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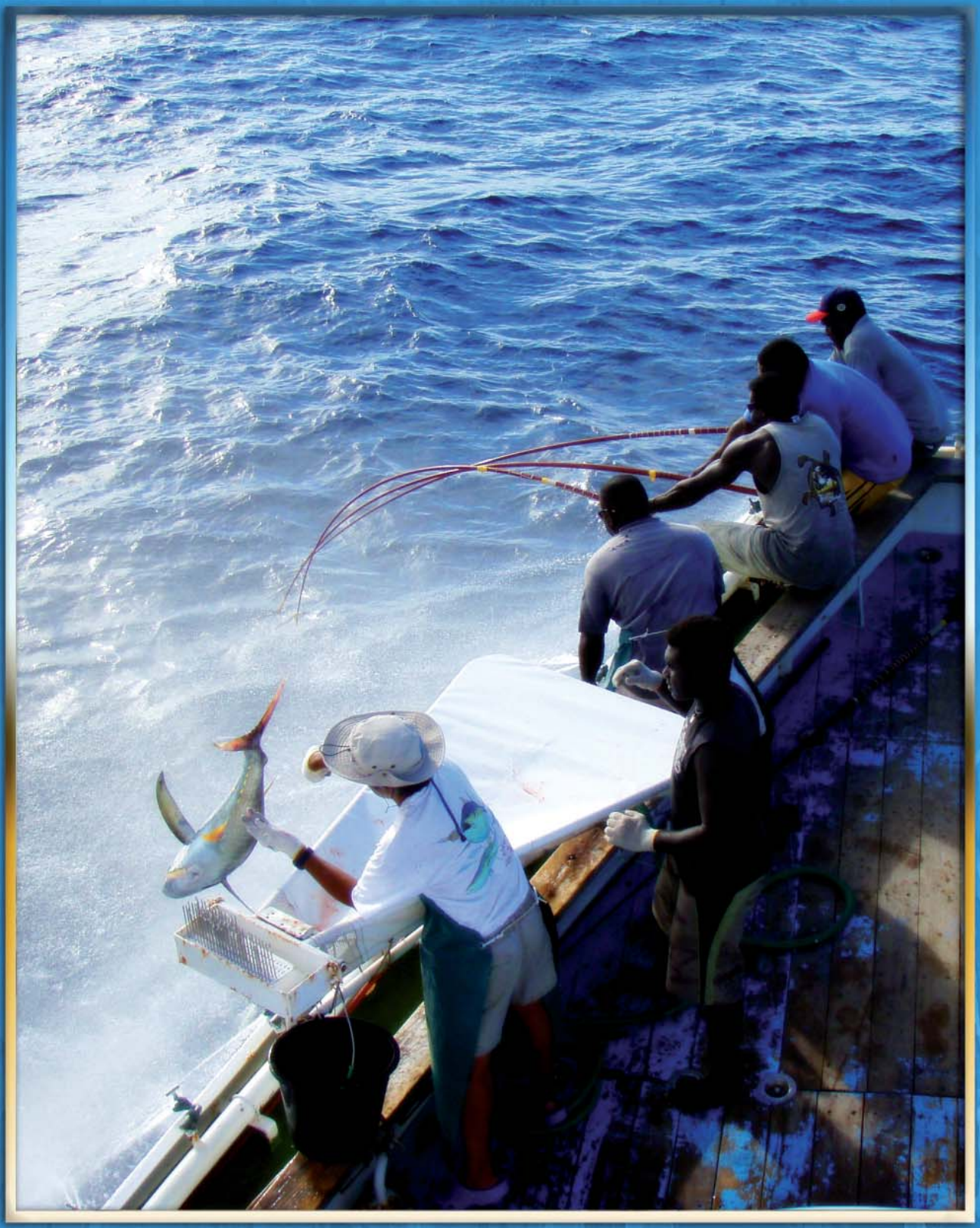
SPC DIVISION OF FISHERIES, AQUACULTURE AND MARINE ECOSYSTEMS (FAME)



STRATEGIC PLAN 2010–2013

SPC Division of Fisheries, Aquaculture and Marine Ecosystems (FAME)

Strategic Plan 2010–2013

Prepared by the Secretariat of the Pacific Community

Secretariat of the Pacific Community, Noumea, New Caledonia

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1. Introduction

This is the first strategic plan that has been produced for the Division of Fisheries, Aquaculture and Marine Ecosystems (FAME). The Division, formerly called the Marine Resources Division, has been renamed to reflect its focus on living aquatic resources. It has grown over the years out of several separate fisheries projects. While preserving the distinct role of each of the two programmes — the Oceanic Fisheries Programme (OFP) and the Coastal Fisheries Programme (CFP) — it draws out some common themes and goals, and provides for more coordination and the sharing of support services.

The plan implements many of the recommendations of an independent review of both programmes carried out in 2009. The goals, objectives and results were developed in a consultative process during the 6th SPC Heads of Fisheries Meeting in February 2009, and were endorsed by the Forum Fisheries Committee Ministerial Meeting in May of the same year. The plan relates to broad global and regional goals, but also incorporates many of the priorities identified by individual member countries and territories in the SPC Joint Country Strategy process over recent years.

This strategic plan focuses on the higher level outcomes expected from the division's work: the goals, objectives and results for the four year period 2010–2013, as well as providing indicators that can be used to measure progress. An internal review will be carried out after two years, and an independent assessment made toward the end of the plan period. As in past years, annual work plans and reports will identify the detailed activities for each year, and report against their implementation. These will draw on the SPC Joint Country Strategies to identify the activities for individual Pacific Island countries and territories (PICTs).

SPC's vision for the region is a secure and prosperous Pacific Community whose people are educated and healthy and manage their resources in an economically, environmentally and socially sustainable way. While the division's goal relates mainly to the sustainable management of marine resources, the opportunities that these provide to improve education, health and prosperity of men and women are not neglected.

2. Context

2.1 Economic and social overview

The 22 Pacific Island members of SPC are a diverse group in terms of economic and social conditions. Five are least developed countries, with annual per capita GDP as low as US$ 700, while in some of the territories, average incomes are comparable to those in wealthy industrialised countries. Population densities and growth rates, land areas and the level of urbanisation all display similarly wide ranges. There is a great diversity of cultures and languages.

