three logical areas of the fishing industry to be represented would be the small-scale group (current boat operators), medium-scale group (tuna longliners and processors), and the charter or recreational group.

If the development committee idea is not adopted, then MMR will need to continue its current activities, ensuring that they consult widely before making decisions that may affect some or all of the fishing industry groups, and making information available when requested (unless it is confidential).

### 6.3.2 *Working with other government departments*

There are quite a few government departments that have input to fisheries, and MMR needs to continue its good working relationship with each of these. The main departments are:

*Foreign Affairs and Immigration:* Involved in all international fisheries matters, formulating the Cook Islands position on issues, and contact point for international agencies;

*Office of the Prime Minister—Aid Coordination Committee:* Advise and assist with the writing and clearance of funding proposals;

*Human Resource Development Department:* Arrange workshops, short courses and tertiary education;

*Island Councils and Mayors:* Consulted for any work to be undertaken in the outer islands to ensure their support and assistance for projects that are to be implemented;

*Ports Authority:* Consulted for any activities to be undertaken in the harbour or wharf area;

*Ministry of Transport:* Responsible for the manning levels and qualifications of people working on boats in the Cook Islands;

*Conservation Services:* Focal point for all conservation issues that relate to fisheries and the marine environment; and

*Police, Maritime Surveillance Centre, Harbour Master:* All involved in surveillance (air and sea) of the Cook Islands EEZ and search and rescue operations in the country.

MMR has a large liaison role to play with the different government departments and the fishing industry. This to ensure that consistent and realistic decisions are made by government that affect the fishing industry. This role will continue regardless of whether the concept of a development committee is accepted or not, as not all departments can be represented on such a committee. If the committee idea does go ahead, then possibly three departments could be represented, especially the Island Councils and Office of the Prime Minister.

### 6.3.3 *Working with investment and financing agencies*

Working with and assisting investment and financing agencies is a relatively new area for MMR to be involved with in relation to the tuna fishery. This however will be a crucial area for development, because the financing of loans is essential to the development of the tuna fishery, and the lending institutions need some guidance and assistance in assessing applications. MMR should be assisting all potential lending institutions, answering any inquiries and providing information and advice as needed. Also, if the development committee idea proceeds, there should be one committee member from this sector.

The Bank of the Cook Islands (BCI) is keen to work with MMR as they see a good future in developing the tuna fishery, although they lack the expertise and experience to assess applications for tuna longlining operations and processing facilities. BCI have a new Business Development Unit, and

fisheries is one of the focus areas for financing, and they are happy to look at reasonable size loans with flexible terms and conditions to work in with the proposed business plan of the venture.

The Development Investment Board is another government department that MMR should work closely with in the development of the tuna fishery.

The Cook Islands has just become a signatory to the Cotonou Convention, and is now considered an ACP (African, Caribbean and Pacific) country. This status allows private sector investors to access investment support through agencies like the South Pacific Project Facility (SPPF) and possibly the Centre for the Development of Enterprises (CDE). SPPF is located in Sydney, Australia, and can assist likely investors in three main areas: formulating, evaluating and promoting project ideas and providing consultancy services to develop and implement business plans; obtaining equity and loan financing on commercial terms from financial institutions; and providing additional equity from the Pacific Island Investment Fund. This is an area that MMR can research and explore on behalf of the private sector in the first instance.

## **7. REFERENCES**

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- Walker, J. and R. Cox. 1999. COPED physical model testing. Technical Report 98/42, University of New South Wales water research laboratory, Manly Vale, NSW, Australia. 24 p plus appendices.

