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| **Strategic position for MSG in the future management and development for South Pacific albacore fisheries** |
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| IMG_0407 |

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**Table of Contents**

[1. Executive summary 1](#_Toc330028973)

[2. Background 9](#_Toc330028974)

[3. Longline fishing in the Pacific 11](#_Toc330028975)

[3.1. The history of longlining in the Pacific 11](#_Toc330028976)

[3.2. Longlining in the Melanesian Spearhead Group 13](#_Toc330028977)

[3.3. Fish processing in MSG countries 14](#_Toc330028978)

[4. Stock status and management considerations 15](#_Toc330028979)

[4.1. Stock status 15](#_Toc330028980)

[4.1.1. Albacore stock status 16](#_Toc330028981)

[4.1.2. Other tuna species 17](#_Toc330028982)

[4.1.3. Other species catches 18](#_Toc330028983)

[4.1.4. Commercial species stock status 18](#_Toc330028984)

[4.1.5. Shark stock status 19](#_Toc330028985)

[4.1.6. Turtle bycatch 20](#_Toc330028986)

[4.2. Current national management arrangements affecting longline fishing 20](#_Toc330028987)

[4.2.1. Fisheries Acts and Tuna Management Plans 20](#_Toc330028988)

[4.2.2. Current access arrangements and licensing 21](#_Toc330028989)

[4.2.3. Western and Central Pacific Fisheries Commission 24](#_Toc330028990)

[4.2.4. Development of a zone-based management strategy 27](#_Toc330028991)

[5. Economic drivers in long line fishing 30](#_Toc330028992)

[5.1. Current practices 30](#_Toc330028993)

[5.1.1. Landings and hubs 30](#_Toc330028994)

[**Fiji** 30](#_Toc330028995)

[**PNG** 30](#_Toc330028996)

[**Vanuatu** 31](#_Toc330028997)

[5.1.2. Fishing vessel and fishing characteristics 31](#_Toc330028998)

[5.1.3. Fish product characteristics 32](#_Toc330028999)

[5.1.4. Fish prices 33](#_Toc330029000)

[5.1.5. Pacific island cost differentials 34](#_Toc330029001)

[5.1.6. Fishing vessel revenue, costs and projected profitability 35](#_Toc330029002)

[6. Market demand, opportunities and constraints 38](#_Toc330029003)

[6.1. Overview of the main markets 38](#_Toc330029004)

[6.1.1. High grade sashimi 38](#_Toc330029005)

[6.1.2. Fresh and frozen loins 42](#_Toc330029006)

[6.1.3. Cooked loins and canned product 43](#_Toc330029007)

[7. Sector development opportunities and constraints 46](#_Toc330029008)

[7.1. The fishery sector 46](#_Toc330029009)

[7.1.1. Pacific islands domestic vessels 46](#_Toc330029010)

[7.1.2. Locally based foreign vessels 48](#_Toc330029011)

[7.1.3. Onshore processing 48](#_Toc330029012)

[7.2. Accessing markets with high price premiums 49](#_Toc330029013)

[7.2.1. Food safety issues 49](#_Toc330029014)

[7.2.2. Tariff barriers 51](#_Toc330029015)

[7.2.3. Additional market requirements 54](#_Toc330029016)

[8. Definition of collective MSG objectives and goals 60](#_Toc330029017)

[8.1. Strengths, weaknesses, opportunities and threats 60](#_Toc330029018)

[Theme 1: Strengthening management and control of the south Pacific albacore fishery 60](#_Toc330029019)

[Theme 2: Establishing licence fee benchmarks 62](#_Toc330029020)

[Theme 3: Supporting the ecosystem approach to bycatch management 63](#_Toc330029021)

[Theme 4: Creating a system of parallel and non-conflicting investment incentives to stimulate employment 64](#_Toc330029022)

[Theme 5: Promoting trade 65](#_Toc330029023)

[Theme 6: Strengthening national governance 66](#_Toc330029024)

[8.2 Recommended guidance on core activities 67](#_Toc330029025)

[8.2.1 Establishment of a collective management framework for the southern albacore fishery 67](#_Toc330029026)

[8.2.2 Licence rentals 69](#_Toc330029027)

[8.2.3 Ecosystem management 72](#_Toc330029028)

[8.2.4 Improving the investment environment 72](#_Toc330029029)

[8.2.5 Trade related issues. 73](#_Toc330029030)

[8.2.6 Strengthening national governance systems 73](#_Toc330029031)

[References 75](#_Toc330029032)

[Appendix A: Project Terms of Reference 78](#_Toc330029033)

[Appendix B: Persons met 81](#_Toc330029034)

**Tables**

[Table 1: The WCPO Longline fleet by country, 2011 11](#_Toc330029035)

[Table 2: Stock Conditions and/or Ecological Risk Assessments of Tuna Longline Bycatch 19](#_Toc330029036)

[Table 3: Life status of marine turtles encounters observed in WCPO longline sets by sub-area (1990-2007) 20](#_Toc330029037)

[Table 4: Summary of licence and access fees (US$) 23](#_Toc330029038)

[Table 5: Albacore MSY options modelled 28](#_Toc330029039)

[Table 6: Volume and value of longline tuna exports from MSG countries, 2011 (Livewieght equivalents) State conversion factors under table if so 30](#_Toc330029040)

[Table 7: Tuna product outputs (%) 32](#_Toc330029041)

[Table 8: Tuna price differentials (Fiji, US$/kg), for some key indicator product groups, January-March, 2012 33](#_Toc330029042)

[Table 9: Fish processing production and trade variable costs, December, 2011 (USD) 34](#_Toc330029043)

[Table 10: Projected average sales, costs and profit per vessel for vessels operating from Fiji, 2011 35](#_Toc330029044)

[Table 11: Assessment of price and cost variables for albacore (US$ /kg) 39](#_Toc330029045)

[Table 12: Summary of projected ex-vessel prices (whole fish) (US$/kg) 41](#_Toc330029046)

[Table 13: Summary of projected ex vessel prices (loins) (US$/kg) 43](#_Toc330029047)

[Table 14: Comparative costs and margins in MSG canning, as compared with Thailand 45](#_Toc330029048)

[Table 15: Current PACPS treatment under EU preference schemes 52](#_Toc330029049)

[Table 17: Current PACPS treatment under the US GSP scheme 53](#_Toc330029050)

[Table 18: Sales of albacore pole & line tuna (price/tonne) 55](#_Toc330029051)

[Table 19: Fishery Assessment using MSC standards 57](#_Toc330029052)

[Table 20: Estimated vessels sales and cost differentials (US$ 000) 70](#_Toc330029053)

[Table 21: Estimates of potential licence charges to foreign vessels non locally based (US$/vessel) 70](#_Toc330029054)

**Figures**

[Figure 1: Albacore longline fleet composition by main groups, 2001-2011 12](#_Toc328686244)

[Figure 2: Albacore longline catch by main groups, 2000-2011 12](#_Toc328686245)

[Figure 3: Fishing intensity for South Pacific Albacore, 2009 and 2011. 13](#_Toc328686246)

[Figure 4: Fleets operating from MSG countries, 2011 13](#_Toc328686247)

[Figure 5: Catches by vessels fishing under Fijian and Vanuatu flag. 14](#_Toc328686248)

[Figure 6: Change in Albacore catch by zone, 2000-2011 16](#_Toc328686249)

[Figure 7: Albacore catch rates from a Fiji based longline vessels (catch and effort) 17](#_Toc328686250)

[Figure 8: Longline catches of yellowfin tuna (mt) 17](#_Toc328686251)

[Figure 9: Longline catches of bigeye tuna (mt) 18](#_Toc328686252)

[Figure 10: Bycatch distribution as a percentage of total catch in Fiji longline fisheries 18](#_Toc328686253)

[Figure 11: Price trends fresh and frozen sashimi in Japan (YFT and BET and the ( ¥/kg) 33](#_Toc328686254)

[Figure 12: Price differentials for albacore 2000-2011 (C&F) (US$/tonne) 33](#_Toc328686255)

[Figure 13: Estimated albacore whole product opportunities based on price and cost variables (US$/kg) 41](#_Toc328686256)

[Figure 14: Estimated yellowfin and bigeye whole product opportunities based on price and cost variables (US$/kg) 41](#_Toc328686257)

[Figure 15: Estimated albacore loins product opportunities based on price and cost variables (US$/kg) 43](#_Toc328686258)

[Figure 16: Estimated yellowfin and bigeye loin product opportunities based on price and cost variables (US$/kg) 43](#_Toc328686259)

[Figure 17: Approximate proportion of southern albacore catches taken in MSG waters between 1997 and 2010. (Data source: FFA) 67](#_Toc328686260)

**Boxes**

[Box 1: Stock status for the target tuna fisheries 15](#_Toc328686261)

[Box 2: Summary of core components of MSG Fishery management acts and Tuna Management Plans 21](#_Toc328686262)

[Box 3: Comments on foreign and multi zone access 24](#_Toc328686263)

[Box 4: Critical features of the WCPFC CMMs to Longline activity in the WCPO 25](#_Toc328686264)

[Box 5: Management issues relating to the setting of limits 28](#_Toc328686265)

[Box 6: Proposed country allocatory system 29](#_Toc328686266)

[Box 7: Financial tax exemptions offered to PNG and Fiji fishing businesses 48](#_Toc328686267)

[Box 8: HACCP requirements in the three major export markets 49](#_Toc328686268)

**Acronyms**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ACP | African, Caribbean and the Pacific |  | MFN | Most Favoured Nation |
| ALB | Albacore tuna |  | MGA | Main Group Archipelago |
| ALC | Automatic Location Communicators |  | MSAF | Marine Safety Agency Fiji |
| AQIS | Australian Quarantine Inspection Service |  | MSC | Marine Stewardship Council |
| ASEAN | Association of South East Asian Nations |  | MSG | Melanesian Spearhead Group |
| AW | Archipelagic Waters |  | MSY | Maximum Sustainable Yield |
| BET | Bigeye tuna |  | Mt | million tonnes |
| CB | Certification Body |  | MTC | Minimum Terms and Conditions of Fisheries Access |
| CCM | Commission Cooperating Members |  | NC | New Caledonia |
| CCRF | Conduct for Responsible Fisheries |  | NFD | National Fisheries Developments |
| CIF | Carriage, Insurance and Freight |  | NPOA | National Plan of Action |
| CMM | Conservation and Management Measures |  | NU | Nauru |
| CO | Carbon Monoxide |  | OFP | Oceanic Fisheries Programme, SPC |
| CPUE | Catch Per Unit of Effort |  | PAE | Party Allowable Effort |
| DWFN | Distant Water Fishing Nation |  | PACP | Pacific Africa, the Caribbean and the Pacific |
| EEZ | Exclusive Economic Zone |  | PAFCO | Pacific Fishing Company |
| EPA | Economic Partnership Agreement |  | PACER | Pacific Agreement of Closer Economic Relations |
| ETP | Endangered, Threatened and Protected species |  | PIC | Pacific Island Countries |
| EU | European Union |  | PICT | Pacific Island Countries and Territories |
| FCF | Fong Chung Formosa Fishery |  | PNA | Parties to the Nauru Agreement |
| FDA | Food and Drug Administration (US) |  | PNG | Papua New Guinea |
| FDB | Fijian Development Bank |  | PPF | Pan Pacific Fisheries |
| FERM | Fisheries Economics, Research and Management Pty Ltd |  | PSP | Phytosanitary and [Sanitary Standards](http://www.acronymfinder.com/Sanitary-and-Phytosanitary-Standards-%28SPS%29.html) |
| FFA | Forum Fisheries Agency |  | RMI | Republic of the Marshall Is |
| FIMS | Fisheries Information Management System |  | ROP | Regional Observer Programme |
| FJ | Fiji |  | RoO | Rules of Origin |
| FL | Fork length |  | RSW | Refrigerated Sea Water |
| FOFA | Fiji Offshore Fishing Association |  |  |  |
| FSM | Federated States of Micronesia |  | SB | Solomon Islands |
| FTAC | Fisheries Technical Advisory Committee (MSG) |  | SCSPTBF (FFA) | Sub-Committee on South Pacific Tuna & Billfish Fisheries |
| FTBOA | Fiji Tuna Boat Owners Association |  | SIDS | Small Islands Developing States |
| GATT | General Agreement on Tariffs and Trade |  | SIG | Solomon Islands Government |
| G&G | Gilled and Gutted |  | SPARTECA | The South Pacific Regional Trade and Economic Co-operation Agreement |
| GDP | Gross Domestic Product |  | SPC | Secretariat of the Pacific Community |
| GLP | Good Laboratory Practice |  | SSI | Southern Seas Investment |
| GRT | Gross registered tonnage |  | STBC | Southern Tuna and Billfish Sub-Committee |
| GSP | Generalised System of Preferences |  | STCZ | Subtropical Convergence Zone |
| GST | Gross Sales Tax |  | T | Tonnes |
| H&G | Headed and Gutted |  | TAC | Total Allowable Catch |
| HTAC | Hybrid Total Allowable Catch |  | TAE | Total Allowable Effort |
| HACCP | Hazard Analysis and Critical Control Points |  | TDSTLBOE | Taiwan Deep Sea Tuna Longline Boat Owners and Exporters Association |
| HAS | High Seas Area |  | TMAC | Tuna Management Advisory Committee, Vanuatu |
| HS | Harmonized System Code |  | TMI | Tri Marine International |
| HSPs | High Seas Pockets |  | TMP | Tuna Management Plan |
| HTSUS | Harmonised Tariff Schedule of the United States |  | TUFMAN | Tuna Fisheries Database Management System |
| IEPA | Interim Economic Partnership Agreement |  | TV | Tuvalu |
| IVP | Individual Vacuum Packed |  | TVM | Te Vaka Moana |
| KI | Kiribati |  | ULT | Ultra Low Temperature |
| RMI | Republic of the Marshall Islands |  | UNCLOS | United Nations Convention on the Law of the Sea |
| KOFA | Korean Offshore Fisheries Association |  | UNFSA | United Nations Fish Stocks Agreement |
| LDBD | Least Developed Beneficiary Developing |  | USA | United States of America |
| LL VDS | Longline Vessel Days Scheme |  | USMLT | US Multi Lateral Treaty |
| M | Metres |  | USTRO | US Trade Representative Office |
| MCS | Monitoring, Control and Surveillance |  | VDoF | Vanuatu Department of Fisheries |
| MEY | Maximum Economic Yield |  | VDS | Vessel Days Scheme |
| MFF | Ministry of Fisheries and Forestry, Fiji |  | WCFPC | Western and Central Pacific Fisheries Commission |
| MFMR | Ministry of Fisheries and Marine Resources, Solomon Is |  | WCPO | Western and Central Pacific Ocean |
|  |  |  | WTO | World Trade Organisation |
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# Executive summary

1. The Melanesian Spearhead Group (MSG) members, comprising of Fiji, Papua New Guinea (PNG), Solomon Islands and Vanuatu, have agreed to identify and strengthen cooperative arrangements amongst themselves in order to bolster economic development and employment opportunities This report assesses the critical fisheries management, trade and investment related issues provides some recommendations for collective actions.
2. The Melanesian Spearhead Group (MSG) countries licenced 411 vessels to fish for albacore inside their Exclusive Economic Zones (EEZs), representing 30% of the 1,297 fleet of vessels fishing albacore in the South Pacific Ocean.
3. The MSG EEZ catch reached 30,500mt in 2010, 41% of the South Pacific albacore catch, with catches drawn from a domestic fleet in Fiji, Papua New Guinea (PNG) and New Caledonia (59, 18 and 18 vessels respectively), locally based foreign vessels, charter fishing in Solomon Is (105) and Vanuatu (3). Both Vanuatu and Fiji are issuing separate High Seas licences, 56 in the case of Fiji and 41 for Vanuatu..
4. There has been a rapid growth in longline vessels targeting albacore in the South Pacific Ocean. This growth has come from China and Taiwan fuelled by a desire to establish a track record in the fishery, and in some parts (Peoples Republic of China) through subsidies supporting expansion.
5. Many of these vessels have gained access to Pacific Island EEZs through a combination of reflagging or chartering, such that Solomon Islands, Vanuatu and Fiji collectively host 202 out of a Chinese/Taiwanese fleet of 590 vessels.
6. The MSG albacore longline fleet catches a variety of tuna species including albacore (61%), yellowfin tuna (34%), bigeye tuna (5%), as well as other commercial species, including billfish and sharks.
7. The main target species, albacore, is not in an overfished state, but in response to a growth in catches, the albacore stock biomass is being depleted, and the total catch is approaching Maximum Sustainable Yield (MSY) (81,200mt caught as against an MSY 85,200mt). The fleets, both domestic and foreign, have been experiencing reductions in Catch per Unit Effort (CPUE), as the catch approaches MSY.
8. Other stocks, most specifically bigeye tuna, are not in a healthy state, but the albacore longline fleet, with its current focus on other species, is unlikely to represent a significant threat to the bigeye stock recovery. The impact on regional shark stocks may be more significant however with some species, notably silky and oceanic white tip, nearing threatened status within Western and Central Pacific Ocean (WCPO) waters. Management responsibility for western and central Pacific fisheries falls to the Western and Central Pacific Fisheries Commission (WCFPC) and its member states. Management is implemented through Conservation and Management Measures (CMMs), four of which are of particular relevance to the longline fishery. These are controlling effort on albacore, especially in the sub-adult fishery, south of 20⁰ S (CMM 2010-05); ensuring a reduction of effort in longline catch for yellowfin and bigeye tuna (CMM 2008-01); implementing shark (CMM 2010-07) and turtle (CMM 2008-03) bycatch mitigation measures. Fiji and Vanuatu flag vessels fishing further south are also catching increasing number of billfish, hence swordfish and stripe marlin measures could be also important addition to the list.
9. Management measures are supported and implemented through national fishery policies and strategies, plans, acts and minimum terms and conditions for license authorisations. Three out of the four fisheries management acts are significantly out date, but both Solomon Is and Fiji are in the process of revising their policies, plans and acts to include compliance with international conventions, and adherence to the precautionary and ecosystem approaches to fisheries management. The Vanuatu Act was revised in 2005 and is supported by the Fisheries Regulation of 2009.
10. All countries have Tuna Management Plans and PNG, Fiji and Solomon Islands are in the process of revising these plans. Vanuatu’s Tuna Management Plan was completed in 2009. The plans contain:

* Domestic ownership definitions including specified national shareholding limits, or a looser requirement to land into domestic ports (‘locally based foreign’);
* Provisions for limited entry licensing. With the exception of PNG, these have been exceeded;
* Tuna TACs and provision for allocating vessel quotas. These are either species specific (Vanuatu) or all species combined (Solomon Is, PNG, and Fiji);
* Requirements to fish outside territorial and archipelagic waters, with the exception of smaller Fiji vessels which can fish inside AWs;
* Transhipping restrictions;
* Preference for the utilisation of domestic crews;
* Strong commitments to Monitoring, Control and Surveillance (MCS), with use observers, with the exception of the Solomon Is;
* Punitive penalties for non-compliance.