What they have in common is that all are islands surrounded by the tropical Pacific Ocean. All have jurisdiction over areas of this ocean that are many times (in some cases thousands of times) their land area. All derive significant economic and social benefits from their marine resources, with many coastal communities depending on these resources for their livelihoods. Several have large and important freshwater fisheries. All identify their living aquatic resources (for fisheries, aquaculture and non-extractive uses mainly related to tourism) as a major opportunity for economic growth and development. In some cases, they represent one of the only opportunities.

Nearly all tourism destinations in the region are on the coast, and the coral reefs and their fish populations provide a powerful tourist attraction. Specialised diving and fishing holidays bring in large numbers of tourists and provide a regular stream of visitors to locations that may lack more sophisticated attractions and infrastructure.

A recent study has estimated the contribution of fishing (not including processing and support industries) to the economies of PICTs at over US$ 550 million in 2007. Coastal fishing (subsistence and commercial) accounts for half of this total, with locally based offshore fisheries making the next largest contribution. Fisheries access fees are a source of government finance in all Pacific Island countries, providing more than 10 per cent of revenue in four of them.

Reviews of the importance of fish as a source of food for Pacific Island populations have found that annual per capita consumption of fishery products in all cases exceeds the global average of 16.5 kg. In several small island countries, where opportunities to produce other food are very limited, fish consumption is among the highest in the world. Fishing also plays an important cultural role for men and women in many of the region's coastal communities, and is part of the daily lives of hundreds of thousands of Pacific Islanders.

2.2 International and regional context

From a global perspective, there has been little good news about fisheries resources over the last 25 years. Official estimates of the percentage of fish stocks that are not fully exploited or over-exploited fell from 40 per cent to 20 per cent, and a number of major fisheries have collapsed. Total world fisheries production stopped growing in the mid 1980s, and shows a substantial decline when unreliable data are excluded. Global fishing capacity (the power of the fishing fleets to catch fish) is estimated to be at two to three times the level required to yield a sustainable catch, and continues to grow in some major fishing nations.

On a more positive note, the world's aquaculture production has doubled in the last decade, although this has not been without environmental cost. Loss of coastal habitat, degradation of fish farm sites, dependence on capture fisheries for feed, and the introduction of exotic species and diseases have provided some lessons to guide future development. Trade in fisheries products — particularly from developing countries to the developed world, has also grown dramatically.

The SPC region reflects these trends to some extent. The value of fisheries exports from the region almost doubled in the period 1999–2007. In about half of the PICTs fishery exports represented over 50 per cent of the value of all exports; where they represent less than this proportion, they are mostly quite large in nominal terms. Overall, aquaculture production has increased, with some promising developments in the last five years, but remains a small contributor to the economies of most Pacific Island countries. Pearl and prawn culture account for most of the production value, and have been developed mainly in the French territories.

Production from the western and central Pacific tuna fishery has grown rapidly since the mid-1990s, reaching a record catch of 2.4 million tonnes in 2007. About half of this comes from the waters of PICTs. The increase has been driven by expansion of the distant water purse-seine fishery, with some growth in the catches by national fleets and onshore processing in the region. In contrast, domestic tuna longline fisheries, which developed in many PICTs during the 1990s, have faced difficult economic conditions in recent years and production has fallen.

Production from coastal fisheries, particularly subsistence fisheries, has never been well quantified across the region. It seems clear, however, that the value of some export fisheries such as beche-de-mer has fallen, as high-value species have been widely overfished and several national fisheries have been closed.

The region's living marine resources have global significance. A quarter of the world catch of tuna now comes from the waters of PICTs. Half of the world's hard coral reefs lie within the region, including some of the most extensive systems. The west of the region forms part of the coral triangle, the centre of tropical marine biodiversity. There are thus important reasons for the wider global community to share the concerns that Pacific Islanders have for their marine resources.

3. Challenges

3.1 Overfishing

Fishery-induced impacts are an important and immediate threat to the sustainability of the region's living aquatic resources. In the oceanic fishery, while stocks of the most prolific species, skipjack tuna, remain in a healthy condition, bigeye tuna stocks are overfished and there is a considerable risk that overfishing of yellowfin is occurring. Increases in the number, size and efficiency of purse seiners operating in the region; ever-improving technology; and the widespread use of fish aggregating devices (FADs) in the industrial fishery mean that a significant reduction in fishing effort is now required if bigeye catches are to return to a sustainable level. Initial economic assessments indicate that further reductions would improve the efficiency and profitability of the region's tuna fisheries. The management of this fishery is not simple, involving multiple distant-water and locally-based fleets, which fish over an extensive area under different national jurisdictions and on the high seas.

Coastal fisheries have avoided the scale of industrial fishing effort that has been applied to tuna, but also face management challenges. Traditionally these resources have been harvested mainly for subsistence, and they remain essential for food security in many rural coastal areas and small islands. Little has been recorded about the region's freshwater fisheries resources, but there are important fisheries in several areas. Growing urban populations and development of a cash economy have seen an increase in small-scale commercial fishing, with depletion of resources around areas that have access to markets. A special case is provided by beche-de-mer, the sea cucumber found in shallow lagoons, which is harvested, dried and exported. The high value of this product, the ease with which it can be collected, and the fact that the dried product can be stored and transported without refrigeration, have led to it being widely overfished, even in some of the most remote areas. The situation for some valuable mother-of-pearl shell species, also harvested for export, is similar. Species of giant clam have also been fished to near-extinction. It is estimated that the region's population will increase by 50 per cent over the next 25 years, which will greatly increase pressure on these resources.

3.2 Ecosystem impacts

While fishery-induced impacts on the target species are a major concern, awareness has been growing for some time that fisheries have major impacts on other aspects of the marine environment, particularly by-catch species, and that other activities affect fisheries resources. This has led many countries to commit themselves to an 'ecosystem approach' to fisheries management. Unfortunately the processes developed for this approach have proved hard to put into operation, even in developed countries, and a more pragmatic approach that still takes account of ecosystem principles is necessary. The maintenance of ecosystem benefits for future generations is a principle of sustainable management and development, recognised in the new name for the division.