**(i) People consulted during the study**

- Navy Epati, Secretary for Fisheries, Ministry of Marine Resources;
- Ian Bertram, Director of Research, Ministry of Marine Resources;
- Josh Mitchell, Director of Fisheries Policy, Ministry of Marine Resources;
- Sifa Fukofuka, Director of Development, Ministry of Marine Resources;
- Nooroa Roi, Information Officer, Ministry of Marine Resources;
- Ms Lara Manarangi-Trott, Fisheries Officer, Ministry of Marine Resources;
- Don Beer, Ex-President of the Chamber of Commerce;
- Tapi Taio, Owner and Managing Director, Taio Shipping Limited;
- Josh Taio, Fleet Manager, Taio Shipping Limited;
- Tony Greenem, crew off F/V *Marie J* from New Zealand;
- Ray Henry, Ex-commercial fisherman from New Zealand;
- Tereapii Viking, Aitutaki fisherman wanting to gear up for tuna longlining;
- Brent Fisher, President, Cook Islands Fishermen's Association;
- Lucky Matapuku, ex-owner of F/V *Farquest*;
- Tai Manuela, pearl farmer (Manihiki) and administrator in northern group;
- Bill Doherty, owner of Land Holdings Ltd and interested in commercial fishing;
- Don Dorrell, Director, Coastal Environmental International Ltd;
- Unakea Kauvai, Managing Director, Bank of the Cook Islands;
- Ms Terai McFadzein, Manager Credit, Bank of the Cook Islands;
- Ms Vaine Nooana, Manager Business Development, Bank of the Cook Islands; and
- Wayne Barclay, President of the Cook Island Game Fishing Club.

**(ii) Attendees at the Aitutaki Game Fishing Club meeting**

**23 August 2001 (12:00 noon to 2:00 pm)**

- Clive Baxter part-time fisherman
- Junior Manuela part-time fisherman
- Teokotai Roi part-time fisherman
- Goldie Goldie Secretary for Aitutaki Game Fishing Club
- John Tini part-time fisherman
- Tony Greenem crew on new fishing vessel F/V *Maria J* from New Zealand
- Tavaine Paerau part-time fisherman
- Tai Heman Mayor and part-time fisherman
- John Baxter Deputy Mayor and full-time fisherman
- Jubile Jubile full-time fisherman
- Ray Henry full-time fisherman (F/V *Jaunu Foxy Lady*)
- Gary Parlour Kaitaia, New Zealand, fishing club member
- Clyde Rima part-time fisherman
- Tereapii Viking part-time fisherman and tourist operator (fishing, picnics etc)
- Lawton Story part-time fisherman
- Mark Baxter full-time fisherman
- Noo Mataiti full-time fisherman
- Alan Maki part-time fisherman
- Long Tuiravakai part-time fisherman
- Repaio Kiria part-time fisherman
- William Mata part-time fisherman
- Beckom Maoate part-time fisherman
- Maraeara Tekii retired fisherman interested in aquaculture
  
- Ian Bertram MMR, Rarotonga
- Sonny Tatuava MMR, Rarotonga
- Metu Koroa MMR, Aitutaki

**(iii) Attendees at the Rarotonga meeting (Fisheries shed, Avatiu Harbour)**

**30 August 2001 (4:30 to 6:30 pm)**

- Tobia Tobia part-time fisherman
- Junior Ioaba full-time fisherman
- Tai Paerau part-time fisherman
- Tupe Short farmer from Ngatangiaa who is interested in fisheries
- Robert Samatua part-time fisherman
- Tai Manuela pearl framer (Manihiki) and administrator in northern group
- Ms Tapaeru Hagai person interested in fisheries
- Tiaki Wuatai MP for Pukapuka
- Lucky Matapuku ex-fishing company owner (F/V *Farquest*)
- Tepaki Baxter part-time fisherman
- Mona Rakei part-time fisherman
- George Koteka part-time fisherman
- Dick Masters full-time fisherman
- Tony Iotua Honda outboard salesman at the Motor Centre
- Noo Tuiravakai full-time fisherman
- Kete Ioane part-time fisherman and MP for Aitutaki
- Brent Fisher full-time fisherman/charter operator and President of CIFA
- Matatua Taru full-time fisherman
- Richard Story full-time fisherman
- Rupe Rima full-time fisherman
- Tangaina Patia part-time fisherman
  
- Ian Bertram MMR, Rarotonga
- Sonny Tatuava MMR, Rarotonga
- Josh Mitchell MMR, Rarotonga
- Nga Atingakau MMR, Rarotonga
- Nooroa Roi MMR, Rarotonga
- Bill Masters MMR, Palmerston
- Kori Raumea MMR, Rarotonga
- Sifa Fukofuka MMR, Rarotonga
- Ms Lara Manarangi-Trott MMR, Rarotonga