1. Licences make provisions for restrictions to fishing gears, carriage of Automatic Location Communicators (ALCs), designated ports, transhipping restrictions, carriage of observers and bycatch limits (if stipulated (and in all cases except Fiji, were not)). It is noted that in this regard, that the Forum Fisheries Agency (FFA) Minimum Terms and Conditions of Fisheries Access (MTCs), often used by national authorities as a guidance tool for licence provision, were not comprehensive and lacked some crucial references to relevant CMMs.
2. Relevant WCPFC CMMs and accompanying measures are not being implemented effectively. Two critical areas of concern relate to the growth in effort on albacore, south of 20⁰ S, and the apparent ineffectiveness on shark bycatch mitigation. Growth in effort south of 20⁰ S is being fuelled by entry into this fishery by vessels beneficially owned in China and Taiwan but fishing under licence from Solomon Is, Vanuatu and Fiji.
3. Similarly, growth in catch and effort, in some EEZs, and particularly those of MSG countries, as well as on the high seas areas, is fuelling concern that current harvest controls are insufficient to restrict catches to within biologically based limits.
4. FFA member countries through FFC Sub-Committee on South Pacific Tuna and Billfish Fisheries (SC-SPTBF), are seeking to establish zonal limits which will set country allocations. Fiji is in the process of discussing the possibilities for developing a more conservative Maximum Economic Yield (MEY) based in zone limit. This may be followed by other South Pacific countries. Limits set in specific individual zones however, do not take account of the range of the stock, and especially fishing effort in the surrounding High Seas.
5. As such, a mechanism needs to be established to set limits on the high seas, which presently account for 35% of the albacore catch. These limits must reflect the dependency of surrounding Pacific Island States. SC-SPTBF countries as well as the French territories may look to develop collective access controls on these high seas areas, following the precedent set by the Parties to the Nauru Agreement (PNA).
6. Present authorisations from all MSG countries favour licence allocation to vessels with an economic link to relevant economic zone. The economic link requires these vessels to land into domestic processing establishments.
7. The prospect of sharing zonal access between the members, through a multi-lateral access arrangement did not meet with much support from the MSG partners Traditional bilateral access arrangements, where catching sector access is provided in return for an agreed price, are increasingly out of favour as government policies seek to establish locally based foreign vessels and develop on shore investment in order to promote domestic employment.
8. Fleet size increases, increases in catch and reductions in CPUE are affecting the economics of vessel operations. However, fish prices remain relatively healthy given strong demand for albacore and other species catches. MSG fleet operators are seeking to capitalise on markets for high value sashimi, which now includes albacore, as well as the traditional tuna species of bigeye and yellowfin tuna. This development requires renewed focus on crew handling practices and investment in rapid freezing equipment.
9. Most MSG countries, with the exception of Solomon Is, have good air freight connections to international markets. This has allowed access to Japanese and US high value sashimi markets, as well as Australia where there is a strong demand for sashimi grade yellowfin.
10. Ultra Low Temperature (ULT) sea freight container transport has now changed the dynamics of the sashimi trade, allowing access for albacore whole or partially processed (headed and gutted) and loin type products (Tataki and saku blocks) to benefit from relatively low cost sea freight. These changes have allowed for a lower dependency on canning.
11. Canning remains a popular option for lower quality albacore. It is especially attractive as an investment opportunity when national wage rates and power costs are low. Critical to the success of canning operations are the need to have continuity of supply, access to duty free markets and a favourable investment environment (e.g. tax holidays and depreciation allowances). These benefits allow canners in Pacific Island Countries (PIC) to compete against their main competitor, Thailand. It has to be said though, that canning has not yet generated vast profits for the fishery sector in the PICs, but more importantly, it does sustain and generate valuable employment opportunities.
12. Food safety issues and tariffs concessions have dominated the political agenda. The Interim Economic Partnership Agreement (IEPA) represents an essential component for the competitiveness of the canning sector. However, fresh imports (0304/5) are largely tariff free to the more lucrative markets of Japan, USA and Australia. Fortunately, in the context of food safety, these countries do not require competent authorities to play an active role.
13. Other market incentives such as aspiring to fisheries certification are explored. The evidence of achieving price premiums in the main target markets is not clear, especially since the EU market is a distant objective, given the state of the European economy and unfavourable exchange rates. However, aspiring to Marine Stewardship Council (MSC) certification provides a benefit in terms of strengthening fisheries and ecosystem management actions, as well as improving regional governance.
14. Five development themes are discussed with recommended outcomes and actions that can be taken within countries and collectively. These are:

* Theme 1: Establishing a collective management framework
* Theme 2: Establishing licence fee benchmarks
* Theme 3: Supporting the ecosystem approach to bycatch management
* Theme 4: Creating a system of parallel and non-conflicting investment incentives to stimulate employment through a system of public/private partnerships
* Theme 5: Trade promotion
* Theme 6: Strengthening national governance

Key recommendations from the analysis are as follows:

**Recommendation 1**: Agree and implement a sub-regional framework of harvest rights across the full footprint of the southern albacore stock.

Activities expected in implementing this recommendation would be as follows:

1. 1 Seek agreement to a sub-regional framework of harvest rights through regional meetings and workshops, most explicitly going beyond the framework of MSG, to include Te Vaka Moana and the French Territories

1.2 Agree on collective implementation arrangements (e.g. management and compliance systems – VDS; proportional shares; trading arrangements)

**Recommendation 2**: Agree on a harvest strategy to optimise long term economic returns from the fishery

Activities expected in implementing this recommendation would be as follows:

2.1 Agree on common objectives for the management of the fishery throughout the region (i.e. achieving maximum economic yield). Other options, such as MSY may appear to be more palatable, but will not optimise resource rentals in the long term;

2.2 Utilise the technical advice provided by SPC/FFA on establishment of management targets and TAE setting;

2.3 Develop and agree on a set of harvest control rules and tools linked to Long Line Vessel Days, designed to achieve management objectives. The quota option may appear desirable to some, but given practical issues on capacity, and low observer coverage, applying a quota system for MSG countries would seem impractical;

2.4 The MSG states implement the management system effectively, including constraining annual catches to within their proportional share of the fishery. Domestic legislation amended to empower new arrangements, where required;

2.5 Include a system of monitoring and provision of technical advice (SPC and FFA) on the performance of the fishery against management objectives to support decision making according to control rules

**Recommendation 3**: Through regional partnerships, use the establishment of the coastal state harvest framework to influence more effective control of high seas fishing

The activity expected in implementing this recommendation would be as follows:

3.1 Use collective influence of larger coastal state alliance (TVM, MSG and French territories) to secure more effective management of high seas fishing through WCPFC, using compatibility and other provisions;

3.2 Discourage licensing for vessels to fish exclusively on the high seas.

**Recommendation 4:** Establish a benchmark licensing fee for foreign vessels

Activities expected in implementing this recommendation would be as follows:

4.1 Establish licence fee structures which optimise economic rents, equating to between US$ 700/day in the event of on shore investments in canning or further processing (e.g. loining) to US$ 1,000/day (fishing access only). Be especially aware that sashimi type operations do not realise significant employment benefits;

4.2 Collectively agree on regional benchmarks laid down in a signed MoU but with a view to evolving to a structured tendering system. Realising optimal values through tendering will be conditional on creating scarcity and restricting access to the high seas;

4.3 Create a system to continually monitor market trends, input and output costs, under guidance from FFA (and or secretariat).

**Recommendation 5:** Establish a license tendering system for foreign vessels

The activity expected in implementing this recommendation would be:

5.1 Implement a license tender system specific to MSG fisheries

5.2 Create a monitoring system (investment, market watch and price trends) to evaluate possible changes in vessel economics under the guidance of FFA (and / or the MSG secretariat).

**Recommendation 6:** Ensure that domestic vessels are provided with long-term tenure on their licence fees in order to guarantee security.

The activity expected in implementing this recommendation would be:

6.1 To initiate a system domestic licence for three to 5 years.

**Recommendation 7**: Implement non target species bycatch management mitigation measures

Activities expected in implementing this recommendation would be as follows:

7.1 Update stakeholder participatory risk assessments to evaluate the risks to bycatch species, if not already completed;

7.2 Ensure mitigation measures are developed for at risk species, especially the threatened shark species;

7.3 Adopt these measures into MSG licensing and control systems (MTCs, licence conditions, observer reporting).

**Recommendation 8**: Fiscal incentives implemented and input and sales tax barriers removed.

The activity expected in implementing this recommendation would be:

8.1 Removal of all import duties for imported supplies – fuel, engine parts, gear and bait, when not applied to date;

8.2 Allowing for established domestic companies to take advantage from tax incentives, as opposed to just providing incentives for foreign investors.

**Recommendation 9**: Develop, in partnership with National Development Banks, Management Funds, catering for lending to domestically owned vessels.

The activity expected in implementing this recommendation would be:

9.1 Bank lending management funds created, applying soft loans at around 6-8%, with support funding. FFA to work with the National Development Banks in providing a list of investment priorities which would be primarily market focussed, but could also include investments that reduce carbon emissions.

**Recommendation 10**: Eliminating trade barriers (EU, USA, China)

Activities expected in implementing this recommendation would be as follows:

10.1 Solomon Islands and Vanuatu signing up to IEPA

10.2 Promoting access to markets to US, and seeking Presidential concessions thereof

10.3 Lobbying China to remove the duty rate on imports of MSG based product into China

**Recommendation 11**: Promoting investment in domestic vessel and plant upgrades to encourage ULT systems and compliance with HACCP

Activities expected in implementing this recommendation would be as follows:

* 1. Improving quality control standards HACCP standards with support funding made available for the domestic industry;
  2. Investment in ULT capability for vessels with support funding made available.

**Recommendation 12**: Improve the capacity for product testing through a region-specific network of testing laboratories, including investment in testing for heavy metal contaminants.

The activity expected in implementing this recommendation would be:

12.1 Strengthening the capacity within the region for product testing should be improved both at University of the South Pacific or greater use made of facilities available within PNG

**Recommendation 13**: Evaluating cost inefficiencies and how these might be overcome.

Activities expected in implementing this recommendation would be as follows:

13.1 Explore the prospects for alternative air freight systems – e.g., strategic partnerships and a dedicated inter island network and strategic partnerships;

13.2 Seek to lobby for reductions in power costs in support domestic processing.

**Recommendation 14**: Define funding requirements and ensure appropriate funding for the Fisheries Department based on pre agreed proportions of licence fees.

Activities expected in implementing this recommendation would be as follows:

14.1 Conduct a budget exercise based on increased fishing activities and obligations to WCPFC. Specific attention needs to examine:

* strengthening licensing capacity and collection of licence fees;
* implementing a LL VDS system, with the support of Fisheries Information Management System (e.g as per the FIMS applied by PNA;
* Strengthening the longline observer scheme, and exploring potential alternative systems such as use of camera technology, and special attention paid to on board observer security;
* An increased focus on MCS especially in the context of transhipment, high seas interactions and implementing shark management measures

14.2 Staff training linked to the above tasks;

14.3 Implementing the revised structures in full recognition of the rentals derived from the sector

**Recommendation 15**: Restructure Fisheries Departments, recruit staff, establish and implement a training and development programme.

The activities expected in implementing this recommendation would be as follows:

15.1 Encourage stakeholder participation in management decision making, including the creation of a national or regional Management Advisory Committee specific to tuna longlining.

# Background

The Melanesian Spearhead Group (MSG) members of the Pacific Island Forum Fisheries Agency comprising of Fiji, Papua New Guinea (PNG), Solomon Islands and Vanuatu, have agreed to identify and strengthen cooperative arrangements amongst themselves in order to bolster economic development and employment opportunities for their citizens[[1]](#footnote-1). Through the MSG Fisheries Technical Advisory Committee (FTAC), discussions have been on going on the status of fisheries development and investment amongst the members who have different development aspirations. However, a common objective amongst the members lies in the need to maximise economic returns from their fisheries for the benefit of their respective peoples.

The MSG countries are also keen to strengthen the system of regional fisheries management through collective actions, especially in the albacore tuna longline fishery. This fishery is increasingly under pressure from a growing Distant Water Longline fleet, linked to China and Chinese Taipei (hereinafter Taiwan).

The South Pacific Albacore longline fleet is now 1,297 vessels with some major shifts in dependencies between the various participating groups. Two Distant Water Fishing Nations, China and Taiwan have together, increased their fleets to around 550 vessels, comprising an estimated 310 vessels registered under their own flags, but also, 240 vessels chartered or re flagged into island economies including MSG countries, Fiji, Vanuatu, Solomon Islands and some Te Vaka Moana (TVM) countries. These are collectively known as ‘locally based foreign’. There are also 380 Pacific Island Country (PIC) domestic vessels with owners residing in the respective countries. The PIC domestic fleets comprise Fiji (59 vessels) and French Polynesia (58 vessels), Samoa (61), American Samoa (37), New Caledonia (18), PNG (18), Cook Is (15), Kiribati (5), Niue (5) and Tonga (2); as well as Australia (55) and New Zealand (44).

MSG countries have a fleet of 95 domestic vessels (59 in Fiji, 18 each in New Caledonia and PNG respectively), 119 locally based foreign (105 in the Solomon Is, 11 in Fiji and 3 in Vanuatu), and 97 ‘national flagged’ (41 in Vanuatu and 56 in Fiji) fishing outside national Exclusive Economic Zones (EEZs). MSG countries accounted for 44% of the total Pacific Albacore catch in 2011 and whilst most Forum Fisheries Agency (FFA) fleets have seen a decline in catch, three out of the 4 MSG countries (Fiji, Solomon Islands and Vanuatu) have shown marked increases. These increases have in part been within the Solomon Islands zone but also include Fiji and Vanuatu flagged vessels fishing in other country waters and on the High Seas. Record catches were made in the EEZs of Solomon Islands and Fiji reaching 20,000mt and 8,000mt in 2011 respectively. Catches by Vanuatu flagged vessels were around 7,400mt in 2011 and catches, south of the 20 degrees south were around 2,500mt. New Caledonia and PNG recorded albacore catches at 2,000mt and 900mt for 2010. Both Solomon Is and Vanuatu operate bilateral agreements. The Solomon Islands bilateral agreement covering albacore is with the Taiwanese partners, Taiwan Deep Sea Tuna Longline Boat Owners and Exporters Association (TDSTLBOEA), 55 vessels, and Vanuatu with 6 Chinese and Taiwanese partners. Catches from these vessels are anticipated to amount to 8,000mt and 2,500mt (Vanuatu partners) respectively.

The rise in in-zone catches, as well as activity in the high seas, suggests that the need for additional conservation and management measures is becoming increasingly important for the South Pacific Albacore fishery. The total South Pacific albacore catch is now at 81,200mt with Maximum Sustainable Yield (MSY) of 85,200mt **(**Hoyle, S., (2011**).** Whilst the latest stock assessments suggest that the stock is neither overfished nor suffering from overfishing, there is concern that the high level catches in recent years has led to a reduction in catch per unit of effort (CPUE) (Hoyle, 2011). Biomass estimates have also continued to decline. This suggests that as the catch increases biomass will decrease towards, and perhaps below, the level capable of supporting MSY. Anecdotal evidence from the industry confirms localised depletion within the three EEZs of Solomon Is, Fiji and Vanuatu, as reflected in declining catch rates

The management measure in place Western and Central Pacific Fisheries Commission Conservation and Management Measure (WCPFC CMM) 2005-02 has aimed at controlling effort on the juvenile stock, south of 20⁰S, and with an exemption for Small Island Developing States (SIDS). However, evidence shows that this measure has failed to maintain effort within the prescribed limits as both Distant Water Fishing Nation (DWFN) CCMs (Commission Cooperating Members) and SIDS have increased their activity south of 20⁰S. Fearful of damaging the status of the Albacore stock, the FFA supported by MSG and TVM are now seeking to establish PIC zonal limits. Discussion on such limits and additional management options is taking place within the wider FFA grouping of the Southern Tuna and Billfish Sub-Committee (STBC), which includes the MSG countries. This Committee is aiming to agree zone-based allocations for the albacore stock and will advance recommended actions to the Western and Central Pacific Fisheries Commission (WCPFC) level. The challenge for MSG and the sub-regional groups would be to consider ways whereby they can capitalise on zone-based harvest rights and promote integration of development and management efforts so as to ensure their respective goals can still be achieved and enhanced even amid various competing interests both within the membership and from the wider stakeholders in the fishery.