3.3 Climate change

Climate change will have widespread effects in the region, and survival of entire countries may be at risk from sea level rise. The region's marine resources seem certain to be impacted in the long term. Rising levels of carbon dioxide in the atmosphere are already making the Pacific Ocean more acidic. This reduces the ability of corals and other hard shelled creatures to grow, and threatens to cause the collapse of coral reefs — especially around the margins of their present distribution. Initial projections suggest that changes in ocean circulation will reduce nutrient availability, cutting the potential production and changing the distribution of tuna.

Many of these changes cannot be accurately forecast at present. Responding to them poses even greater challenges but argues for a need to: continue to press for mitigation of global greenhouse gas emissions; adopt a cautious approach to the exploitation of marine resources that may be further impacted by future climate change; and develop adaptation strategies to provide substitutes for resources and benefits that will be lost.

3.4 Development challenges

The sections above have highlighted the threats of overexploitation of the region's marine resources; but there are also many opportunities to derive greater economic benefits from them. The development of domestic tuna industries and increased production from aquaculture hold perhaps the greatest potential; but there are other opportunities such as the sustainable collection of aquarium fish, and the expansion of non-extractive tourism benefits. These opportunities are not new, but realising them has proved elusive in most PICTs. In recent years the role of the private sector has been increasingly recognised, and the failed model of government involvement in commercial activities has been abandoned in most cases.

Constraints are numerous, and have been well documented elsewhere. Some may never be resolved — the isolation, high transport costs and limited resources of land and freshwater mean that certain types of development may never be practical in some locations. For others the solutions, such as an improved economic and policy environment, lie beyond the control of fisheries programmes (although they may exert some influence). A key constraint is the lack of capacity and the institutional weakness of many of the fisheries administrations in the region. Small government departments will always be challenged by the many and complex responsibilities that they face with small staff numbers, limited skills and scarce financial resources. Developing and supplementing this capacity is a key function of the regional organisations.

4. SPC response

The response to these challenges reflects the overall mission of SPC to help Pacific Island people position themselves to respond effectively to the challenges they face and make informed decisions about their future and the future they wish to leave for the generations that follow. Much of the work will involve providing the information needed to make informed decisions on aquatic resource management and development, and helping to provide the tools and strengthen the capacity needed to implement those decisions.

4.1 Oceanic fisheries

In the oceanic fishery, SPC will continue to provide the services that are valued by PICTs, while responding to some new challenges. As reflected in the 2006–2009 OFP strategic plan, providing scientific support for the management of fisheries for tuna and associated species, with a strong focus on stock assessment and modelling, remains the core function of the programme. Essential in supporting this work, but also valuable in their own right, are the two other main priorities — providing and improving data and tuna fishery monitoring services; and improving understanding of the oceanic ecosystem that supports the region's tuna fisheries.

The overfishing of targeted stocks of tuna is a new development since the last strategic plan was prepared, and requires a new emphasis on the scientific evaluation and monitoring of management measures aimed at addressing the problem. SPC members are increasingly interested in maximising the economic benefits from their tuna resources (or minimising the impacts of reducing fishing effort on their national economies), which will necessitate more work with the Forum Fisheries Agency (FFA) to develop bio-economic models. Improved spatial resolution, to at least the detail of individual exclusive economic zones (EEZs), is also being demanded and will be addressed through the completion and use of a new type of model.

The Western and Central Pacific Fisheries Commission (WCPFC) came into action five years ago, and there is now a wider appreciation of its strengths and weaknesses. On the one hand, it provides an opportunity for improved region-wide management of tuna resources, including the high seas; on the other it poses challenges for PICTs in terms of reporting and effective participation in decision-making. OFP will continue to provide scientific services to WCPFC, so as to ensure the best possible basis for decisions, as well as assisting PICT members — both by helping them meet their obligations as commission members, and by providing them with the scientific basis to analyse their own national interests. OFP will work closely with FFA and sub-regional groups of its member countries in their efforts to develop a coordinated position on WCPFC issues, based again on providing the best possible scientific advice. A peer review process, organised through WCPFC, will maintain quality control.

While there is much emphasis on the regional nature of fisheries management due to the shared nature of the tuna resource, many responsibilities lie at the national level. Development and review of national tuna management plans based on ecosystem principles, improvement of national databases for tuna statistics, and training and support for national programmes for observers and port sampling are all crucial areas for OFP involvement, often working with FFA. The need to build up the numbers and skills of observers to meet the requirements of monitoring new management measures, in particular, is already calling for unprecedented efforts by OFP staff.

SPC will play an important role in analysing and helping to mitigate the effects of tuna fisheries on non-target species, again working with other regional agencies where applicable. This is important not only for conservation of some threatened and endangered species, but also to address public opinion and retain overseas markets for tuna from the region. In the struggle against illegal, unregistered and unreported (IUU) fishing, OFP activities in developing national databases and building observer programmes will provide members with some of the important tools they can use against this threat to their resources.

4.2 Coastal fisheries

While OFP has always had a clear focus on the science of tuna fisheries, CFP has a much wider remit. The programme provides support to PICTs in management of coastal fisheries, sustainable development of nearshore resources, and all aspects of aquaculture. Recently, advice on some freshwater fisheries has also been requested.
The CFP strategic plan for 2006–2009 identified the ecosystem approach to fisheries management as a central theme for coastal fisheries, but progress has been elusive. During the period 2010–2013, simpler and more robust management tools will be promoted, as well as the development of national capacity to monitor the status of key coastal fisheries resources. While retaining consideration of ecosystem principles, the approach will put people at the centre of fisheries management, and aim to address the risks that threaten their sustainable use of fisheries resources.

In the area of fisheries development, it is recognised that economic development based on fisheries resources remains a priority for many PICTs, although the opportunities for increased catches from existing lagoon and reef fisheries are few and far between. Emphasis will be placed on developing alternative fisheries, based on robust resources such as skipjack tuna, and adding to the value of existing catches through better handling, processing and export markets. Recreational fishing, particularly associated with tourism, also provides economic opportunities that do not threaten the resource in some PICTs. The government-led development model, with national fishing companies, has finally been abandoned and the programme will work to foster private enterprise. Support will be provided for fishing industry bodies and fishers associations that can promote the interests of the private sector.

Aquaculture has considerable potential, but in many PICTs this has yet to be realised. SPC will undertake a critical review of the opportunities and constraints to development across the region. It is recognised that the programme's efforts will need to focus more on creating the conditions for economically viable activities. Again, involvement of the private sector will be important. A key role for governments, however, will be to manage the biosecurity risks, and avoid some of the damaging impacts caused by badly managed aquaculture practices elsewhere in the world. SPC will assist and coordinate this work. Since the Aquaculture Section already deals with some cultured freshwater species, it will also take the lead in freshwater fisheries work.

4.3 Capacity building and supplementation

SPC identifies the development of human resources in member countries and territories (capacity building) and the direct provision of access to specialised expertise (capacity supplementation) as core business of the organisation. In oceanic fisheries, training will continue to focus on the development of skills to analyse and interpret the results of stock assessments, to assist countries in developing appropriate management measures. Increasing capacity to handle and manage tuna fishery data will also be important, while the need to increase and maintain the pool of trained observers will lead to increased emphasis on the delivery of observer training by national institutions. In both of these areas, OFP will aim to move away from the direct delivery of services, to a role consisting more of support and quality control. The use of new technology for the collection and transfer of data will also be investigated. In coastal fisheries and aquaculture, training needs are more diverse and cover a range of technical issues. The emphasis will be on enhancing skills and management expertise in the private sector, while supporting the regulatory role of government departments in areas such as resource assessment and monitoring, or export certification. The division will also investigate ways of addressing the widely perceived need for institutional strengthening of national fisheries authorities. This may include training for senior staff in management, using SPC-funded staff to work with PICT fisheries authorities for more extended periods, and strengthening the mentoring and support that division staff already provide to counterparts in-country. SPC is committed to decentralisation, and placing staff nearer to where their services are required. The division will also work with partner agencies to improve the relevance and quality of undergraduate training for recruits to PICT fisheries authorities, and, over time, establish a small cadre of Pacific Islanders with the training and experience in fisheries stock assessment needed by fisheries managers.

4.4 Information and communication

The programmes produce a range of information materials. Publications include scientific papers, technical manuals, newsletters, special interest bulletins, and posters, as well as various reports and policy documents for members' fisheries administrations. The division also uses dedicated websites, email groups, a digital library and videos (some of which were designed for broadcast on TV). During the plan period, more attention will be paid to ensuring that information reaches its target audience. Emphasis will also be placed on communicating key fisheries issues to decision-makers, and targeting regional media to raise public awareness.

4.5 Crosscutting issues

The work of the division will contribute to broader efforts by the regional organisations to address a number of crosscutting issues.

Governance

The main contribution in this area will be an enhanced institutional capacity for planning and implementing resource use. By communicating the results of stock assessments and management measures, the programmes will promote greater transparency. The promotion of consultative management processes and support for producer associations will increase public participation in decisions on resource issues. Development efforts in fisheries and aquaculture will seek to provide a framework that encourages private enterprise and investment.

Gender

The contribution of women in Pacific fisheries is often under-valued and misinterpreted due to gender stereotypes. The division will work with other sections of SPC to address gender issues, and will promote the involvement of all sectors of the community in decision-making on resource issues. Efforts will be made to promote careers in fisheries for women, and the division will endeavour to improve the gender balance of its professional staff as an example to the region.

Environment

The division's core function is to contribute to the sustainability of fisheries resources. Development activities will include efforts to improve fuel efficiency in fishing and processing. The division will also assist in evaluating and mitigating the impact of major developments in the fishing industry and aquaculture.

Food security

Population growth and urbanisation already threaten the traditional view of the Pacific Islands as a region where nobody starves, and there are problems of poor nutrition in many PICTs. Fisheries and aquaculture have an important role in the solution of these problems, but it would be a mistake to focus only on small-scale production in the name of food security without careful evaluation of economic and social viability. Better utilisation of the by-catch of commercial fisheries, or promotion of agricultural production systems may prove more efficient and sustainable. Food security initiatives will be based on a realistic assessment of what actually works.

5. Goals, objectives and results

5.1 Overall goal of the division

The goal of the FAME Division, in line with the priorities of member countries and territories is: **the marine resources of the Pacific Islands region are sustainably managed for economic growth, food security and environmental conservation.** The division focuses on fishery-induced threats to marine resources, while taking account of broader ecosystem management principles.

5.2 Relevance and high level indicators

This goal directly addresses ***Millennium Development Goal (MDG) 7*** – to ensure environmental sustainability. The key MDG indicator is 7.4:

- The proportion of fish stocks within safe biological limits.

In some Pacific Island countries, the goal will also address MDG 1 – the elimination of hunger and absolute poverty – through the contribution of fish to the diet and the role of fisheries in generating employment and income-earning opportunities. In others, the role of fish in the diet contributes to balanced nutrition and health, while fisheries again contribute to economic growth.

The Strategic Plan addresses key priorities of island member countries defined in the ***Pacific Plan***'s Sustainable Development Pillar, particularly improved natural resource and environmental management. More specifically, the 2007 Vava'u Declaration by Forum Leaders committed Pacific Island countries to, inter alia, (1) 'the development and management of coastal/inshore fisheries and aquaculture to support food security, sustainable livelihoods and economic growth for current and future generations of Pacific people' and (2) 'strengthening our support for the Forum Fisheries Agency, the Secretariat of the Pacific Community and other regional fisheries bodies as they intensify their efforts in applying a long-term strategic approach to Pacific fisheries, and to tuna species in particular, to ensure that these resources are effectively managed so as to provide enduring economic, social and cultural benefits'.

The relevant indicators are:
- Increase in the contribution of fisheries and aquaculture to GDP in PICTs;
- Maintenance or increase in per capita consumption of fish in PICTs.

Indicators for the goals of each programme and the objectives of each section are provided in the table in Section 7 and summarised in the logical framework in Section 10.

5.3 Divisional objectives

The Director of the FAME Division has the role of coordinating the work of the Coastal and Oceanic Fisheries Programmes in support of this goal. The Director has two objectives, with two result areas under each objective:

Objective 1: To develop and sustain effective relationships between the division and its stakeholders

Result 1.1: Programme plans and activities that respond to the needs and priorities of members
Result 1.2: Effective working relationships maintained with other regional agencies and partners

Objective 2: To promote informed policy decisions and public awareness of marine resource issues in PICTs

Result 2.1: Policy-makers and the general public are better informed of marine resource issues, the importance of fisheries and the need for management action

Result 2.2: Stakeholders in PICTs are fully informed of the results of SPC activities, and shared experience and knowledge across the region

Each programme has its own goal and objectives as set out below.