Whilst managing the resource at sustainable levels is required, optimising employment and incomes in all these countries is becoming increasingly important. Fisheries accounts for between 1.3% and 6.8% of Gross Domestic Product (GDP) in the four MSG countries, and is a major source of foreign exchange. Domestic employment generated from the sector is estimated to be around 2,050, (1,450 in processing and around 600 as crew[[2]](#footnote-2)) and a net regional value added of US$4.8 billion[[3]](#footnote-3) including profits, wages and license fees. The MSG tuna longline sector is estimated to generate sales in excess of US$ 221 million, with the major contribution coming from the Fiji onshore processing sector. Other countries, Solomon Is and Vanuatu, are also seeking to enhance the employment in onshore processing and improve rentals through increased licence fees. The MSG development priority is thus to achieve collective growth across the island countries, and to establish an effective strategy that can deliver this, within the confines of the management limits set.

# Longline fishing in the Pacific

## The history of longlining in the Pacific

Longlining in the Southern Pacific Ocean now accounts for 9% of the total WCPO tuna catch (WCPFC, 2011). The Pacific longline fleet is made up of around 1,297 vessels (2011), comprising several different groups:

* Domestic fleets operating from some of the Pacific countries (Australia, Fiji, French Polynesia, Cook Islands, New Caledonia, New Zealand, PNG, Samoa, Tonga and American Samoa);
* Distant water fleets operating from Japan, Korea, China and Taiwan; and,
* Taiwanese or Chinese owned and operating under charter, or flagged and registered into a number of PICs.

Table 1 shows the number of longliners fishing in the WCPO.

Table 1: The WCPO Longline fleet by country, 2011

|  |  |  |  |
| --- | --- | --- | --- |
| **Country** | **2005** | **2010** | **2011** |
| China | 212 | 219 | 219 |
| Japan | 235 | 171 | 171 |
| Korea | 153 | 122 | 122 |
| Solomon Islands | 5 | 148 | 145 |
| Taiwan | 133 | 90 | 90 |
| Fiji | 103 | 104 | 126 |
| Vanuatu | 73 | 65 | 75 |
| Australia | 97 | 54 | 55 |
| French Polynesia | 72 | 62 | 62 |
| Samoa | 39 | 61 | 61 |
| New Zealand | 57 | 44 | 44 |
| American Samoa (USA) | 36 | 37 | 37 |
| PNG | 46 | 27 | 18 |
| FSM | 33 | 23 | 23 |
| New Caledonia | 23 | 18 | 18 |
| Cook Islands | 24 | 17 | 15 |
| Kiribati |  |  | 5 |
| Niue | 7 | 5 | 5 |
| RMI | 1 | 4 | 4 |
| Tonga | 13 | 5 | 2 |
| Total | 1,360 | 1,276 | 1,297 |

Source: WCPFC Year Book, 2010. 2011 data accessed from MSG country vessel licence data.

The subsequent Figure 1 and Figure 2 extrapolate information of historic trends in vessel numbers and catch by main groups respectively.

|  |  |
| --- | --- |
| Figure : Albacore longline fleet composition by main groups, 2001-2011 | Figure : Albacore longline catch by main groups, 2000-2011 |
|  |  |
| Source: WCPFC Yearbook, and FFA vessels of Good Standing (2009-2011) | Source: Extrapolated from SPC and PIC data |
|  |  |

Catches by the longline fleet are broken down into the three target species albacore, yellowfin and bigeye tuna, with an added assortment of bycatch including billfish (marlins and swordfish), opah, mahi mahi, wahoo and sharks.

The Japanese and Korean vessels are predominantly dependent on yellowfin and bigeye tuna, whilst the South Pacific countries’ longline fleets and longliners from China and Taiwan are dependent on albacore with a bycatch of yellowfin and bigeye. It is this latter fishery that this report focuses on. However, there are some indications of greater numbers of yellowfin and bigeye tuna caught by Chinese and Taiwanese longliners targetting albacore. This reflects a more recent trend in moving to on board freezing to minus 60⁰ (super frozen).

The major features from the fleet (Figure 1) and catch (Figure 2) trends are as follows:

* the steady reduction in vessel numbers by Japan and Korea (Figure 1);
* the reduction in domestically owned Pacific island fleets
* the growth in Chinese and Taiwan CCM fleet by an estimated 300 (or more), from around 2007 onwards but a levelling off from 2009;
* the almost similar rate of growth by charter/foreign flagged vessels, with a lag of one year from the Chinese/Taiwanese increase, but a continued increase in these catches after the Chinese / Chinese Taipei national catches levelled off, with these companies using country charter agreements to ease their fishing access into Pacific Island Countries (PICs).

The large scale increase in vessel numbers is confirmed by the 881 (March 2012) ‘Vessels of Good Standing’ as compared with 671 vessels (June, 2009). Newer vessels are almost entirely from China and Taiwan.

Figure 3 tracks the levels of longline fishing intensity (days per one degree square) for albacore over the last 3 years (2009-2011). It shows the increasing intensity of fishing effort in the EEZs of Solomon Is, Vanuatu, Fiji and Kiribati, as well as the High Seas areas, including all the High Seas pockets, the High Seas areas east of Kiribati and French Polynesia, and High Seas areas south of 20⁰S.

Figure 3: Fishing intensity for South Pacific Albacore, 2009 and 2011.

|  |  |
| --- | --- |
| *2009* | *2011* |
|  |  |

Source: SPC/OFP

## Longlining in the Melanesian Spearhead Group

The total number of active longline vessels operating within MSG waters amounted to 378 vessels, as well as 33 foreign bilateral vessels. Figure 4 shows the number by fleet, excluding DWFN partners. The variations in fleet activity identified in 2011 were as follows:

* Fiji and New Caledonia have a core number of vessels beneficially owned by nationals, 59 and 27 respectively;
* Locally based foreign and or Joint Venture, are active in the waters of Vanuatu (VU), and PNG. These number 3 and 18 respectively. These vessels land directly into the country, and are treated as domestic. However, some at-sea transhipments occur from Vanuatu based vessels; Charter vessels are active in the waters of the Solomon Islands, 105 of which are licensed to target albacore, as well as a smaller number in Fiji (11). The latter group are authorised to only fish in the High Seas and other country waters, but not within the Fiji EEZ;
* 128 vessels operate from (and are flagged to) Vanuatu (72) and Fiji (56). These vessels fish on the high seas and other country waters, but not in domestic waters;

Figure 4: Fleets operating from MSG countries, 2011

Source: WCPFC Year Book (2000-2010) and MSG country statistics (2011).

* The high seas areas include access to a High Seas pockets (HSPs) and High Seas areas (HSAs). These areas are identified as international waters bordered by Fiji, Solomon Is and Vanuatu, International waters around Line Group from the equator up to 20°N, east of 170°W to 150°W, and south of the equator to 20°S from 155°W-130°W and international waters South of 20⁰S;
* Eleven vessels chartered into Fiji also receive licences to fish on the High Seas and other zones, but not within domestic waters. These are additional to the 59 listed above and are beneficially owned in either China or Taiwan;
* DWFN CCM vessels fish on the High Seas and inside one Exclusive Economic Zones (EEZs), i.e. Solomon Islands (SB). These comprise 33 vessels operating under a bilateral arrangement.

As referred to above, vessels licensed from the Solomon Is and PNG, do not fish inside territorial waters (12 nm).

Catches within the EEZs of the 5 countries amounted to 50,000mt in 2010, of which 30,500 (61%) comprised albacore. This represented 44% of the WCPO albacore total. A further, 20,000mt were caught by Fiji and Vanuatu flagged vessels operating outside their respective EEZs. Figure 5 shows the catch distribution for albacore from Fiji and Vanuatu registered vessels inside and outside their EEZ.

Figure 5: Catches by vessels fishing under Fijian and Vanuatu flag.

|  |  |
| --- | --- |
| Fiji Flag | Vanuatu flag |
|  |  |

Source: SPC/OFP – AS = American Samoa; MH = Mathew & Hunter, TV = Tuvalu; NU = Nauru; KI = Kiribati; I2=HSA Doughnut hole between FSM, Solomon Is, Kiribati, Marshall Is. Nauru, Tuvalu; I4=HSA International waters east of Marshall Islands and Kiribati, from the equator up to 20°N and east of 175°E to 170°W; I5=HSA International waters around Line Group from the equator up to 20°N, east of 170°W to 150°W, and south of the equator to 20°S from 155°W-130°W; I6=HSA The reminder of International waters not covered above in the Northern hemisphere of the WCP-CA; I7=HSA The reminder of International waters not covered above in the Southern hemisphere of the WCP-CA; HSA I8 International waters bordered by Fiji, Solomon Is and Vanuatu; I9=HSA International waters between the Cook Islands and French Polynesia.

## Fish processing in MSG countries

Processing operations within the MSG countries comprises 2, potentially 3 canning plants/cooked loining plants, and a number of small to medium sized fresh sushi/sashimi plants.

Soltai Fishing and Processing Ltd in Noro, Western Province, Solomon Is, recently started producing canned albacore as well as cooked loins. Tri Marine International (TMI) is a 51% stakeholder, in partnership with the Solomon Islands National Provident Fund, the Government of Western Province and the Investment Corporation of the Solomon Islands. The plant processes some 20,000mt per annum, with plans to process around 10,000-15,000mt of albacore. The plant is in the process of employing 600 additional workers. The plant will be supplied by a fleet of 50-100 domestically based foreign longline vessels, in addition to the existing 5 purse seine and a small number of pole-and-line vessels

Pacific Fishing Company (PAFCO), based in Levuka, Fiji, produces cooked albacore loins under contract to Bumble Bee, and shipped for canning in USA. PAFCO is 98% owned by the Fiji Government. The plant produces around 60-70mt/day, but has a capacity to produce 120mt/day. Fish is largely sourced from Taiwanese longliners, fishing throughout the MSG region, via carrier company, FCF (Fong Chung Formosa Fishery). Some Fiji based longline companies supply PAFCO, but many prefer to send product to Bangkok and Vietnam. PAFCO operates at around 60% capacity, limited in part by having to respond to orders as part of its contractual obligations, as opposed to actively seeking additional partnerships, but also lacks regular cold storage capacity to allow for continuous operations. PAFCO employs up to 1,000 workers, all from Levuka, representing 650 full time equivalents.

Fiji has another canning plant, Voko, which has produced some albacore product. However, the factory largely produces canned mackerel for the domestic and other Pacific country markets.

None of the PNG canneries produce albacore, with PNG-based longliners exporting raw material to Thailand. Vanuatu is in process of developing a canning plant ‘Sinovan’, 51% Chinese owned, and 49% owned by the Government of Vanuatu. The plant is reportedly complete, but not operational due to lack of wharfage. The high cost of labour, relative to other competing operations, e.g. Thailand, is also reported to be an impediment to production.

Fiji, Vanuatu and PNG-based fishing companies also produce longline sashimi grade yellowfin, bigeye and albacore. Albacore, if not sold for canning, is invariably sold as gilled and gutted (G&G) or headed and gutted (H&G), and may be part processed and packed by the owner operators, or in the case of some Fiji based operators, contracted out to a specialist company ‘Celtrok’.

Three Fiji based plants also produce yellowfin, bigeye and albacore sashimi loins. These plants collectively employ around 150 persons. The numbers employed in PNG are around 120 persons, 60 onshore workers per company, including vessel servicing personnel. The Vanuatu based Tuna Fishing Vanuatu Ltd/Yuh Yow, operates a small G&G packing facility employing around 10 persons. There are also 2 companies in Solomon Is (Southern Sea Investment Co/Yu Yow and Solfish) setting up whole fish handling facilities to support locally based foreign vessels. These companies are likely to focus on G&G and employ an expected 20 persons in each company. Soltai, also, in the Solomons, aside from loining/canning which willmake up the bulk of its operation, is also in the process of setting up a ULT operation.

# Stock status and management considerations

## Stock status

Stock status for the three principal target stocks (albacore: ALB; yellowfin tuna: YFT; and bigeye tuna: BET) is summarised in Box 1 below.

Box 1: Stock status for the target tuna fisheries

|  |
| --- |
| **South Pacific Albacore (ALB):**   * Thestock remains at a high level of productivity, although recent high levels of catch across the whole South Pacific stock have resulted in declines in biomass (Hoyle, 2011); * Catches are just below MSY; * Higher levels of adult mortality as a result of current high levels of localised fishing by specific groups, may lead to localised reductions in CPUE. There is some evidence that this is occurring; * Projections demonstrate that longline exploitable biomass, and hence CPUE, would fall sharply if catch and effort were increased to MSY levels * Environmental conditions, will continue to be the primary influence on stock size and fishery performance (Langley and Hampton, 2008). Localised fleets may therefore be more vulnerable to depletion.   **Yellowfin (YFT)**:   * The yellowfin stock is not in an overfished state but Region 3 which includes the Solomon Is EEZ, is fully exploited. This is largely in response to very high levels of purse seine activity in the western extremities (by Indonesia, Philippines and PNG).   **Bigeye (BET)**   * Overfishing is occurring on the bigeye tuna stock; * Biomass has been reduced to less than half its levels prior to 1970 through increased harvest of juveniles. Because of that and overfishing, considerable potential yield from the bigeye tuna stock is being lost; * MSY levels would rise if mortality of small fish were reduced which would allow greater overall yields to be sustainably obtained; * There is a requirement for industrial long liners to reduce effort by 30% (CMM 2008-01), along with a four month restriction on setting of Fish Aggregation Devices (by purse seiners). The latter policy is beginning to demonstrate some recovery to juvenile BET. |

### Albacore stock status

Mature albacore, above a minimum fork length (FL) of about 80 cm, spawn in tropical and sub-tropical waters between latitudes 10°S and 25°S during the austral summer (Hoyle, 2011). Juveniles are recruited to surface fisheries in New Zealand‘s coastal waters, and in the vicinity of the subtropical convergence zone (STCZ, at about 40°S) in the central Pacific, about one year later at a size of 45-50 cm FL. From this region, albacore appear to gradually disperse to the north, but may migrate seasonally between tropical and sub-tropical waters.

Figure 6 summarises the historical change in the catch of Southern Albacore.

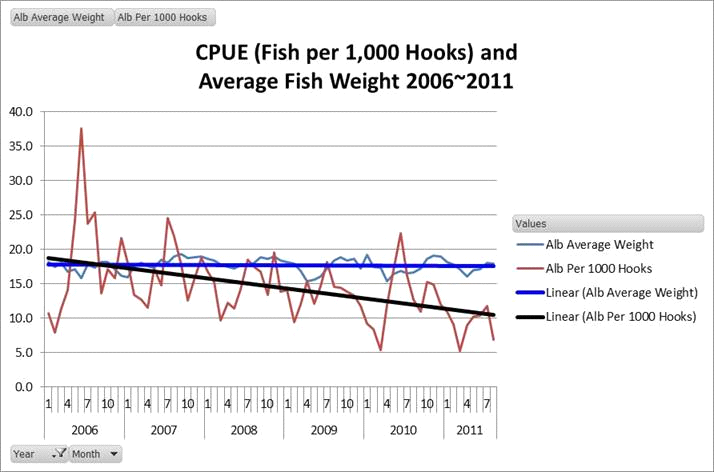
Figure 6: Change in Albacore catch by zone, 2000-2011

Source: SPC/OFP and MSG country statistics

As the numbers approach the MSY most of the impact is on the adult fish (spawning biomass); the juveniles formed a larger portion of the total biomass (south of 20⁰S south), which are not heavily fished, buffering the change in total biomass. It is also noteworthy that while current catch levels from the South Pacific albacore stock appear to be sustainable, given the age-specific mortality of the longline fleets, any decline in overall biomass of the stock will reduce CPUE to low levels with only moderate increases in yields. CPUE reductions may be more severe in areas of locally concentrated fishing effort (that is, localised depletion) (WCPFC 2010-05), but are also affected by effort, the level of exploitation of the stocks at the regional level, and changes in oceanographic conditions. Therefore, the economic consequences of any such increases should be carefully assessed (Hoyle, 2011). The industry reports localised depletion. It is also apparent that the amounts taken in one EEZ have profound effects on the other. Relevant to this is that albacore migrate from the Solomon Is EEZ into that of Fiji and Vanuatu (Harley, S, pers. Comm., May, 2012), therefore high catches in one zone will impact on the catch rates of others.

Figure 7 below confirms the impact on fishing already occurring in Fijian waters (Solander Pacific, 2011). These confirm both a contraction of the “aggregations” in size and smaller aggregations coming through and with bigger gaps (time) between them (Solander Pacific, 2011). It is noteworthy that similar trends are occurring in Solomon Island waters (Brandon Chiao, pers comm, December, 2011).