5.4 Oceanic Fisheries Programme goal and objectives

The goal of OFP is: **fisheries exploiting the region's resources of tuna, billfish and related species are managed for economic and ecological sustainability using the best available scientific information.**

To help Pacific Community members achieve this goal, OFP will focus on three objectives for the four-year period from January 2010 to December 2013. Each objective will be supported by results in four to five areas.

Objective 1: To provide high-quality scientific information and advice for regional and national fisheries management authorities on the status of, and fishery impacts on, stocks targeted or otherwise impacted by regional oceanic fisheries

Result 1.1: Regional oceanic fisheries management policy and decision-making by WCPFC are informed by the best science-based stock assessments and advice

Result 1.2: FFA's oceanic fisheries management initiatives are supported by the best science-based stock assessments and advice

Result 1.3: National tuna oceanic fisheries policy and decision-making are informed by the best science-based stock assessments and advice

Result 1.4: Enhanced capacity of SPC members to interpret stock assessment information and advice

Objective 2: To collect and analyse accurate and comprehensive scientific data for regional and national fisheries management authorities on fisheries targeting the region's resources of tuna, billfish and other oceanic species

Result 2.1: WCPFC is provided with efficient and cost-effective data management services to support regional oceanic fisheries management

Result 2.2: FFA's oceanic fisheries management initiatives are supported by efficient and cost-effective data management services

Result 2.3: Enhanced national oceanic fishery monitoring and data management by SPC members to meet national and international obligations

Result 2.4: Enhanced capacity of SPC members in fisheries monitoring, data management and data use

Objective 3: To improve understanding of pelagic ecosystems in the western and central Pacific Ocean

Result 3.1: Enhanced data on the biological characteristics of oceanic species and their environment are available to support stock assessment and ecosystem-based fisheries management

Result 3.2: Appropriate ecosystem models and analyses are available to inform ecosystem-based fisheries management

Result 3.3: Regional oceanic fisheries policy and decision-making by WCPFC is informed by science-based information and advice on ecosystem issues

Result 3.4: FFA's ecosystem-based fisheries management initiatives are supported by the best scientific information and advice

Result 3.5: Ecosystem-based management of oceanic fisheries by SPC members is supported by the best scientific information and advice

5.5 Coastal Fisheries Programme goal and objectives

The goal of CFP is: **coastal fisheries, nearshore fisheries and aquaculture in PICTs are managed and developed sustainably.** This will be achieved through promoting a participatory and consultative approach, involving relevant stakeholders, with a strong focus on building capacity.

To help Pacific Community members achieve this goal, CFP will focus on three objectives for the four-year period with three result areas under each objective.

Objective 1: To assist governments and administrations in the development of scientifically informed and socially achievable coastal fisheries management policies and systems in line with the guiding principles of the Apia Policy[1]

Result 1.1: Assessment of the status of national coastal living marine resource user groups, impact on resources, existing impact management systems, and the current status of resources themselves, in order to inform management

Result 1.2: Assistance to members, in partnership with other stakeholders, in developing an appropriate mix of community-based approaches and national management arrangements, incorporation of ecosystem-based principles, and the review of coastal fisheries legislation

Result 1.3: Practical assistance to members in the designing and targeting of appropriate awareness raising and educational information

Objective 2: To provide a regional framework for sustainable aquaculture, in the areas of planning, research, development and trade, for Pacific Island governments, private enterprises and other stakeholders

Result 2.1: Improved regional and national capacity for strategic policy, planning and administration to establish clear priorities and enable the aquaculture sector to meet current and future needs, with the guidance of the SPC aquaculture action plan 2007

Result 2.2: Increased skills and knowledge base in the SPC region and its member countries and territories, so as to maximise the return on investments in aquaculture through innovative, profitable and sustainable approaches

Result 2.3: Competent authorities established and/or supported, using science-based approaches to manage aquatic biosecurity risks and to facilitate trade

Objective 3: To develop sustainable nearshore fisheries in PICTs to provide food security, livelihoods and economic growth

Result 3.1: Subsistence, artisanal, sport and industrial fishing activities within the sustainable production level of the fisheries resources available

Result 3.2: Resource materials, advice and training in appropriate fishing techniques and technologies

Result 3.3: Optimum benefits from the resource through improved seafood quality standards and value-adding

[1] The Pacific Islands Regional Coastal Fisheries Management Policy 2008-2013 (the Apia Policy) was endorsed by the 4th Ministerial FFC in 2008.

6. Risks and risk management

Risks that threaten the ability of the division to deliver on these objectives and results can be divided into those that are internal, to the extent that they may reduce the capacity of programmes to perform (funding, staffing levels, management), and those that are external — those that may prevent the uptake and effective use of programme services and advice in member countries and territories (political will, capacity of national institutions, regional solidarity). In the past, the impact of some SPC activities has been limited by:

- attempting to provide equal services to all PICTs, rather than tailoring activities to their capacity and needs;
- working mainly with government bodies to the exclusion of the private sector and non-governmental organisations that are active in the field; and
- responding slavishly to country requests, when it is clear that some of these are ill-considered and that other activities (not requested) may be more necessary.

Improved effectiveness of the Joint Country Strategy (JCS) process in identifying effective and achievable activities in each PICT through wide consultation, will play an important role in resolving these problems. A more proactive approach in some project activities will also contribute.

Some major risks and the strategies to address them are listed in the following table.

RISK	STRATEGY TO ADDRESS AND/OR MITIGATE RISK
Inadequate resources Inadequate funding to implement work programmes, particularly with donor partners and their currencies affected by the global economic crisis.	Funding proposals with the European Commission for several projects in support of member countries' needs will be pursued. New funding sources need to be identified and proposals developed. More efficient means of service delivery will be explored and developed, particularly to reduce the high costs of basing all staff in Noumea.
Uptake of scientific advice A key risk to achieving improved management of fishery resources is that the scientific advice will not be translated into management action.	The fact that OFP works at three levels (WCPFC, regional and national) provides multiple options to develop management measures. For coastal fisheries, more attention will be paid to demand and local capacity, as well as working with non-government partners. More effective communication will raise awareness of decision-makers and the public.
Acceptance of scientific assessments A risk to providing scientific data, modelling, and advice to underpin management decision-making and strategic positioning would come through a loss of credibility of the stock assessments of OFP.	Continued research into the biology of tuna species, continuous improvements in data collection, and the development of improved stock assessment models will ensure that the technical quality of the work is recognised as the best available basis for management.
Ecosystem approach problems Putting into operation the ecosystem approach to resource management has proved difficult in the Pacific Islands. The procedures for consultation and risk assessment can be complex and very time consuming.	To address this risk, CFP will incorporate ecosystem principles into a simpler process of consultation with stakeholders. OFP provides scientific support for this process through FFA, which is expected to adopt a similar approach.
Capacity issues Lack of capacity in government administrations of PICTs to effectively use SPC services, implement advice and put training into action in-country.	More targeted capacity building and institutional strengthening; working with non-government partners where appropriate.