Figure 7: Albacore catch rates from a Fiji based longline vessels (catch and effort)

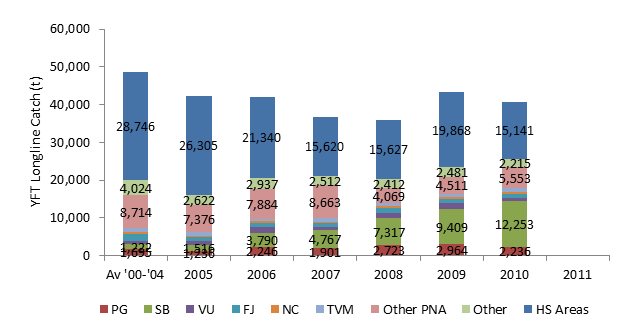


Source: Solander Pacific.

### Other tuna species

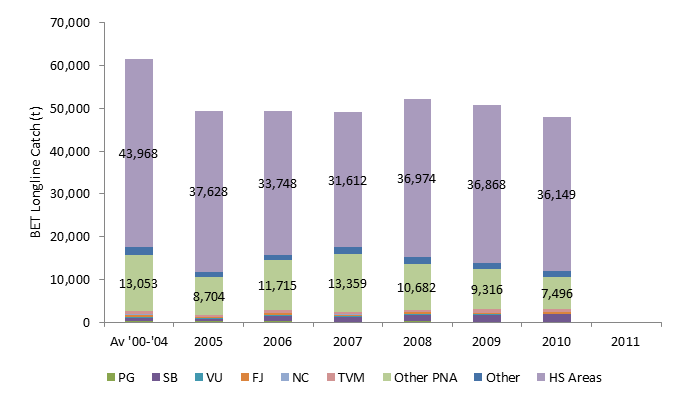
Aside from the changing status of albacore, increased effort has had some profound changes on other target species, most of which are subject to separate management actions. Overall longline catches of yellowfin tuna (Figure 8) have declined by 16% in the WCPO. Japanese and Korean catches of yellowfin and bigeye demonstrate sharp reductions in response to national fleet reduction programmes; additional catch of yellowfin by the other groups has to date been minimal, but with some notable increases in the Solomon Is catch, and the number of Chinese and Taiwanese vessels. In contrast, overall catches of bigeye (Figure 9) have fallen by 22%, with a decline in catch taking place in 2005. MSG specific catch trends for yellowfin tuna show no distinctive change.

Figure 8: Longline catches of yellowfin tuna (mt)

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Source: Source: Extrapolated from SPC and PIC data

Figure 9: Longline catches of bigeye tuna (mt)

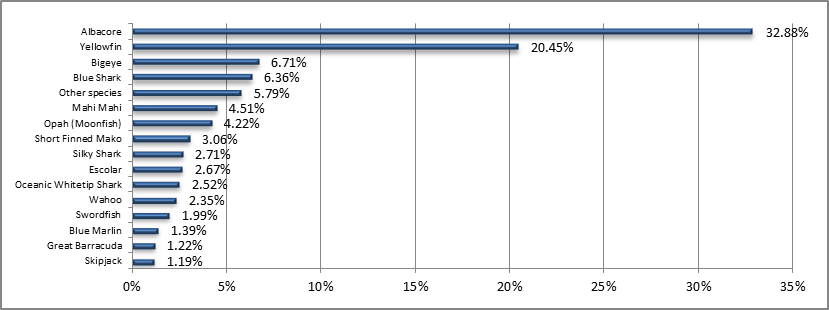
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Source: Extrapolated from SPC and PIC data

### Other species catches

Commercial (non tuna) bycatch in longline albacore fisheries accounts for around 10%-25% of the catch in weight.. An example of the proportion of bycatch in an albacore targeted longline fishery is illustrated from Fiji observer data below (Figure 10). Whilst generally indicative of interactions, Chinese and Taiwanese longline vessels tend to have a higher bycatch of shark, as and when they use wire traces.

Figure 10: Bycatch distribution as a percentage of total catch in Fiji longline fisheries



Source: SPC/OFP, 2010

### Commercial species stock status

Fiji and Vanuatu flag vessels fishing further south are also catching increasing number of billfish, hence swordfish and stripe marlin measures could be also important addition to the list

The status of non tuna commercial species, other than sharks, is perceived to be as follows:

* Blue marlins and striped marlins are perceived to be stable provided that there are no increases in fishing effort (Molony, 2008). CMM 2006-04 has recommended as a precautionary measure that there be no increases in fishing mortality on striped marlin until estimates of stock status are more certain;
* Swordfish has traditionally not been reported to be in an overfished state (Kolody et al, 2009);
* Wahoo, opah, escolar and mahi mahi have not been formally assessed. Stocks are assumed to be stable, but no information is available as to whether overfishing is occurring or not. However, these are considered to be classified as low risk by PSA (Kirby et al, 2007).

### Shark stock status

Shark species account for approximately 15% of the bycatch in albacore longline sets, and this may be higher in some fisheries. Chinese and Taiwanese owned vessels sometimes use wire traces as an alternative to monofilament leaders, with the specific intention of increasing their shark bycatch. This activity is undermining the WCPFC management measure which SIDS are required to follow.

The main area of concern is the oceanic shark species. The predominant species caught are blue sharks *Prionace glauca* (6%), silky sharks *Carcharhinus falciformis* (3%), oceanic whitetip *Carcharhinus longimanus* (3%), shortfin makos *Isurus oxyrinchus* (2.5%), with smaller numbers of pelagic threshers *Alopias pelagicus* and hammerhead species. Whilst these species are comparatively small in percentage terms, the number of sharks caught is high. Lawson (2011) demonstrates an annual average of 2 million sharks caught by longline gear, with corresponding sharp declines in CPUE estimated at 30% over the last 10 years. Clarke (2011) identified changes in exploitation patterns for many of the species caught in WCPO waters by the longline fishery. From this analysis, there is increasing evidence that two of these shark species, oceanic whitetip and silky sharks are experiencing rapid declines. Even blue shark, previously judged to be fairly robust appears to be suffering from a reduction in average fish size.

Extracts from risk assessment work undertaken by SPC (Table 2), identifies various oceanic species at medium to high risk.

Table 2: Stock Conditions and/or Ecological Risk Assessments of Tuna Longline Bycatch

| **Species** | **Stock Condition** | **Ecological Risk (ERA Vulnerability)** |
| --- | --- | --- |
| **Silky Shark**  (*Carcharhinus falciformis*) | Longline CPUEs are generally stable (Lawson, 2011). However, steep declines from peak abundances in 2006-2008 are observed in subsequent, recent years (Clarke, 2011).  The longline fishery standardized trends were declining for both sexes in all regions, with statistically significant trends for both sexes in Fijian waters (SPC Region 5) (Clarke, 2011). | Productivity - High risk  Susceptibility – Medium to high risk |
| **Oceanic Whitetip Shark** (*Carcharhinus longimanus*) | Longline catches indicate steep declines, falling by 70% since 1998 (Lawson, 2011). These indicate very steep declines.  The estimated trends in median length were declining for both sexes for all regions, with statistically significant trends for females (Clarke, 2011). | Productivity - High risk  Susceptibility – Medium risk |
| **Pelagic Thresher (***Alopias pelagicus)* | Decreasing median size trends, particularly for females in Region 3 and for males and females in Region 4, both of which showed significant declines (Clarke, 2011). | Productivity - High risk  Susceptibility – Medium risk |
| **Shortfin Mako Shark** (*Isurus oxyrinchus*) | Longline CPUE fallen by 10% since 2010 (Lawson (2011).  Male mako shark median lengths appear to be at or near the length at maturity, the entire 90% confidence interval for female mako sharks lies below the length at maturity. Observer data indicates trends toward decreasing size (Clarke, 2011). | Productivity - High risk  Susceptibility – Medium to High risk |
| **Longfin Mako** | Longline CPUE fallen by 31% since 1998. | Productivity - High risk  Susceptibility – Medium to high risk |
| **Others shark species** | Data deficient for Bigeye Thresher, Bronze Whaler, Great Hammerhead, Smooth Hammerhead and Scalloped Hammerhead.  Scalloped and Great Hammerhead sharks are classified by IUCN as endangered. | Productivity – High risk  Susceptibility – Medium to high risk |

Source: Extracted from SPC reports.

### Turtle bycatch

In the WCPO five species of turtle are generally encountered in longline fisheries, namely: green *Chelonia mydas*, loggerhead *Caretta caretta*, leatherback *Dermochelys coriacea*, hawksbill *Eretmochelys nalysee* and olive ridley *Lepidochelys olivacea* turtles. These species are generally long lived and reach sexual maturity at between 6-30 years old (SPC, 2001). Large turtles have few natural predators; however longline bycatch can result in high levels of fishing mortality on the large sub-adults and adults (Lewison and Crowder, 2007). All of the species listed above are threatened with extinction and the IUCN (2008) lists olive ridley turtles as vulnerable; loggerhead and green turtles as endangered; and hawksbill and leatherback turtles as critically endangered.

Sea turtle capture rates are highly variable and reported positive capture rates from 0.002 to 0.032 turtles/1000 hooks have been reported (Table 3).

Table 3: Life status of marine turtles encounters observed in WCPO longline sets by sub-area (1990-2007)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Area | Observed Sets | Turtles | Released (%) | Healthy | Injured/ stressed | Barely Alive | Not specified | DEAD |
| WTP (10°N-10°S) | 8,003 | 262 | 91% | 27% | 12% | 5% | 20% | 36% |
| WSP (10°S-35°S) | 7,935 | 66 | 92% | 62% | 12% | 5% | 12% | 9% |
| WTEP (south of 35°S) | 8,925 | 19 | 89% | 26% | 5% | 0% | 63% | 5% |

Source: WCPFC SC5 2009 EBWP07

## Current national management arrangements affecting longline fishing

### Fisheries Acts and Tuna Management Plans

Each MSG country has a Fishery Act, a Tuna Management Plan (TMP) and an Ecosystem Management Plan. Each country is also Party to WCPFC, United Nations Convention on the Law of the Sea (UNCLOS) and United Nations Fish Stocks Agreement (UNFSA). Management measures take account of the acts, plans and conventions and are implemented through fishing vessel licences and authorisations. Fiji and Solomon Is are in the process of amending their fishery acts to include adherence to sustainable resources and compliance with the ecosystem approach to fisheries management.

The acts are expected to ensure the primary focus on sustainability as opposed to a focus on growth, but in respect to the albacore fishery, management actions have not yet been taken on account of the increase in catch throughout the region, and have taken note within the WCPFC Convention of the rights of small island developing states (Article 30). This article does not of course exempt SIDS from management measures, but attempts to prevent ‘*a disproportionate burden of conservation action onto developing States Parties, and territories and possessions’.* Consequently, some Commission Management Measures (CMMs) contain exemptions for SIDS.

The core components of the MSG fishery acts and supporting management plans are summarised in Box 2 below.

Box : Summary of core components of MSG Fishery management acts and Tuna Management Plans

|  |
| --- |
| * Jurisdictional issues for migratory species are exclusive to fisheries ministries, Department of Fisheries (DoF), Vanuatu, Ministry of Fisheries and Marine Resources (MFMR) Solomon Is, Ministry of Fisheries and Forestry (MFF), Fiji, and the National Fishery Authority (NFA), Papua New Guinea; * All legislation specifies sustainability as the principal element of the act and amendments are being made to include reference to the precautionary and ecosystem approaches to fisheries management; * Reference is made to the binding nature of fishery management plans; * Access rights give priority to national interests which specify percentage ownership (49% in the case of PNG and 30% in the case of Fiji), or with a requirement to land into the country (PNG and Solomon Is) and to specifically secure benefits to that country; * Licence fees may be discounted to reflect domestic ownership (Fiji), or locally based foreign (Solomon Is and Vanuatu). PNG has a stated preference for licensing freshers/RSW freezers for the purpose of promoting processing onshore; * Provision is made for application of output controls in the form of TACs, and limits set in the Tuna Management Plans, 15,000 mt (all species) and 10,000mt (all species) for Fiji and PNG respectively; 10,000mt, 3,000mt and 1,000mt for albacore, yellowfin and bigeye for Vanuatu; * Authorisations for access agreements and foreign fishing vessels to fish within each zone; * Limits to the number of longline fishing vessels, 66 for Fiji, 100 each for PNGand Vanuatu respectively[[4]](#footnote-4); * Limits on access rights to Archipelagic waters (Fiji for vessels less than 40 GRT), outside 12 miles from the Main Group Archipelago (MGA) (Solomon Is), or territorial limits, 6 miles in the case of PNG and 12 miles for Vanuatu; * Transhipment subject to landing in port, full in the case of PNG and Fiji, or partial for Vanuatu; * Encouraging use of domestic crews is stipulated in Vanuatu for locally based foreign and encouraged for all Vanuatu flagged vessels. Solomon Islands are to stipulate domestic crew (10%), as part of the new licensing conditions. In PNG all crew to be nationals, as condition for receiving licence. Fiji does not implement a crewing requirement, but crews are all required to pass the National Safety Standards as laid down by the Marine Safety Agency Fiji (MSAF). * A strong commitment to monitoring, control and surveillance through VMS, preliminary reports, logbook reporting, rules governing transhipments and unloading reports, as well as a future commitment to observer coverage; * Strict penalty procedures for non-compliance including licence. |

Source: Government of Fiji, 1985, Government of Vanuatu, Independent Rep of PNG, 1998, 2005, Solomon Is Gov, 1998. VdoF, 2009, MFF, 2008, MFMR, 2004, NFA, 1999.

### Current access arrangements and licensing

In all countries, authorisation to fish is granted with a licence subject to payment of access fees, and in most cases inspection of the vessels to ensure seaworthiness. Seaworthiness inspections do not apply to bilateral partners. Licences specify legal obligations, and in the context of bilateral access, compliance with Minimum Terms and Conditions (MTCs), containing the contents of WCPFC CMMs. These are advised by FFA, however, from a review of the contents, these appear to be out of date and lack some critical regulations, e.g. reference to by catch mitigation measures (Box 4 below).

Fiji licences contain measures to mitigate bycatch, which reflect the CMMs for turtles and sharks (Box 4 below). Fiji is presently amending licences to exclude carriage of wire traces. None of the other licence conditions contain references to bycatch mitigation, and these are also excluded from FFA Minimum Terms and Conditions. Vanuatu officials stated that wire traces and turtle de-hookers were a component of the licence, and these are covered under international management measures, but not specified. Solomon and Vanuatu Is have not made any provision in their licensing requirements to mitigate against bycatch interactions. PNG has as part of its Shark Management Plan, implemented the CMM-associated measures including banning use of wire traces for tuna longliners (monofilament only), and limiting the shark bycatch to 10% of whole catch weight. Use of de-hookers is a requirement, and NFA is undertaking trials with circle hooks to limit turtle interactions.

Foreign vessels are required to be placed on FFA’s vessels of good standing. This is a requirement in Solomon Is, but has been extended to domestic vessels in Fiji, that are not fishing in arcipelagic waters,and fishing less than 2,500 hooks. The current numbers of longline vessels stated on FFA’s Vessels of Good Standing (VoGS) are 98 for Fiji and 41 for Vanuatu.

The licences also detail operational areas, and exclusion from territorial, and in some cases archipelagic waters. These are set specifically to avoid disruption of local fishing rights. In some cases (Vanuatu, Fiji and PNG), licences may also contain ‘International authorisation to fish, i.e. outside the EEZ, whilst on others, Solomon Is fishing outside the EEZ is prohibited.

Licences also contain provisions on reporting which include when leaving port, making logbook returns, and advance notice of landing.

All vessels are required to carry an Automatic Location Communicators (ALCs).

Licences also contain restrictions on transhipment. PNG authorises transhipment at sea, if the product is destined for a PNG port. Fiji implements a transhipment levy of US$350/mt for non- domestic vessels but again with a requirement to land into a domestic port. Vanuatu permits transhipment and carriage to a non-domestic port, only on the authorisation of Vanuatu Department of Fisheries (VdoF), with charges of US$12.5/mt for sashimi grade tuna, and US$2/mt for tuna destined for canning. Similarly, Solomon Is applies a transhipment charge of US$2/mt for canning grade fish and US$12.00/mt for sashimi grade fish. Locally based foreign vessels operating from the Solomon Islands are also required to pay a 6% adjustment fee for all transhipped fish unless they meet the agreed minimum percentage of catch processed onshore during 2012. These minimum levels are temporary whilst the onshore companies complete their onshore investments and train staff.

All MSG licences contain a provision for observers to be placed on board vessels. Observer coverage is presently 6% in Fiji, 5 % in Vanuatu (but presently only on locally based foreign with plans to extend), 2% in PNG and none in Solomon Is. All countries are aiming to improve the level of observer coverage, to a target of 20%. In all countries, as and when transhipping is authorised, carriers are required to have observers on board.

All licences refer specifically to designated ports which include Suva, Levuka, Lautoka (Fiji), Honiara, Tulagi and Noro (Solomon Is), Port Vila (Vanuatu) and Port Moresby, Rabaul, Lae and Madang (PNG).

A summary of access fees for all countries is shown in Table 4.