Enforcement of management rules Management arrangements and plans at all levels may be undermined by public disregard for management measures and regulations in coastal fisheries, and by IUU fishing on oceanic resources.	CFP will address this through capacity building and awareness-raising, and by using a participatory or community-based approach. OFP will provide PICTs with tools to monitor compliance with management measures and reporting in the tuna fishery.
Uptake of new activities Acceptance of alternative activities for income generation and food security (fisheries and aquaculture) may be mixed as fishers may not be used to, or interested in, these activities and may prefer to continue with what they know.	Alternative income generating activities will be thoroughly assessed for their economic, environmental and social viability before being promoted.
Biosecurity risks in aquaculture Exotic marine species are relocated for aquaculture, spreading invasive species and diseases.	A regional approach will be taken to put in place adequate biosecurity controls that can be implemented at the national level.

By their nature, risks are not always predictable, and the risk matrix will be kept under review and modified as necessary.

7. Reporting, monitoring and evaluation

The work of the FAME Division is coordinated by the Director, who interacts on a daily basis with both the CFP Manager and the OFP Manager. Key staff meet monthly with their Programme Manager, while the SPC Executive Committee reviews expenditures on a regular basis. Annual work plans and progress reports are provided to the Divisional Director and to donors. In addition specific project reports and audited financial statements are prepared to meet donor requirements. Individual sections publish reports of current work in the SPC Fisheries Newsletter, now produced three times per year, and the results of completed projects and activities are published in technical reports. All of these are normally made available on the division's website at *www.spc.int/coastfish* and *www.spc.int/oceanfish*.

The Heads of Fisheries Meeting monitors the work programme of the division and provides a regional consensus on changing priorities within the sector. Occasional regional meetings focus on specific issues and may develop regional policies. An overview of the programmes' performance against the strategic plan is included in the annual report of the division to SPC's governing body, which is responsible for formally approving the strategic plan and annual budget. In keeping with improved collaboration between regional agencies, the division also submits important plans and policy proposals to the Forum Fisheries Committee Officials' and Ministers' meetings for their comment and endorsement. A presentation of the status of the region's tuna stocks has long been a feature of these meetings.

Independent reviewers will review the division's performance toward the end of the strategic plan period, as part of the SPC review process. Major donor-funded projects are also subject to regular external evaluations and review. Technical assessments of the regional stock assessments of OFP are envisaged as part of the peer review process organised by WCPFC.

Unfortunately, despite these many reports and reviews there has been a problem in assessing the progress made in achieving the objectives and results of the division. Reviewers have called for better objective-oriented planning, and reports that describe the real outcomes of activities, rather than the activities themselves. This section of the plan therefore provides a number of quantifiable performance indicators that can be used to measure progress at these higher levels. Although reliable baseline data is not available for all of these measures, the Statistics and Demography Programme of SPC is working with all divisions and PICTs to improve the collection of data for relevant indicators.

OFP goal — fisheries exploiting the region's resources of tuna, billfish and related species are managed for economic and ecological sustainability using the best available scientific information

Key performance indicator	*Baseline — 2009*	*Target — 2013*
Fishing effort on all four major tuna species is constrained within levels that provide maximum sustainable yield	High probability of overfishing of bigeye; significant risk of overfishing on yellowfin; no overfishing on skipjack and albacore	Probability of overfishing on each species reduced to less than 10%

OFP objectives
- **Quality scientific information and advice**
- **Improved collection and analysis of data**
- **Improved understanding of pelagic ecosystem**

Performance indicators	*Baseline — 2009*	*Target — 2013*
Tuna stock assessment results are fully accepted by WCPFC following peer review	Results accepted up to and including 2008 Scientific Committee Meeting, but limited peer review	Results accepted up to and including 2012 Scientific Committee Meeting, following more thorough review

Performance indicators	*Baseline — 2009*	*Target — 2013*
PICTs provide comprehensive data to WCPFC[2]; and observer coverage meets agreed regional level of coverage and data standards	Incomplete and late provision of data from PICTs; observer coverage mainly less than 20% for purse seiners and lower for other fisheries	Complete and timely provision of data by all PICTs; 100% observer coverage on purse seiners operating in PICT EEZs with increased coverage of other fleets
Ecosystem-based model is operational and used for developing management measures	Model nearing completion – inadequate basic data on tuna diet and movement	Model fully functional incorporating results of tagging programme

CFP goal — coastal fisheries, nearshore fisheries and aquaculture in PICTs are managed and developed sustainably

Key performance indicator	*Baseline — 2009 (2007 data)*		*Target — 2013*	
Sustainable increases in contribution of fisheries and aquaculture to GDP of PICTs (15–20% increases in locally-based offshore fisheries and aquaculture — others sustained)	Category	US$m	Category	US$m
	Offshore — local	198	Offshore — local	227
	Coastal commercial	105	Coastal commercial	105
	Coastal subsistence	167	Coastal subsistence	167
	Freshwater	21	Freshwater	21
	Aquaculture	67[3]	Aquaculture	80

CFP objectives
- **coastal fisheries management policies and systems**
- **sustainable aquaculture development framework**
- **sustainable nearshore fisheries for food security, livelihoods and economic growth**

Key performance indicator	*Baseline — 2009*	*Target — 2013*
Management arrangements in place to promote stock recovery major fisheries in PICTs, and having an impact	Little quantitative data but many beche-de-mer, pearl shell, clams and near-urban finfish resources perceived to be overexploited	New management arrangements in place for at least five major fisheries with measurable recovery of stocks
New partnerships formed to facilitate aquaculture development; competent biosecurity services in place	Section works mainly with government counterparts; biosecurity services only effective in a few territories	12 partnerships formed with private sector developments; 6 national authorities have achieved competence
Sustainable FAD programmes and new enterprises in fishing, processing, and sport fishing	Sustainable FAD programmes in only 3–4 PICTs; domestic tuna longlining in decline	FAD programmes sustained in 8 PICTS; at least 7 new enterprises assisted in sport fishing and tuna fishing and/or processing

[2] As specified in the guidelines for Scientific Data to be Provided to the Commission (i.e., estimates of annual catches, numbers of vessels active, operational data at a target coverage rate of 100%, aggregated catch and effort data, and size data).

[3] For consistency with other economic data, the estimates used are taken from 'The contribution of fisheries to the economies of Pacific Island countries and territories', ADB, 2009, although data collected by SPC suggests significantly higher production values and economic contribution for aquaculture than presented in this study.

8. Partnerships and resources

Both programmes have well-established relationships with regional and international organisations working in the fisheries and aquaculture fields. In most cases these are formalised through memoranda of understanding, often with more detailed subsidiary agreements covering the scope and nature of collaboration in specific areas. There are also donor funded projects which are jointly implemented by SPC and other agencies.
Both programmes work closely with FFA: CFP on technical issues relating to the development of domestic tuna industries and support for producer organisations; OFP in providing scientific advice for regional, sub-regional and national tuna management arrangements as well as data management and observer training. Both also work with the other CROP (Council of Regional Organisations in the Pacific) agencies, notably the Secretariat of the Pacific Regional Environment Programme (SPREP) on by-catch issues and coastal management, and the University of the South Pacific (USP) on formal fisheries training initiatives. Outside the CROP agencies, important partnerships include the UN Food and Agricultural Organization (FAO), the Institut de recherche pour le développement (IRD) and the Western Pacific Regional Fisheries Management Council. An important partner for the division is the Coral Reef Initiatives for the Pacific (CRISP). The CRISP project coordination unit became part of SPC in 2008 and although the programme works with various funding and implementing agencies, the number of joint activities with SPC is growing.

OFP is the science provider for WCPFC, and also maintains close links with other regional and national fisheries management bodies, including the Inter-American Tropical Tuna Commission, the US National Marine Fisheries Service, the Australian Commonwealth Scientific and Industrial Research Organisation, the New Zealand Ministry of Fisheries and National Institute of Water and Atmospheric Research, and the Japan National Research Institute of Far Seas Fisheries.

Partners specific to CFP include WorldFish and the Australian Centre for International Agricultural Research, with collaboration on inshore fisheries management and aquaculture. CFP also works with the Nature Conservancy on coastal fisheries management issues, and will engage with other non-governmental organisations during the plan period.

Over the 2006–2009 period, the annual budget of what now forms the division averaged CFP 900 million per year (about US$10.5 million at current rates), with OFP accounting for a little over half of the total and the CFP share declining through the period. Major contributions came from the SPC core budget, programme funding (Australia, France and New Zealand), the European Union, the Global Environment Facility, the MacArthur Foundation, the Commonwealth Secretariat, Taiwan and other donors. Of these, the European Union has consistently provided the largest single contribution, and this seems likely to continue.

For the next four years it is estimated that additional funding of around 25 per cent will be required, on average, to maintain and improve services, and to meet the objectives of this strategic plan. Efforts will be made to improve efficiency, diversify sources of revenue and develop cost recovery in some appropriate areas.

9. Logical frameworks

9 (a) Logical framework for the Marine Resources Division — Oceanic Programme component

DESCRIPTION	INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS
Goal *Marine resources of the Pacific Islands region are sustainably managed for economic growth, food security and environmental conservation*	*Contribution of fisheries to GDP of PICTs increases* *Per capita fish consumption stable or increasing*	*National accounts* *Household income and expenditure surveys*	
Objective *Fisheries exploiting the region's resources of tuna, billfish and related species are managed for economic and ecological sustainability using the best available scientific information*	*Proportion of fish stocks within safe biological limits*	*WCPFC annual meeting record*	*National policies promote use of tuna resources for economic development and food security*
Results 1. *High-quality scientific information and advice for regional and national fisheries management authorities on the status of, and fishery impacts on, stocks targeted or otherwise impacted by regional oceanic fisheries* 2. *Accurate and comprehensive scientific data for regional and national fisheries management authorities on fisheries targeting the region's resources of tuna, billfish and other oceanic species* 3. *Improved understanding of pelagic ecosystems in the western and central Pacific Ocean*	*All recommendations accepted by WCPFC scientific committee* *PICTs provide comprehensive data to WCPFC* *Observer coverage meets agreed regional level of coverage and data standards* *Functional ecosystem model validated and in use* *Ecological risk assessments incorporated in management plans*	*WCPFC scientific committee record* *WCPFC information on data provision* *http://www.wcpfc.int/statprov* *National reports to WCPFC* *Scientific publications* *National tuna management plans*	*Programme retains scientific credibility* *Requirements to provide data enforced by states* *Countries devote adequate resources to placement* *Adequate resources for biological research* *Tuna management plans implemented*
Activities (summary) *1 (a) Provide the best possible science-based stock assessments and advice to WCPFC, FFA and individual PICTs* *1 (b) Enhance the capacity of SPC members to interpret stock assessment information and advice* *2(a) Provide efficient and cost-effective data management services for WCPFC, FFA and PICTs* *2(b) Enhance the capacity of PICTs in fisheries monitoring, data management and data use* *3(a) Collect enhanced data on the biological characteristics of oceanic species and their environment* *3(b) Develop appropriate ecosystem models and analyses* *3(c) Provide science-based information and advice on ecosystem issues to WCPFC, FFA and PICTs*	*Means* *Estimated requirement/yr* *Category* *Personnel* *Operational* *Capital equipment* *Duty travel* *Training* *Fieldwork & surveys* *Total*	*CFP millions* *300* *65* *10* *50* *25* *100* *550*	*Assessments understood by decision-makers* *Appropriate staff sent for training* *PICTs devote adequate resources to data management* *Practical and logistical problems overcome* *Ecosystem models work* *FFA continues to promote tuna management plan development and countries support process*