Table 4: Summary of licence and access fees (US$)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Country** | **Vessel size** | **Domestic fees/locally based foreign** | **Foreign access fees** | |
| **With domestic landings** | **Landings outside country** |
| Fiji | < 20m | 6,000 (FJ$11,000) | 12,000 (FJ$22,000) | N/a |
|  | >20m | 8,800 (FJ$16,000) | 16,000 (FJ$29,000) | N/a |
| Papua New Guinea |  | Nominal fees of around US$ 300 | No foreign access | |
| Solomon Is | < 100 GRT | 12,000 |  | 15,000 |
|  | > 100 GRT | 21,000 | - | 15,000 |
| Vanuatu | < 100 GRT | 9,000 | 15,000 | 30,000 |
|  | 100-400 GRT | 11,000 | 20,000 | 40,000 |
|  | > 400 GRT | 20,000 | 45,000 | 45,000 |

Source: National fishery administrations

Some features from the above are as follows:

* PNG sets nominal fees for domestic/joint venture fishers, and actively encourages ship to shore linkages for the purpose of generating employment;
* Fiji’s domestic fees are half those of foreign (e.g. charter vessels). Foreign flagged Fiji vessels are prohibited from fishing inside the Fiji EEZ, and pay both observer and management fee;
* As with Fiji, Vanuatu differentiates between locally based foreign, and flagged vessels fishing and landing outside its EEZ. Additional access fees (US$ 5,000/vessel are required, when fishing in the RFMO waters, including outside the WCPO;
* Vanuatu had stipulated a levy of 4-5% of revenue of fish caught inside the Vanuatu EEZ as part of its management plan. However, the plan was revoked and the levy has never been introduced, due to opposition from the locally based foreign company and other vessel agents;
* Vanuatu also uses an agency, Tuna Fishing Vanuatu Ltd, to collect the International Authorisation to Fish Certificate revenue (including support bunkers and carriers). A review of invoices held within VdoF showed that the amounts laid down in the Management Plan were not collected, and the agent was extracting high administrative costs. Consequently, the Vanuatu government and assigned support funds were not receiving the intended revenues to support elements of cost recovery as laid down in the plan for a Management Fund, and to provide funding assistance for the national fishermen’s association;
* Solomon Is has recently changed its policy to insist that its locally based domestic fleet lands its catch into the Solomon Islands for processing. The 2013 licence policy will provide varying rates of discount based on processing linkages and employment of domestic crew on board. Historically, licences were allegedly changing hands for significantly higher amounts than the MFMR (Ministry of Fisheries and Marine Resources, Solomon Is) fee;
* All countries had experienced political interference in licence allocations. As a consequence, Vanuatu and Fiji had exceeded limits set in their management plans, and Solomon Is had seen an unpredicted level of activity in 2011.

Some specific issues raised in country interviews on multilateral zonal access are summarised in Box 3.

Box 3: Comments on foreign and multi zone access

|  |
| --- |
| **Fiji**:   * Accept foreign access if uptake is not optimised by the domestic industry, but require licence authorisation and access payments * Would be willing to explore multi zone access with Vanuatu and Solomon Is, but only on the basis of shared management responsibility * Regional minimum terms and conditions and be developed including MCS arrangements such as an ROP, VMS, VDS and surveillance programmes.   **Papua New Guinea**:   * Access is limited to PNG vessels only, to encourage local participation in the tuna longline fishery, through owning and operating longline vessels, including a provision for entering joint venture operations. * There would be difficulties in an FSM style arrangement for the longline fishery, based on PNG’s policy of domestic access only.  This would be a low priority for PNG. * Would be keen to develop regional minimum terms and conditions including MCS arrangements such as a Regional Observer Programme (ROP), VMS, VDS and surveillance programmes.   **Solomon Islands**:   * Acceptance of foreign access under bilateral arrangement, but increased focus on domestication of the albacore longline fleet through direct landings * Against the principle of multi-zone access, on the basis of a need to retain tight control on domestic limits, and avoid benefits from fishing accruing to other countries * Regional minimum terms and conditions and be developed including MCS arrangements such as an Regional Observer Programme (ROP), VMS, VDS and surveillance programmes.   **Vanuatu**:   * Registered vessels accessing all waters and high seas after authorisations, but require respective country licences when fishing in other EEZs * Need to get internal house in order before looking at shared access agreements such as FSMA |

Source: MSG interviews

### Western and Central Pacific Fisheries Commission

#### Management measures

Conservation and Management Measures (CMMs), defined by Western Central Pacific Fisheries Commission (WCPFC) are legally binding on its Members (CCMs). Members of WCPFC include all the MSG countries, as well as all other Pacific States and participating countries, including the DWFN bilateral partners. There are a number of relevant measures that should be noted (Box 4) in the context of their relevance to longline fisheries management.

Box 4: Critical features of the WCPFC CMMs to Longline activity in the WCPO

|  |
| --- |
| **CMM 2005-02/2010-05, *Conservation and management measure for South Pacific Albacore***   * The CMM was originally put in place to prevent vessels fishing northern albacore shifting effort to southern albacore. * Restrictions apply to Commission Members, Cooperating Non-Members, and participating Territories (CCMs) for South Pacific albacore in the Convention Area south of 20°S above current (2005) or recent historical (2000-2004) number of fishing vessels. * The CMM shall not prejudice the legitimate rights and obligations under international law of small island developing State and Territory CCMs in the Convention Area for whom South Pacific albacore is an important component of the domestic tuna fishery in waters under their national jurisdiction, and who may wish to pursue a responsible level of development of their fisheries for South Pacific albacore. * CCMs that actively fish for South Pacific albacore in the Convention Area south of the equator shall cooperate to ensure the long-term sustainability and economic viability of the fishery for South Pacific albacore. * CMM 2010-05 gives a commitment for strengthening the collection of data. * This measure will be reviewed annually on the basis of advice from the Scientific Committee on South Pacific albacore.   **CMM 2008-01, *Conservation and Management Measure for Bigeye and Yellowfin tuna***   * The total catch (20N-20S) of bigeye tuna by longline fishing gear will be subject to a phased reduction such that by 1 January 2012 the longline catch of bigeye tuna is 70% of the average annual catch in 2001-2004 or 2004. * The catch of yellowfin tuna is not to be increased in the longline fishery from the 2001-2004 levels * Each member that caught less than 2,000 tonnes of bigeye in 2004 shall ensure that their catch does not exceed 2,000 tonnes in each of the next 3 years (2009, 2010 and 2011). * Vessels operated under charter are considered to be vessels of the host island State or territory. * The limits for bigeye tuna shall not apply to Small Island Developing State members and participating territories in the Convention Area undertaking responsible development of their domestic fisheries. * More generally, SIDS’ domestic fleets are exempt from the provisions of CMM 2008-01, including the yellowfin tuna longline tuna catch limits.   **CMM 2008-03*, Conservation and management of sea turtles***   * CCMs with longline vessels that fish for species covered by the Convention shall ensure that the operators of all such longline vessels carry and use line cutters and de-hookers to handle and promptly release sea turtles caught or entangled. * CCMs with longline fisheries other than shallow-set swordfish fisheries are urged undertake research trials of circle hooks and other mitigation methods in their longline fisheries.   **CMM 2010-07, *Conservation and management measure for sharks***   * Commission Members, Cooperating non-Members, and participating Territories (CCMs) shall implement, as appropriate, the FAO International Plan of Action for the Conservation and Management of Sharks (IPOA Sharks). * CCMs shall advise the Commission on their implementation of the IPOA Sharks, including, results of their assessment of the need for a National Plan of Action and/or the status of their National Plans of Action for the Conservation and Management of Sharks. * National Plans of Action or other relevant policies for sharks should include measures to minimize waste and discards from shark catches and encourage the live release of incidental catches of sharks. * CCMs shall require their vessels to have on board fins that total no more than 5% of the weight of sharks on board up to the first point of landing. CCMs that currently do not require fins and carcasses to be offloaded together at the point of first landing shall take the necessary measures to ensure compliance with the 5% ratio through certification, monitoring by an observer, or other appropriate measures. CCMs may alternatively require that their vessels land sharks with fins attached to the carcass or that fins not be landed without the corresponding carcass. * CCMs shall take measures necessary to prohibit their fishing vessels from retaining on board, nalyseedg, landing, or trading any fins harvested in contravention of this Conservation and Management Measure (CMM). * In fisheries for tunas and tuna-like species that are not directed at sharks, CCMs shall take measures to encourage the release of live sharks that are caught incidentally and are not used for food or other purposes.   **CMM 2011-04 WCPFC CMM 2011-04**, ***Conservation and management measure for oceanic whitetip shark***  Prohibits all CCMs from retaining on board, transshipping, storing on a fishing vessel, or landing any oceanic whitetip shark, in whole or in part, in the fisheries covered by the Convention |

#### The effectiveness of the measures on the context of the longline fishery

**WCPFC CMM 2005-02/2010-05 – *Conservation and management measure for South Pacific Albacore***

Unlike the evaluation of CMM 2008-01, there has not been a study on the effectiveness of CMM 2005-2. The report outputs above suggest the following:

* There has been some increase in effort by vessels south of 20⁰S, especially in the I I7, I8, I9. Indications are that these are Chinese flagged vessels which might include vessels operating from Fiji.
* It may also be the case that vessels operating under PICT flags, Chinese and Chinese Taipei vessels from Vanuatu and Fiji, have been fishing south of 20⁰S, as well as in the disputed territory Mathew & Hunter. These vessels are technically qualified as PIC registered, but clearly represent an increase in southern albacore effort, which is against the spirit of the measure. This could also suggest that any non PIC CCM vessel could reflag to a PIC, to then conform to the measure.
* The South Pacific albacore mature and spawn north of 25⁰ S. Albacore is experiencing periodic localised overfishing, and these problems are being exacerbated in country waters with high and growing levels of fishing activity, e.g. Solomon Is and Fiji, as shown in Figure 1 with a large scale increase in the size of Chinese and Chinese Taipei vessels (both flagged and chartered). Effort could also easily be displaced to currently under-utilised waters such as the Tongan and smaller PIC EEZs. The economic distortions continue to allow growth in Chinese and Chinese Taipei vessels, with domestic vessels and companies clearly bearing the brunt of the localised overfishing.
* The worrying feature is that the growing number of charter vessels which qualify as domestic (WCPFC CMM 2009-08) could lead to a significant increase in effort, requiring management measures to be applied to SIDS, as opposed to the current exemption.
* The response has to be that zone based limits be established, that fall under the management responsibility of each PIC, along with a separate allocation for High Seas limits. Explicit Target and Limit Reference points are also required for the stock.

**WCPFC CMM 2008-01, CMM 2008-01, *Conservation and Management Measure for Bigeye and Yellowfin tuna***

CMM 2008-01 shows that the longline catch of bigeye tuna of 61,676 mt(as reported by CCMs) is approximately 74% of the average catch for 2001-2004 (WCPFC8 -2011-43). The main reason for the reduction was the reduced catches reported by several of the major fishing nations – i.e. Japan and Korea. The limits for China will remain at 2004 levels pending agreement regarding the attribution of Chinese catch taken as part of domestic fisheries in the EEZs of coastal states. As can be seen from Figure 2, catches of yellowfin and bigeye tuna have increased by 4% and 18% respectively, for Chinese and Taiwan owned vessels. It is noted that CMM 2009-08 states that the Commission will continue to work on the development of a broader framework for the management and control of chartered vessels. In particular, this work shall cover the issues of attribution of catch and effort by chartered vessels and the relationship between the flag State and the chartering Member or Participating Territory on control of, and responsibilities towards, the chartered vessels. Some domestic industry sources state that the licence allocation system in some PIC countries is not at all transparent.

As per the South Pacific albacore stock, there are no target and limit reference points set.

**WCPFC CMM 2010-07, *Conservation and management measure for sharks***

Clarke, 2011 concluded that:

* Full implementation of a finning ban may not result in substantially reduced mortality for these species. The effectiveness of a ban on wire leaders in reducing shark mortality is dependent on the degree of implementation and enforcement of a ban on wire leaders, most likely requiring more comprehensive observer coverage.
* Only a small number of countries have introduced supporting actions including Palau, FSM, RMI, Cook Is, Samoa, Australia and French Polynesia. Fiji is now also considering whether to implement a shark sanctuary.
* There is no comprehensive, publically available reporting on compliance with the CMM.
* There is little to no accountability in RFMOs for non-compliance with the measures, including lack of sanctions.

Of the four MSG countries only PNG has developed Shark Management Plan (1998), though not updated, and applies a TAC of 2,000mt. However, the plan has not been updated since 1998 and does not contain reference to the WCPFC CMM measures. A shark National Plan of Action is in process in Fiji.

Clarke (2011), based on international studies, found that the most effective policy in reducing shark mortality would be to establish non-retention which could reduce shark mortality to 30-60% from current levels.

Industry observations state that crews are paid a proportion of their remuneration through shark fins, thus creating an incentive to fin. Fin to carcass ratios are kept within acceptable levels because some species (silky, oceanic whitetip and shortfin mako sharks) are retained for their commercial carcass value. However, there is also a view that allowing the catching of sharks wastes valuable fishing time, and is not without risk. A number of Fiji based companies stated that they actively discourage fishing for shark as a bycatch, as the time saved would allow the vessels to increase each set by 100 hooks (out of a standard 3,200). More tuna from the set would more than make up for the loss in shark catch.

**WCPFC CMM 2008-03, CMM 2008-03*, Conservation and management of sea turtles***

Protective measures for marine turtles include the use of de-hookers and line cutters. There has been no assessment of the implementation of the CMM, and whether the measures have been successful.

### Development of a zone-based management strategy

In addition to the current management arrangements operating both in-zone and on the High Seas, members of the FFA Sub-Committee on South Pacific Tuna & Billfish Fisheries are in the process of discussing arrangements for zone-based management of the albacore fishery, along with the associated bycatch of yellowfin and bigeye tuna. Discussions relate to determining:

* catch shares, using a hybrid approach from which each country chooses the criterion that best suits them, from catch, CPUE, and EEZ biomass;
* exploring allocations using a range of MSY estimates to support management decisions of target and limit reference points for the south Pacific albacore stock;
* limits under collective or sub-regional longline zone-based management limits: including a longline Vessel Day Scheme (VDS) or a total allowable catch (TAC) option. Both would seek to apply 100% in-zone limits but more limited allocations to the high seas (in the range of 50%-70%).

The Sub-Committee resolved to set catch shares based on tonnage-based catch limits, as opposed to fishing effort or vessel days. To date, these have been adjusted to suit the current albacore MSY of 85,000mt. However, much work has to be done to confirm allocations, and establish limits that are sufficiently precautionary. One country (Fiji) is already in the process of applying Maximum Economic Yield (MEY) based limits to its own zone (Berger, A., and Reid, C., 2012), and SPC/FFA has provided technical input to provide estimates on vessel number limits, allowing for MEY. This is likely to set more conservative limits than the range of MSYs produced (Table 5).

Table 5: Albacore MSY options modelled

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Country** | **Limit from 2011 workshop** | **Percent** | **Options: Proportion of MSY-Proportion to EEZs (eg – 100-80 means that the overall catch limit is 100% of MSY, and 80% of that is allocated to EEZs)** | | | | |
| **100-80** | **90-85** | **90-80** | **80-85** | **80-80** |
| Australia | 3,500 | 3.5% | 2,408 | 2,303 | 2,167 | 2,047 | 1,926 |
| Cook Islands | 8,000 | 8.1% | 5,504 | 5,263 | 4,953 | 4,678 | 4,403 |
| Fiji | 10,500 | 10.6% | 7,224 | 6,908 | 6,501 | 6,140 | 5,779 |
| Niue | 4,000 | 4.0% | 2,752 | 2,631 | 2,477 | 2,339 | 2,202 |
| New Zealand | 8,000 | 8.1% | 5,504 | 5,263 | 4,953 | 4,678 | 4,403 |
| Papua New Guinea | 3,500 | 3.5% | 2,408 | 2,303 | 2,167 | 2,047 | 1,926 |
| Samoa | 7,680 | 7.8% | 5,284 | 5,052 | 4,755 | 4,491 | 4,227 |
| Solomon Islands | 12,000 | 12.1% | 8,256 | 7,894 | 7,430 | 7,017 | 6,605 |
| Tokelau | 4,338 | 4.4% | 2,984 | 2,854 | 2,686 | 2,537 | 2,388 |
| Tonga | 4,000 | 4.0% | 2,752 | 2,631 | 2,477 | 2,339 | 2,202 |
| Tuvalu | 4,500 | 4.5% | 3,096 | 2,960 | 2,786 | 2,631 | 2,477 |
| Vanuatu | 10,000 | 10.1% | 6,880 | 6,579 | 6,192 | 5,848 | 5,504 |
| New Caledonia | 3,000 | 3.0% | 2,064 | 1,974 | 1,858 | 1,754 | 1,651 |
| French Polynesia | 10,000 | 10.1% | 6,880 | 6,579 | 6,192 | 5,848 | 5,504 |
| American Samoa | 5,952 | 6.0% | 4,095 | 3,916 | 3,686 | 3,481 | 3,276 |
| Wallis et Futuna | 22 | 0.0% | 15 | 14 | 14 | 13 | 12 |
| EEZ sum | 98,992 | 100.0% | 68,104 | 65,124 | 61,293 | 57,888 | 54,483 |
| Total catch limit |  |  | 85,130 | 76,617 | 76,617 | 68,104 | 68,104 |
| Note: No option was agreed to, and nor was it agreed that a simple pro rating of the 2011 nominated limits is an appropriate way forward given the anomalies that it results in and the different approaches used by members in nominating the limits in the first instance. However, participants asked that these figures be included in the record for information purposes. | | | | | | | |

Source: FFA, SC SPTB, 2012

Consultation with FFA and SPC has drawn following conclusions (Box 5):

Box 5: Management issues relating to the setting of limits

|  |
| --- |
| * The combination of the fishery characteristics (significant age selectivity) and the (assumed at least) biological characteristics as well as the demonstrated inter-annual variation makes albacore a stock very apt to the application “f "something better than ”SY". * A more holistic, or top down approach is probably warranted for albacore, with allocations of catch or effort to particular EEZs and possibly high seas areas based on an overall estimate of a TAE or TAC for the South Pacific. * The aspirational claims of FFA coastal States plus the existing level of catch on the high seas is more than 200% of the MEY catch level of roughly 65,000 tonnes. * Vessel allocatory arrangement supported by the type of bio-economic rationale recently undertaken for Fiji could be explored for all countries as an interim stage 1 measure. * It might be more immediately useful to provide advice at the broader level (e.g., regional or by sub-groups, e.g. MSG). * There is agreement that high seas rights should be devolved to SIDS, but at what rate and to which SIDS, is open. * A flaw in the process is that the setting of limits on albacore, fails to take account of the yellowfin and bigeye bycatch, and at least some obligation to limit effort on these stocks. |

Source: Pers comm John Hampton, Graeme Pilling, Aaron Berger and Wez Norris

An assessment of possible options is discussed in Box 7 below.