9 (b) Logical Framework for the FAME Division — Coastal Programme component

DESCRIPTION	INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS
Goal *Marine resources of the Pacific Islands region are sustainably managed for economic growth, food security and environmental conservation*	*Contribution of fisheries to GDP of PICTs increases* *Per capita fish consumption stable or increasing*	*National accounts* *Household income and expenditure surveys*	
Objective *Coastal fisheries, nearshore fisheries and aquaculture in PICTs are managed and developed sustainably*	*Increase in area of inshore marine managed areas* *Increased domestic tuna and aquaculture production*	*Periodic surveys of marine protected and managed areas* *National fishery production data*	*Management measures accepted/enforced* *Adequate investment in alternative activities*
Results *1. Scientifically informed and socially achievable coastal fisheries management policies and systems in line with the guiding principles of the Apia Policy* *2. A regional framework for planning, research, development and trade in sustainable aquaculture by Pacific Island governments, private enterprises and other stakeholders* *3. Sustainable nearshore fisheries in PICTs to provide food security, livelihoods and economic growth*	*New legislation and management systems functioning for major fisheries* *New partnerships formed with private sector for aquaculture* *New fishing, sport fishing and value added businesses established and sustained*	*Project reports* *Household income and expenditure surveys* *Surveys of fishing industry associations*	*Political will and popular support for management systems* *Favourable investment climate for aquaculture and nearshore fisheries projects*
Activities (summary) *1(a) Assessment of the status of national coastal living marine resources and use* *1(b) Promote an appropriate mix of community-based approaches and national management arrangements* *1(c) Develop appropriate awareness raising and educational information* *2(a) Improve regional and national capacity for strategic policy, planning and administration* *2(b) Increase skills and knowledge base in the SPC region* *2(c) Support and/or establish aquatic biosecurity authorities* *3(a) Support subsistence, artisanal, sport and industrial fishing activities* *3(b) Provide resource materials, advice and training in appropriate fishing techniques and technologies* *3(c) Promote improved seafood quality standards and value-adding*	*Means* *Estimated requirement/yr* *Category* *Personnel* *Operational* *Capital equipment* *Duty travel* *Training* *Fieldwork* *Total*	*CFP millions* *300* *75* *10* *50* *50* *50* *535*	*Adequate national capacity for resource assessment and monitoring* *Adequate uptake of planning and technical skills training* *Biosecurity given adequate attention by government authorities* *National policies and procedures do not unduly impede establishment of new enterprises*

9 (c) Logical Framework for the FAME Division — Coordination component (Director and support unit)

DESCRIPTION	INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS
Goal *Marine resources of the Pacific Islands region are sustainably managed for economic growth, food security and environmental conservation*	*Contribution of fisheries to GDP of PICTs increases* *Per capita fish consumption stable or increasing*	*National accounts* *Household income and expenditure surveys*	
Objective *Effective coordination and resourcing of the work of the Oceanic and Coastal Fisheries Programmes*	*80% of stakeholders in PICTs satisfied with services provided*	*Independent programme review reports*	*Programme services remain relevant to the achievement of goals*
Results 1. *Effective relationships between the division and its stakeholders* 2. *Raised public awareness of marine resources issues and informed policy decisions*	*Programme funding maintained at or above 2009 levels* *Level of reporting of issues in regional media*	*Budgets presented to SPC governing body* *SPC press reviews*	*Funding is used efficiently to achieve objectives* *Information and media releases have impact on policy and public opinion*
Activities *1(a) Develop programme plans and activities that respond to the needs and priorities of members* *1(b) Maintain effective working relationships with other regional agencies and donors* *2(a) Inform policy-makers and the general public of marine resource issues, the importance of fisheries and the need for management action* *2(b) Inform stakeholders in PICTs of the results of SPC activities, and share experience and knowledge across the region*	*Means* *Estimated requirement/yr* *Category* *Personnel* *Operational* *Capital equipment* *Duty travel* *Training (coordination)* *Fieldwork* *Publications/media* *Total*	*CFP millions* *50* *4* *1* *5* *5* *5* *15* *85*	*Programmes able to respond to changing needs* *Funding secured in spite of global financial crisis* *Information is distributed effectively and taken up by the target audience*

9(d) The Pacific Plan: Nested logical framework showing linkages between the division's objectives and the regional policy of the Forum countries

PACIFIC PLAN	MARINE RESOURCES DIVISION/PROGRAMMES
Policy goal *Enhance and stimulate economic growth, sustainable development, good governance and security for Pacific countries through regionalism*	
Relevant policy objectives *Develop and implement national and regional conservation and management measures for the sustainable utilisation of fisheries resources* *Encourage effective fisheries development, including value-adding activities*	*Division's goal* *Marine resources of the Pacific Islands region are sustainably managed for economic growth, food security and environmental conservation*
Relevant policy results • *Developed domestic fisheries, in particular national tuna industries* • *A long-term strategic approach to Pacific fisheries, and to tuna species in particular, to ensure that these resources are effectively managed* • *Conservation and sustainable management of highly migratory tuna resources* • *Coastal and inshore fisheries and aquaculture to support food security, sustainable livelihoods and economic growth* • *Policies and plans for biosecurity* • *Effectively managed and sustainable national tuna industries* • *Comprehensive fisheries conservation measures to protect stock levels* • *Improved regional monitoring, control and surveillance* • *Sustainable and effective management of national coastal fisheries and stock assessments* • *Expansion of aquaculture for future food security*	*Division/programme objectives* *Fisheries exploiting the region's resources of tuna, billfish and related species are managed for economic and ecological sustainability using the best available scientific information* *Coastal fisheries, nearshore fisheries and aquaculture in PICTs are managed and developed sustainably*
	Programme results *High-quality scientific information and advice for regional and national fisheries management authorities on the status of, and fishery impacts on, stocks targeted or otherwise impacted by regional oceanic fisheries* *Accurate and comprehensive scientific data for regional and national fisheries management authorities on fisheries targeting the region's resources of tuna, billfish and other oceanic species* *Improved understanding of pelagic ecosystems in the western and central Pacific Ocean* *Scientifically informed and socially achievable coastal fisheries management policies and systems in line with the guiding principles of the Apia Policy* *A regional framework for planning, research, development and trade in sustainable aquaculture by Pacific Island governments, private enterprises and other stakeholders* *Sustainable nearshore fisheries in PICTs to provide food security, livelihoods and economic growth*