Box 6: Proposed country allocation system

|  |
| --- |
| * SC SPTB Committee to collectively determine precautionary limits by 2013, and these translated by SPC into equivalent longline vessel days for those members that choose to administer their national limit in this way; * A stage 1 option to select a precautionary vessel limit based on the 80-80 option above, (Table 5), or equivalent 20 vessel numbers, assuming that standard CPUE estimates for albacore. This process would be strengthened by requesting SPC to undertake an MEY based assessment, as undertaken in Fiji; * A stage 2 process of defining vessel days based on zonal allocations, linked to a South Pacific or sub regional allocatory system; * Licensing of vessels fishing in the coastal State EEZ with licence fees set by pre-determined fees or tender system; * Administration systems that allowed effective control of effort (i.e. a central secretariat); * Trading systems in place for LL VDS between coastal states; * Determination of bycatch limits for other species, or exclusion in the event of directed activities on other species, e.g. swordfish. |

# Economic drivers in long line fishing

In this section the report seeks to evaluate the profitability of longline fishing vessels in order to assess the key variables that impact on fleet profitability, potential rentals that might be extracted from the fishery, and the potential onshore value added that might accrue to the MSG countries.

## Current practices

### Landings and hubs

The albacore longline fleet either lands its catch directly into port or tranships at sea. Each country has defined designated ports which are Suva, Lautoka, and Levuka, Fiji; Noro, Honiara and Tulagi, Solomon Is; Port Moresby, Lae and Madang, PNG and Port Villa, Vanuatu.

Suva has developed into a regional hub, buoyed by its direct air freight linkages to key market destinations of Los Angeles (USA), Narita and Osaka (Japan), and Australia and New Zealand. Suva is also a hub for container shipments, supported by a relatively constant traffic backload (i.e. inwards freight to Fiji), and large consignments of outgoing fish. Suva also provides onshore support in terms of slipways, engineering and shipwrights, plus readily available supplies including fuel, at competitive rates and consumables. Of the other three centres, Vanuatu probably has the greater advantage, with three direct air freight linkages to Australia and one to New Zealand. Papua New Guinea also has direct flights to Narita, Singapore and Australia, whilst Solomon Is, has only one commercially viable connection which is to Australia. Also to Fiji (weekly) and PoM but limited capacity and not useful)

Consequently, most of the region’s fish has been landed or consigned through Fiji. Export statistics Fiji show more than 41,000mt of fish (in liveweight equivalent) sold through in 2011 (Table 6). This represents all of the catch taken from the Fiji and the Solomon Islands EEZ, as well as 99.5% of the catch taken by Vanuatu registered vessels. Vanuatu exports of sashimi grade tuna were 414 mt (Table 6) in 2011. Other catches may be derived from Chinese and Taiwanese vessels fishing on the high seas.

Table 6: Volume and value of longline tuna exports from MSG countries, 2011 (Livewieght equivalents) State conversion factors under table if so

|  |  |  |  |
| --- | --- | --- | --- |
| Product group | Metric tonnes | US$ million | Price/US$kg (CIF) |
| **Fiji** |  |  |  |
| Tuna for canning | 23,181 | 66.4 | 2.9 |
| Sashimi tuna | 11,343 | 203.3 | 17.9 |
| Loins | 4,675 | 49.2 | 10.5 |
| Non tuna species | 2,027 | 5.7 | 2.8 |
| Total | 41,226 | 324.6 | - |
| **PNG** |  |  |  |
| All categories | 6,341 (2010) | 7.8 | 1.3 |
| **Vanuatu** |  |  |  |
| Sashimi tuna | 414 | 0.87 | 2.1 |
| Non tuna species | 54 | 115 | 2.1 |

Source: National Fishery departments; Note: There were no exports of albacore tuna from Solomon Is in 2011.

However, national governments also seek to encourage increasing domestication of fleets chartered or flagged into their own countries. Solomon Is and Vanuatu set conditions for their licences such that landings are to be made into national designated ports. In the case of Vanuatu, a comparatively low key level of landings occurs, but as referred to earlier, these are confined to sashimi tuna from the locally based foreign fleet, with occasional other landings from non-domestic vessels. Solomon Is is commencing its domestic policy as from 2012, but agents and operators have encountered some problems in persuading vessels to land because of the high costs of fuel (US$1,700/t as compared to US$1,200/t in Fiji), as well as higher costs of consumables in Honiara relative to Suva. An additional constraint to Solomon Is is that once landed, containerising traffic (the lower grade albacore) for inter-island transfer, e.g. from the sashimi based Honiara processors to Soltai’s FPLs canning plant Noro, is prohibited. There may be some ways of overcoming these issues. The Honiara based company is in the process of using one of its vessels as a carrier, which will allow transfer, albeit at a higher cost than freight traffic (A. Ting, pers comm, April, 2012). Soltai, Western Province, Solomon Is, is also to be a centre for using fuel bunkers to supply cheaper fuel to its charter fleet. It is expected that the cost of bunkered fuel will be lowered to the Suva equivalent, but fuel supplied domestically will need to be supplied free of duty through the Solomon Is. There are other cost comparative issues between the countries which will be examined in Section 7.

### Fishing vessel and fishing characteristics

Longliners usually fish a 20-30 day trip, catching around 20-25mt/trip, which presently amounts to a catch of 200-250mt per annum. Each vessel deploys around 3,200 hooks per set (or 2,500 hooks for vessels fishing inside AW (Fiji)). Each set (deployment and hauling) lasts around 21 hours, commencing 05.00 hours, and ending 02.00 hours the following day.

Fishing vessels comprise four categories: freshers, storing fish on ice for 6-10 days; brine or Refrigerated Seawater (RSW) fish chillers; single freezers to minus 14⁰C-18⁰C; and vessels with double freezer systems, capable of freezing to minus 50⁰C plus (super-frozen). Most vessels will use the last 6-10 days to catch fresh fish (particularly yellowfin and bigeye, but albacore is now increasing) for the air freight fresh sashimi market, but the next best option from a price perspective is super-frozen. With investment in freezer systems, vessels are now able to freeze on board at minus 50⁰, allowing capitalisation on good quality yellowfin and bigeye bycatch for the sashimi market, and to take advantage of the newer class of refrigerated containers, the ‘super container’ and the ‘magnum container’, allowing product to be kept frozen at minus 50⁰ and minus 35⁰ degrees respectively. These containers can be carried on smaller container ships which are readily accessible in the main port hubs in the Pacific. This may reduce the dependency on landings direct into Fiji, and allow access to the Ultra Low Temperature (ULT) containers in the other country hubs. This change has also revolutionised the economics of the albacore longline sector allowing access to low cost freight for high quality fish as against the option of air freight (Table 7).

A number of Chinese and Taiwanese vessels are upgrading to super-frozen, some of these are chartered into the Solomon Is or fish through Fiji based agents. At present, there are only two

sashimi grade super-freezers in the Fiji fleet.

### Fish product characteristics

The main target species is albacore (60%), but both yellowfin (20%) and bigeye (5%) feature significantly. Other bycatch (15%), particularly swordfish and marlins, are also greatly prized, but not targeted specifically.

Distinctions in product form relate to a number of factors:

* On board freezing facilities (as described above);
* Differences in colour with higher grade fish - red-coloured albacore or red-coloured yellowfin and bigeye - again destined for sashimi grade. Some critical features have been noted. Albacore caught in the geographical area 15⁰S to 20⁰S (Fiji, Vanuatu and to some extent Solomon Is) tends to be more suitable for sashimi. In contrast albacore sold from PNG is paler, which means potentially lower price premiums. Yellowfin and bigeye caught in the area around PNG and NW Solomon Is (Solomon Sea), tends to have a lighter colour, which was of lower value on the Japanese market;
* Larger fish (18-20kgs and upwards) command a higher price and are more sought after from presentational and yield perspective (bigger fatty fish is preferred because recovery rate is higher);
* Handling practices such as reducing the time spent dead on the line and reducing soakage times, as well as careful handling (washing gills, use of bleed cuts, properly cleaning, regularly changing chilled water, careful time management through the freezing stages), and record keeping, are all critical. These improved practices determine whether the fish, including albacore, may be destined for the sashimi market.

A summary of main markets and product groups is summarised below in Table 7.

Table 7: Tuna product outputs (%)

| **Product** | **Main market** | **Albacore** | **Yellowfin** | **Bigeye** | **Other species** |
| --- | --- | --- | --- | --- | --- |
| Product for canning | Thai/Pacific & Vietnamese canneries | 50-70 |  |  |  |
| Sashimi (G&G) | Japan | 13-15 | 13-15 | 10-20 |  |
| Sashimi (H&G) | USA | 10-17 | 17-20 | 13 | 70 |
| Loins | USA and New Zealand (saku blocks) and Japan (tataki). | 2-5 | 40-60 | 30-60 |  |
| Domestic |  | 5-10 | 10-20 | 10-20 | 30 |

Source: Operating companies

### Fish prices

Figure 11 and Figure 12 below show the historic evolution of prices (in product weigh equivalents) from published sources.

|  |  |
| --- | --- |
| Figure 11: Price trends fresh and frozen sashimi in Japan (YFT and BET and the US ( ¥/kg) | Figure 12: Price differentials for albacore 2000-2011 (C&F) (US$/tonne) |
|  |  |
| Source: [http://www.customs.go.jp/toukei/srch/indexe.htm?M=01HYPERLI“K "http://www.customs.go.jp/toukei/srch/indexe.htm?M=01&”=0"&HYPERLI“K "http://www.customs.go.jp/toukei/srch/indexe.htm?M=01&”=0"P=0](http://www.customs.go.jp/toukei/srch/indexe.htm?M=01&P=0); Nakada San, TIA, ; <http://www.st.nmfs.gov/st1/trade/index.html> | Source: Japan ([http://www.customs.go.jp/toukei/srch/indexe.htm?M=01HYPERLI“K "http://www.customs.go.jp/toukei/srch/indexe.htm?M=01&”=0"&HYPERLI“K "http://www.customs.go.jp/toukei/srch/indexe.htm?M=01&”=0"P=0](http://www.customs.go.jp/toukei/srch/indexe.htm?M=01&P=0); USA (<http://www.st.nmfs.gov/st1/trade/index.html>); Thailand (<http://www.customs.go.th/Customs-Eng/Statistic/StatisticIndex2550.jsp>) |
| Note: There is no consistent data base for sales to Europe. Product variations may vary considerably with the Harmonized System Code (HS) categories. | |

Table 8 identifies the comparative product price differentials (CIF[[5]](#footnote-5)) and equivalent ex-vessel price. This includes differentials between:

* Albacore destined for canning, and now an improved opportunity for sashimi grade fish (a factor of 1 to 2.5 times the price of product destined for canning);
* Yellowfin and bigeye tuna (3 times the price of albacore, with higher prices for sashimi grade fish)

Table 8: Tuna price differentials (Fiji, US$/kg), for some key indicator product groups, January-March, 2012

| **Product form** | **Percentage distribution** | **Market price** | **Ex vessel price** | **Labour (incl packaging)** | **Freight/carriage** | **Price differential** |
| --- | --- | --- | --- | --- | --- | --- |
| ***Albacore*** | | | | | | |
| Fish destined for canning (Species base price) | 50% | 3.2 | 2.61 | 0.3 | 0.3 | **1.0** |
| H&G (Air freight, USA) | 22% | 7.2 | 3.77 | 0.6 | 2.1 | 1.4 |
| G&G (Super-frozen, Japan) | 13% | 9.9 | 6.58 | 0.6 | 2.3 | 2.5 |
| Loins (saku blocks) | 5% | 7.6 | 3.52 | 1.4 | 0.5 | 1.8 |
| Domestic | 10% | 2.3 | 2.25 | 0.1 | 0.0 | 0.9 |
| **Weighted** |  | **5.1** | **3.4** | **0.5** | **0.9** |  |
| ***Yellowfin and bigeye*** | | | | | | |
| H&G (Air freight, USA) | 17% | 7.5 | 4.52 | 0.62 | 2.1 | 0.8 |
| G&G (Air freight, Japan) | 13% | 11.0 | 8.58 | 0.62 | 2.27 | 1.4 |
| Tataki (Japan) (Species base price) | 55% | 11.95 | 6.00 | 1.42 | 0.52 | **1.0** |
| Domestic | 15% | 2.30 | 2.25 | 0.05 | 0.00 | 0.4 |
| **Weighted** |  | **9.62** | **5.52** | **0.97** | **0.93** |  |

Source: Extracted from stakeholder interviews and market price data

Lower freight costs represent the difference between carrier, container freight and air freight costs.

### Pacific island cost differentials

Exclusive of the issue of Pacific island tax differentials, each of the MSG countries has distinctive cost differentials which impact on product prices, as well as operational efficiencies. These are summarised below.

Table 9: Fish processing production and trade variable costs, December, 2011 (USD)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Cost Factors** | **Fiji** | **PNG** | **Solomon Is** | **Vanuatu** |
| Diesel fuel (average $US per litre) | 1.20 | 1.43 | 1.70 | 1.69 |
| Labour co–t - per hour rate for unskilled factory worker ($US) | 1.20 | 0.89 | 0.52 | 1.00 |
| *Labour & packaging cost/kg (H&G/G&G)* | 0.61 | 0.46 | 0.27 | 0.51 |
| *Labour & packaging cost/kg (loin)* | 1.42 | 1.05 | 0.62 | 1.19 |
| *Labour canning cost/case* | 6.25 | 7.75 | 3.23 | Na |
| Cost of 1KwHr (unit) of electrici–y - industrial user ($US) | 0.16 | 0.30 | 0.78 | 0.48 |
| Air freight cost ($US / Kg commodity thru rate for fish by destination country) |  | | | |
| *US (LA)* | 2.50 | 4.20 | 6.64 | 5.42 |
| *Japan* | 2.46 | 2.75 | 7.16 | 7.14 |
| *Australia (SYD)* | 1.53 | 1.32 | 2.87 | 1.11 |
| *Europe* | 3.36 | 3.95 | 8.28 | 7.38 |
| ULT freight ($US / Kg commodity thru rate for fish by destination country) |  | | | |
| *US(LA)* | 0.42 | 0.39 | 0.35 | 0.41 |
| *Japan* | 0.28 | 0.20 | 0.19 | 0.24 |
| *Australia (SYD)* | 0.11 | 0.13 | 0.74 | 0.11 |
| *Europe* | 0.79 | 0.69 | 0.74 | 0.75 |

Source: FFA (Economic indicators, Air Pacific, Maersk (Freight rates).

Some critical advantages from the above are as follows:

* PNG is competitive for labour and power, as well as air freight costs to Japan;
* Fiji is the most competitive for air freight and power;
* Solomon Islands is the least competitive for power, fuel and air freight, but highly competitive in terms of labour;
* Vanuatu only has a competitive advantage for direct air freight to Australia, otherwise its costs are fairly high relative to the other countries.

### Fishing vessel revenue, costs and projected profitability

Longline fishing vessel costs and earnings have been extracted from two sources, Miyake *et al*, 2010 and corroborated against data provided by the Fiji Tuna Boat Owners Association (FTBOA). The Miyake report provides details of vessels costs for Japanese sashimi longliners, 1983- 2007. The costs represent averages for vessels of 400 GRT over the period. The FTBOA operate vessels that are typical of the size operated for the Pacific albacore longline fleet. A number of cost assumptions are made:

***Calculation of base costs and revenue***

* Miyake base costs are fixed at 2007 and indexed against non-food/non-energy prices and cross checked against cost structures provided by FTBOA;
* All costs and prices are calculated in Japanese yen to avoid currency fluctuations relative to the US$ and to reflect sashimi based prices;
* Fuel costs are index linked from Miyake, but adjusted for smaller vessels (130 GRT) which reflect lower fuel utilisation, and relatively lower number of fishing days (78%). These costs do not include adjustments to take account of onboard ULT systems, where the costs might increase significantly to operate on board systems;
* Wages costs have been halved to allow for the lower wage rates for the ASEAN (Association of South East Asian Nations (Indonesian and Vietnamese)) crew component (75%), with captain on % share of the catch;
* Depreciation costs have been inflated to reflect a fifteen year amortization period at a cost of US$1 million per vessel (**¥**5.4million) (Suzuki, 2012);
* Revenues are calculated based on an average annual catch of 210mt, the assumed mix of 60% albacore, 25% yellowfin, 5% bigeye and 10% other species. Fifty per cent of the albacore is sold as canned product; all other catches are sold at various grades of sashimi and loin quality product, weighted as per Table 8.
* All vessels carry 3,200 hooks, but catches may be higher for vessels >40m, in response to shorter haul turnaround, with a larger crew complement on board.
* Bait costs are linked to the price of sardine sourced from China.
* Projected sales, costs and profits are made for 2011.

Table 10: Projected average sales, costs and profit per vessel for vessels operating from Fiji, 2011

|  |  |  |  |
| --- | --- | --- | --- |
|  | **¥m** | **US$’000** | **%** |
| Sales | 99.1 | 1,223 | 100% |
|  |  |  |  |
| Fuel & oil | 18.7 | 230.8 | 19% |
| Bait | 8.1 | 100.6 | 8% |
| Wages & salaries | 17.8 | 220.2 | 18% |
| Other | 20.2 | 249.2 | 20% |
| Depreciation | 5.4 | 66.7 | 6% |
|  |  |  |  |
| Net profit | 28.8 | 356.2 | 29% |

Source: Poseidon calculations

Licence costs are excluded from the above calculations.

Caution should be expressed in the results, since extrapolation is based on the assumptions above, and whilst quality tested against actual experience, also reflect average results. This would suggest that some vessels in the sector will be performing well, whilst others will be losing money. Losses may be offset by a number of ways such as longer amortisation periods for vessels.

Almost all the MSG fleets currently operate out of Fiji. As such cost variables are likely to be broadly similar. However, some specific variables that occur may include the following:

* Use of domestic crews, e.g. Fiji based, tend to be cheaper than Chinese crews, hence domestic labour rates will be lower. This may also have some future significance for other MSG countries where wage rates are lower, e.g. Solomon Is. An example is that vessels crewing with Fiji based crews, are presently around 12% of total costs, as opposed to 18% for vessels crewed by Chinese and Taiwanese crews;
* The cost of marine diesel varies significantly throughout the region. Bunkering at sea may level out the differentials, but sourcing from Solomon Is and Vanuatu has relatively high costs. Paying US$1.7/litre in the Solomon Is or Vanuatu, relative to US$1.2 in Fiji, will increase the costs of fuel relative to revenue to 24%, as opposed to 18%;
* Fuel utilisation costs may also differ depending on the type of freezing operation. Use of double freezing operations may increase the cost of fuel by around 30%. However, the price of sashimi grade tuna, will more than compensate for the losses incurred.
* Duties on the purchase of materials, including fuel, but also on vessel spare parts and equipment and bait, create distortions. Vanuatu applies a duty free policy for all purchases; Fiji a policy of 5% duty (GST) on equipment and spare parts, 2 cents/litre on fuel whilst bait is exempt; Solomon Is, applies a sales tax (10 cents/litre) and a goods tax (15% ad valorem) on fuel and all equipment purchases; and PNG receives GST exemptions on the purchase of equipment and bait.
* Licence costs tend to vary between domestic, locally based foreign, landing domestically, or locally based foreign landing abroad, or bilateral partners. The costs range from nominal figures for domestic, to cover administration costs, to around 0.5% (US$ 6,000-US$8,800) of turnover to around 1% (US$ 20,000). In these cases, the impact is not particularly significant.
* Capital costs will differ across the range of the fleet. Small longline vessels have been rapidly increasing their catching ability in recent years, and are substantially cheaper to build. Such a vessel can be built for around ¥m 90 (US$ 1.1million), compared to ¥m 650 (US$8million) for larger > 40 m vessels (Suzuki, J., Atuna). Vessels that upgrade to super-frozen, or to satisfy EU Phytosanitary Requirements (PSP), may invest upwards of US$200,000 or more, requiring servicing of loans, or marginally higher rates of depreciation.

It is also noteworthy that Chinese-flagged vessels, which may include those vessels under charter, or operating through bilateral partnerships, receive various subsidies. The details of which are:

* When registered with the Chinese Fisheries Bureau (i.e. vessels flagged into China), receive a fuel subsidy representing the difference between the market price and US$ 760/tonne. Against the current price of fuel of US$1,200/mt (March 2012), this represents a fuel subsidy of 37%, but this increases or decreases as fuel prices change. The Chinese owners thus have an option of remaining on the Chinese flag and sustaining their fuel subsidy, even under a charter arrangement, or reflagging.
* Export rebates are available on the cost of building to those vessels reflagging into a PIC.
* Chinese provincial governments pay up to half the licence access fees of their vessels going to fish in PICs. These may be available to both vessels engaged in chartering arrangements, and through bilateral accords.
* Duty is covered in part or whole, for all Chinese product processed in country.

The critical issue in such a situation is that Chinese vessels are able to continue operating profitably at lower levels of catch. This is significant in that the Chinese can sustain a presence at catch levels of MSY or above, when domestic fleets, and other DWFN fleets, will be subject to reduced profitability, with a requirement to cut other costs, e.g. labour.

# Market demand, opportunities and constraints

## Overview of the main markets

### High grade sashimi

**Japan**

Japan is the world’s principal market for fresh-chilled and frozen sashimi-grade tuna accounting for 80% (308,000mt) of global consumption (Hamilton et al, 2011). One hundred and fifty nine thousand (159,000) mt is met by imports, with peak demand between April and September, when domestic supplies are at their lowest. The economic recession, which depressed Japanese food prices generally, along with changing consumer preferences, has seen a decline in demand for sashimi but has also influenced Japanese consumer preference for cheaper, lower end sashimi and sushi products. Albacore is now an acceptable sushi based substitute for yellowfin and bigeye, provided that it is pink. Albacore now accounts for 9% of sashimi sales in Japan, as compared with bigeye (32%), skipjack (21%) and yellowfin (19%)..

The risks of rejection when supplying the Japanese market are mitigated through forming linkages with specific wholesale trading houses, as well as careful attention to quality – ‘catching live’ fish (which would compete against pole & line quality), careful handling onboard, and attention to water changes and freezing. Japanese product demand for higher grade tuna is based on 30% fresh, and 70% frozen. The reduction on domestic demand has prompted some of the trading houses, Toyo Reizo, Yashima, Nissho Iwai, Itochu fresh and Marubeni, to develop new outlets in other countries.

**USA**

The second largest sashimi market is USA (30,000 - 50,000mt), accounting for 8-10% of total sashimi consumption. This market is regarded by the sector as very price stable, relative to Japan, with potentially lower risks, of having product rejected. US wholesalers have a very hands-on relationship with their supply sources and market outlets. The demand for high quality sashimi grade tuna is for yellowfin and bigeye in restaurant food chains, but albacore is also becoming increasingly popular. The lack of an Ultra Low Temperature (ULT) chain in the US is perceived to be an impediment to further expansion.

**China, Korea and Taiwan**

Sizable markets have since developed in Asia, Korea (15,000 - 20,000mt), China (6,000 - 10,000mt), Taiwan (5,000 - 8,000mt), with market demand now exceeding Europe. China has seen a significant expansion in upscale seafood restaurants leading to large scale increase in demand for red meat tuna. This demand is likely to continue to strengthen. Almost all the sashimi tuna markets in China are ULT/frozen, but an impediment to growth is likely to be a lack of a reliable cold chain as well as poor handling practices and a lack of experience in seafood (Hamilton et al., 2011). A further constraint in accessing the Chinese market is a 12% import duty. ASEAN countries, including Indonesia, Vietnam and Philippines enjoy duty free access.

**EU**

The EU market accounts for around 4,000 - 8,000mt and is historically supplied by the Indian Ocean and Atlantic. However, there are signs of ULT products entering the market with improved facilities now established in UK, Belgium, Netherlands and Spain (Hamilton et al, 2011). Once defrosted, ULT products can be legally sold as fresh within Europe.

**Australia and New Zealand**

Development of fast food retail sushi outlets in Australia and New Zealand has led to a growth in demand. Relative to other markets, these markets are small, but should not be overlooked especially with their proximity, and freight rates being lower. Product forms sold to Australia may vary. Sydney readily accepts G&G, but other Australian markets, particularly those processing for the supermarket trade, prefer H&G. This is also a popular option because of lower freight costs, and lower degree of scrutiny by the Australian Quarantine Inspection Service (AQIS) as a ‘semi processed product’ (Maurice Brownjohn, pers comm, July 2012).

A summary of prices, costs and comparative ex-vessel prices are illustrated for the range of sashimi products, using Fiji as the base price index. Prices inevitably variable based on changed in supply and demand, as well as the economic climate (exchange rates).

Table 11: Assessment of price and cost variables for albacore (US$ /kg)

| **Country: Fiji** | **Market price** | **Labour & packaging** | **Freight cost (and specification)** | **Tariff/handling charge** | **Net price** | **Conversion** | **Ex vessel price** | **Ranking above/below canning price** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Albacore*** | | | | | | | | |
| G&G air freight (Japan) | 9.9 | 0.62 | 2.27 | 0.5 (5%) | 6.51 | 6% | 6.12 | 1 |
| H&G super-frozen (China) | 7.8 | 0.62 | 0.9 | 0.95 | 6.26 | 16% | 5.90 | 2 |
| G&G air freight (Australia) | 7.9 | 0.62 | 1,14 | 0% | 5.89 | 6% | 5.54 | 3 |
| G&G super-frozen (Japan) | 6.7 | 0.62 | 1.0 | 0.33 | 4.77 | 6% | 4.29 | 4 |
| H&G air freight (New Zealand) | 6.8 | 0.62 | 1.51 | 0% | 4.68 | 16% | 4.4 | 5 |
| H&G super-frozen (USA) | 6.2 | 0.62 | 0.91 | 0% | 4.7 | 16% | 3.92 | 6 |
| H&G air freight (USA) | 7.2 | 0.62 | 2.07 | 0 % | 4.49 | 16% | 3.77 | 7 |
| H&G super-frozen (UK) | 6.2 | 0.62 | 1.74 | 0 | 3.84 | 16% | 3.23 | 8 |
| H&G air freight (UK)- | 7.2 | 0.62 | 3.36 | 0 | 3.83 | 16% | 2.01 | 9 |
| ***Yellowfin/bigeye*** | | | | | | | | |
| G&G air freight (Japan) | 14.6 | 0.62 | 2.1 | 0.6 (5%) | 11.1 | 6% | 10.5 | 1 |
| G&G super-frozen (Japan) | 11.0 | 0.62 | 1.0 | 0.44 (5%) | 8.9 | 6% | 8.4 | 2 |
| G&G air freight (Australia) | 9.5 | 0.62 | 1.5 | 0% | 7.34 | 6% | 6.9 | 3 |
| G&G super-frozen (Australia) | 7.6 | 0.62 | 0.3 | 0% | 6.68 | 6% | 6.3 | 4 |
| H&G super-frozen (UK) | 9.15 | 0.62 | 1.74 | 1.05 | 6.37 | 16% | 5.35 | 5 |
| H&G super-frozen (China) | 10.0 | 0.62 | 0.9 | 2.5 | 5.99 | 16% | 5.03 | 6 |
| H&G air freight (UK) | 10.6 | 0.62 | 3.36 | 1.22 | 5.44 | 16% | 4.57 | 7 |
| H&G super-frozen (USA, Los Angeles) | 6.4 | 0.62 | 0.9 | 0% | 4.9 | 16% | 4.1 | 8 |
| H&G air freight (Los Angeles, USA) | 7.5 | 0.62 | 2.1 | 0% | 4.81 | 16% | 4.0 | 9 |

Source: Trading prices, FTBOA.

The above illustrates both the relative opportunities and constraints for the albacore and yellowfin / bigeye tuna. The products are ranked based on the ex-vessel price, with all the costs absorbed.

* Japan consistently represents the strongest market for air freight and super-frozen for yellowfin/bigeye and albacore. Its only constraint is the higher risk of product rejection for poorer quality. These issues should be resolved at the grading end. Air freight yields higher prices, but may be prohibitive when freight costs are included (Figures 13 and 14);
* Air freight yellowfin to the Australian market provides a good opportunity for yellowfin. The yellowfin market appears to be as lucrative as sales to Japan, if not greater, and producers as less susceptible to risk. The Australian market for albacore has not developed to any great extent, but may well do so, in line with the development of sashimi products.
* The US market appears to be show stronger potential for albacore, with prices for yellowfin/bigeye, only marginally higher. USA nevertheless, represents a good opportunity, but prices can be considerably lower than Japan. Super-frozen may represent a better opportunity, given the lower container freight rates. However, as stated above, the cold chain system has yet to develop to its full potential.
* China (and possibly Taiwan and Korea) represents potentially a very good opportunity for whole fish sales. Elimination of China’s tariff rate of 25% as part of any would be access arrangement could elevate market potential considerably to just below that of Japan.
* The EU becomes to look more of attractive option for super-frozen product But prices for albacore and yellowfin currently fall short of US market prices. It should also be noted that EU prices are depressed at present because of the strength of the US$ relative to Euro.
* The move to super-frozen does provide for greater potential in accessing various markets, at more competitive transport rates.

The above, is only indicative, as prices are based on the most current period (Jan-March 2012), and demand characteristics may change as economies begin to come out of recession; the above does suggest at least, in the case of sashimi, a strong focus needs to maintained with Japan, but also ensuring prominence for continuation of US trade concessions, and effort placed into removing the tariff barrier in China.

The effects of these prices are reappraised for each of the MSG countries based on the principal costs (labour and packaging, freight, tariffs) against the sales price for each commodity. When the fish balance (after deduction of costs) is above the canning price line, albacore G&G and H&G are a possible option. Figure 13 provides a similar assessment for albacore and Figure 14 for yellowfin and bigeye. The diagrams show that:

* Fiji is able to capitalise on its relatively low freight rates to take advantage of all sales options for albacore and yellowfin and bigeye.
* G&G (Japan and Australia) provides positive options for all countries, especially for yellowfin. Japan being the lucrative market for A+ quality, whereas Australia tends to be less discerning);
* Direct air freight to Japan is only possible for Fiji and PNG, but passage through Australia is fairly competitive at US$2/kg;
* The Solomon Is appears to have particular disadvantages for air freight costs, albeit that it also has direct linkages to Brisbane and Sydney, the same as Vanuatu, which is however able to air freight at 38% of the cost!
* Air freighting yellowfin / bigeye tuna from Vanuatu and Solomon Is to Japan becomes more realistic as an option, but ULT would provide a more lucrative option.
* Air freighting to USA is only realistic for Fiji, or but may be possible for short haul flights such as Australia in the case of other countries.

Figure 13: Estimated albacore whole product opportunities based on price and cost variables (US$/kg)

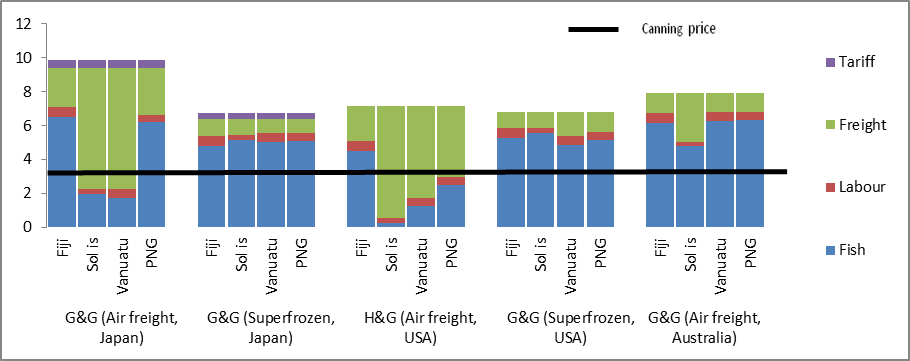


Figure 14: Estimated yellowfin and bigeye whole product opportunities based on price and cost variables (US$/kg)

The following would be the anticipated ex-vessel prices

Table 12: Summary of projected ex-vessel prices (whole fish) (US$/kg)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Product | Albacore | | | | Yellowfin/Bigeye | | | |
| Fiji | Sol Is | Vanuatu | PNG | Fiji | Sol Is | Vanuatu | PNG |
| G&G (air freight, Japan) | 6.1 |  |  | 6.3 | 10.5 | 6.3 | 6.1 | 10.2 |
| G&G (super-frozen, Japan) | 4.0 | 4.4 | 4.2 | 4.6 | 7.5 | 8.8 | 8.0 | 8.7 |
| H&G (Air freight, USA) | 3.8 |  |  |  | 4.0 |  |  |  |
| H&G (super-frozen (USA) | 4.4 | 4.7 | 4.1 | 4.3 | 4.1 | 4.8 | 4.0 | 4.1 |
| G&G (air freight, Australia) | 5.2 | 4.0 | 5.3 | 5.3 | 6.2 | 5.3 | 6.6 | 6.7 |
| Shaded areas = US$ < 3.4/kg (canning price) | | | | | | | | |

### Fresh and frozen loins

**Japan**

Other preferences include processed sashimi saku blocks (pre-cut loins that are later sliced into sashimi), or as tataki (loins, slightly seared on the outside). The latter sashimi elements are reserved for slightly lower quality yellowfin and bigeye. However, albacore is becoming increasingly popular as low value sashimi (‘poor man’s toro’), now accounting for two thirds of tuna sales through supermarkets.

**USA**

US demand is also strong for supermarket and food service sushi items for both yellowfin and albacore. Sales of tuna in 2009 were estimated to be around 27,000mt, with more indications of a fairly rapid growth in demand (Hamilton et al, 2011). There is now extensive use of carbon monoxide treated tuna (CO). The CO, the use of which is prohibited in Europe, Japan and Australia, enhances the red colour of the tuna product, which consumers associate with good quality. Product sales are either 3-5 and 5-8 lbs, tail part cut to 5 cm diameter, belly-off CO treated albacore loins, as well as frozen product packed (IVP: Individual Vacuum Packed) in 30 lbs net weight boxes shipped in 40ft reefer containers (ANOVA, 2012). There is only a small relative difference in price for yellowfin from albacore (around 3-5%). The US albacore loin market is regarded as stronger than others, e.g. Europe, because prices have been historically stronger, and transport costs, considerably more advantageous.

**EU**

In contrast the EU market for loins is lower than US, around 8,500mt. The main imported product is chilled, vacuum packed, skinless and boneless yellowfin tuna loins sourced from the Indian Ocean, but with around 800mt of albacore loins sourced from French Polynesia. The product price differentials between yellowfin and albacore are significantly greater than in the US (nalyserox. 26%).

**Australia and New Zealand**

New Zealand offers a ready market for albacore loins. Prices are around US$ 11/kg, which are higher than prices in the USA. Albacore loin sales in Australia have yet to take off. Loins have been sold for US$ 8/kg and there has been some interest from Australian supermarkets, but other more lucrative markets are preferred, not least because Australian supermarkets are renowned for absorbing the margins, and show some preference for domestic supplies.

There has also been a slight downturn in demand from specific markets, UK, Spain and France. Market demand in the EU is considered at capacity because of competition from other products, including alternative seafood, and partly as a response to the recession, hence the prospects for higher value niche markets. The prospect of MSC certified albacore, has heightened an interest in albacore loins to UK and Dutch wholesalers specialising in MSC sourced products (Hufflett C, pers comm, April, 2012).

The diagrams (Figures 15 and 16) shows that:

* Australia represents a potential market for albacore, whilst Europe is only marginally above the canning equivalent, and margins are significantly lower than sales to the US. New Zealand shows relatively good prices, but the market is very small;
* Yellowfin loin markets in New Zealand Australia tend to outperform tataki sales to Japan;
* The US loin market prices are lower than others, but as with US providing the more stable sales option;
* Selling to the EU is only of marginal interest, with the current exchange rate differentials, high transport costs and higher prices in the US.

Figure 15: Estimated albacore loins product opportunities based on price and cost variables (US$/kg)

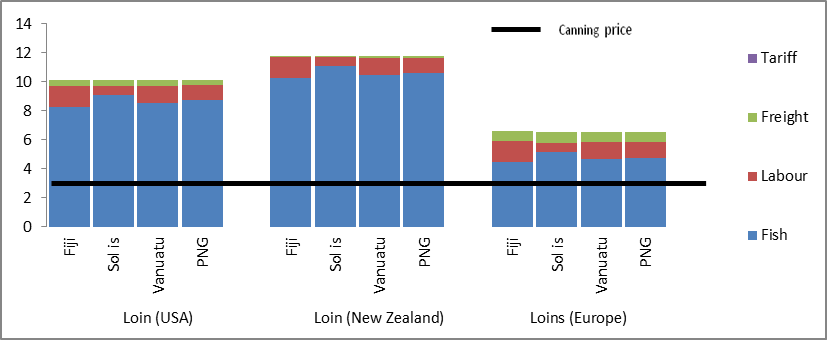
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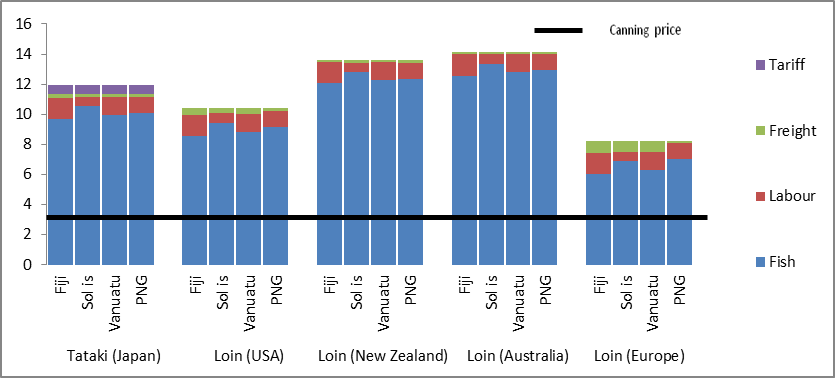
Figure 16: Estimated yellowfin and bigeye loin product opportunities based on price and cost variables (US$/kg)

Table 13: Summary of projected ex vessel prices (loins) (US$/kg)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Product | Albacore | | | | Yellowfin/Bigeye | | | |
|  | Fiji | Sol Is | Vanuatu | PNG | Fiji | Sol Is | Vanuatu | PNG |
| Tataki (Japan) |  |  |  |  | 5.8 | 6.3 | 6.0 | 6.1 |
| Loin (USA) | 5.0 | 5.5 |  | 5.2 | 5.1 | 5.7 | 5.3 | 5.5 |
| Loin (New Zealand) | 6.2 | 6.6 | 4.2 | 6.4 | 7.2 | 7.7 | 7.4 | 7.4 |
| Loin (Australia) |  |  |  |  | 7.5 | 8.0 | 7.7 | 7.8 |

### Cooked loins and canned product

The canned product represents a relatively low cost source of protein, and is traded as a high-volume, low value and low margin commodity. Approximate estimates of product currently sourced as ‘white meat’ (albacore) from the Pacific region is between 35,000-40,000mt. The region has sufficient capacity to process all of this product, with two fully operational factories within the MSG region, Soltai and PAFCO, collectively with the capacity to process around 40,000 tonnes, with two additional canneries in American Samoa with production capacities of 100,000mt each (Starkist and Chicken of the Sea). PNG also offers additional opportunities with eventually up to 6 canneries based in Madang and Lae. In practice, various carrier companies act as intermediaries and supply the canneries under contract inside and outside the region. As mentioned earlier, FCF source from the Taiwanese fleet under contract to Bumble Bee and supply PAFCO, but also contract directly to loining plants in China and Vietnam (Hamilton et al, 2011). FCF also provides support services such as provisioning, logistics, bunkering and transhipment.

TMI operates its own carrier fleet, again with strong linkages to particular longline groups from China and Taiwan, supplying to their two factories, Soltai and Samoa Tuna Processors (formerly, Chicken of the Sea, American Samoa). The focus of TMI’s white meat operations are likely to be in the production of cooked loins through Soltai, but also fresh chilled and frozen longline tuna from both its plants, capitalising where appropriate, on higher quality product for the US and other markets. The distinction that TMI has, from FCF, is that its operations are vertically integrated, through to producing a finished product. It is therefore able to undertake varying degrees of processing operation throughout the range of its corporate structure.

White meat canning operations in Fiji and American Samoa have historically been operating at a loss. The Soltai plant has also been unprofitable, but up until early 2012 had not processed white meat. Since attaining a majority shareholding in the company, TMI has recruited a team of internationally experienced managers to improve production efficiencies (Dorku, T., pers comm, December). A critical factor is that all plants are expected to compete against Thailand which can sustain profits through large turnovers. Solomon Is, and to a lesser extent PNG, have low costs of labour, and are below the Pacific island average (Table 9). An added advantage is that labour cost effectiveness is enhanced as a result of the high product yield around (54%-58%) from albacore, relative to other tuna species such as skipjack.

The US market for canned albacore is the preferred market, for the reason that it has been historically stable, with limited fluctuation in prices. This is largely in response to a stable supply situation. Soltai is also looking to exploit higher value white market outlets which reflect product quality, for example non-use hydrolising protein (Dorku, T.). Solomon Is enjoys duty free access to US markets. Fiji and PNG are subject to varying degrees of duty depending on the type of product. Cooked loins sold to the USA are duty free, whereas canned products face duties of between 6% (tuna in brine) and 35% (tuna in oil). Hence, there is a strong preference towards the production of cooked loins, or tuna in brine.

EU canned albacore prices have tended to fluctuate to a larger extent, heavily influenced by shortages in supply from domestic fisheries. This has increased the demand for cooked loins from the Pacific, and some raw unprocessed raw material, e.g. including some supplies from Fiji and New Zealand albacore. However, any would be benefits of a price rise may have been reduced by the weaker Pacific Island currencies and the US$ relative to the Euro. The survival of EU-based canned tuna processing firms will continue to depend on tariff protection against low cost imports and cost reduction strategies. However, given shortages of supply, EU companies may be keen to receive cooked loins.

The position of PAFCO is somewhat troublesome. The plant’s modus operandi is based on orders from Bumble Bee and sells at a rate of US$590/mt (processed loin weight). Were it to operate at full capacity, its operating costs would be roughly equivalent to those of Soltai’s, with Fiji’s high labour costs offset by the relative cost savings in power. However, the plant also faces operational constraints, with a lack of cold storage, and is restricted from any engagement in additional contracts outside of Bumble Bee’s operation.

An assessment of the comparative costs of canning from MSG plants against efficiencies in Thailand (i.e. low wage rates relative to MSG, higher yields, low power costs and some economies of scale) shows how critical it is for MSG plants to receive the duty exemption for the EU and US markets, the EU providing advantage through the Economic Partnership Agreements; and US, advantage through ‘Most Favoured Nation’ (MFN) status, though currently only Solomon Is is eligible .

The tariff of 24% on Thai canned tuna entering Europe provides a competitive price advantage to MSG countries. This requires MSG nations to sign up to the EPA/Interim Economic Partnership Agreement.

Receiving MFN would narrow the Thai advantage for access to EU markets to within 8% for Fiji and 4% for PNG.

Solomon Is as an MFN is able to supply product at marginally above (1%) of the Thai sales price into the US.

Bearing in mind that supplies are largely generated from DWFNs, the issue of global sourcing is critical.

Table 14: Comparative costs and margins in MSG canning, as compared with Thailand

| Price factors | **Solomon Islands** | **Fiji** | **PNG** | **Thailand** |
| --- | --- | --- | --- | --- |
| Fish Average Price (US$/mt) | 3,200 | 3,200 | 3,200 | 3,200 |
| Total fish cost | 3,200 | 3,200 | 3,200 | 3,200 |
| –y - Product Credit | - 52 | - 52 | - 52 | -70 |
| Freight Saving | 72 | 72 | 72 | 252 |
| Net Fish COST | 3,220 | 3,220 | 3,220 | 3,382 |
| Recovery | 0.54 | 0.54 | 0.54 | 0.58 |
| Cost per cleaned ton | 5,963 | 5,963 | 5,963 | 5,831 |
| Cost per kg | 5.96 | 5.96 | 5.96 | 5.83 |
| Cost per gram | 0.00596 | 0.00596 | 0.00596 | 0.00583 |
| Grams per can | 144.00 | 144.00 | 144.00 | 145.00 |
| Fish cost per can | 0.86 | 0.86 | 0.86 | 0.85 |
| Fish cost per case (48) | 41.22 | 41.22 | 41.22 | 40.58 |
| Can Costs/case | 6.25 | 5.75 | 5.75 | 3.98 |
| Other Packaging/case | 1.56 | 0.32 | 0.6 | 0.6 |
| Conversion Costs ( labour)/case | 4.23 | 9.76 | 7.24 | 4.90 |
| Full product Costs FOB | 53.26 | 57.05 | 54.81 | 50.06 |
| Ocean freight | 1.25 | 1.25 | 1.25 | 0.9 |
| CFR EMP port | 54.51 | 58.30 | 56.06 | 50.96 |
|  |  |  |  |  |
| Duty (6% for USA) | - | (3.36) | (3.36) | 3.06 |
| CFR US MP port duty paid | **54.51** | **58.3** | **59.42** | **54.02** |
| Duty (EU 24%) Thailand | **(11.17)** | **(11.95)** | **(11.49)** | 12.23 |
| CFR EU MP duty paid | **54.51** | **58.3** | **56.06** | **63.2** |

Note (): assumes tariff levies but with exemption

Source: Extracted from processing plant information (TUF, PNA and TMI)

# Sector development opportunities and constraints

## The fishery sector

### Pacific islands domestic vessels

The main economic variables associated with the business are catches, catch composition, utilisation of the catch, prices, and cost of inputs, mainly fuel and bait. A brief review of these illustrates the following:

* Catches, especially the target species, have been falling. The reduction in catch may have in part been addressed by increasing the number of hooks per set, which in fact masks an even bigger decline in CPUE.
* Catch composition has seen an increased reliance on albacore and bycatch species, and a loss in yellowfin and bigeye tuna in response to stock depletion issues.
* Prices have been increasing steadily, but more important has been the change in focus, away from product destined for canning to sashimi product.
* Fuel prices have fluctuated and reached a high in 2008 but fell thereafter.
* Bait prices vary based on availability and source. Sardines are the preferred bait for albacore which is about 50% of the price of squid. The former is used to target albacore, the latter, more when seasonal fisheries include larger proportions of yellowfin.

Input taxes cited by the domestic Fiji based industry range from 2% import duty on fuel to around 5% for capital items. Clothing, such as wet weather gear is taxed at 32% (Radhika Kumar, Solander, pers comm, April, 2012). Bait is usually duty free. A Gross Sales Tax (GST)[[6]](#footnote-6) is paid on all imported products and consumables and refundable. GST rebates are reportedly very slow, causing cash flow problems for the sector.

PNG-based vessels are charged 10% on the price of goods (GST). Duty on fuel is reported at US$0.015/litre, irrespective of the fact that it is refined in PNG (Blaise Paru, pers comm, April, 2012).

Consultations held with industry members and lending institutions indicated several points that were found to be consistent across all parties consulted. Where fisheries development loans had been available in the past, they had not been successful from a development or viability perspective. Additionally, loans made available with funds for general industry have had mixed results.

The National Development Bank of PNG currently provides loans for general development – considering all sectors of the economy – but also provides micro-financing for coastal communities’ fisheries development projects. When discussing fisheries-related loans, it was stated that often repayments needed regular following up by Development Bank staff. Loans are currently provided at 10% pa but through funds borrowed at 7.9%[[7]](#footnote-7) - indicating a 2.1% spread. This has led to losses on overheads for the Development Bank and has created suggestions a standard rate of 15% would be required. It was estimated that 6.4% would be required to meet overheads.

Whilst funds under these conditions are available for application, consultation with industry members has suggested that they are not usually taken advantage of.

A fisheries-specific fund has also been made available in the past to Fijian fishing industry members offered through the Fijian Development Bank (FDB). Media releases[[8]](#footnote-8) and industry anecdotal evidence suggests that this fund has also not been successful. The loans were provided on an interest-free basis and had high rates of defaulting. These experiences are consistent with those from national development banks of other PICs indicate similar experiences; loans to the fishing sector are high risk and are rarely provided.

This is not to say hat the structure of the existing domestic fleets exhibit the same negative characteristics. These companies opt to borrow from commercial banks. However, because of a lack of security, access to finance is a major constraint for the fishing industry. A number of issues were raised by vessel owners: lack of security, with some vessels allegedly uninsured, lack of long term licence tenure, duty on imported products (increasing costs) and high interest rates. Commercial bank interest rates were quoted as between 14 and 18%. Some duties have since been removed, and in the case of Fiji, licences are now allocated to the domestic industry for a guaranteed period of three years. A recommendation Is provided under section 8 dealing with themes.

Grants have been made available to the Fiji industry to support the purchase of equipment required to meet EU PSP standards.

The development scenario for the domestic industry is to maximise its economic returns through transition to higher value products, particularly sashimi albacore, yellowfin and bigeye, and a gradual down-sizing of sales to canneries. Japan and USA are seen as the primary market outlets. Product sales are expected to focus high quality fresh fish product air freighted to the main markets, or rapid frozen product transported using super frozen containers.

The main focus for Fiji’s domestic business development is to significantly improve the handling of product on board the vessels with a transition to using Ultra Low Temperature (ULT) freezing technology. This requires careful attention to fishing techniques, crew handling practices, and investment in on board freezing technology. Vessel investments are required up to US$125,000 to include freezing technology, and the installation of an auxiliary engine. Also required is considerable investment in on-board training of crews to ensure high level handling practices.

The main risks associated with these activities are:

* The vulnerability to changing prices at wholesale markets, particularly in Japan (Russell Dunham, Fiji Fish, pers comm April, 2012);
* Changes in the cost of air freight, especially, if costs rise along with increases in fuel prices;
* Intermediate to high levels of crew turnover.

The development of ULT freezing, has more recently changed the dynamics of trade, with reasonable margins to be had from Super-frozen, as opposed to air freight, consignments. However, the lack of a cold chain in some of the major markets, USA, China and Australia, may be a limiting factor.

High crew turnover may be a problem at times, but wages from fishing are attractive, and domestic companies maintain a pool of national labour to cater for ‘no shows’.

Stakeholders from FTBOA cite concern about fleet expansion beyond limits as laid down in the National Management Plans as a critical factor, as well as uncontrolled fishing in other EEZs and on the High Seas. Particular concern on the subsidies available to Chinese vessels, and this fuelling fleet expansion, is a major worry for fishing vessel owners. This view is not shared by the Fiji Offshore Fishing Association (FOFA), the other association, which relies heavily on product sourced from foreign owned vessels.

### Locally based foreign vessels

Experience with the domestically based foreign sector varies between the MSG countries. Vanuatu charges no duty on vessel input costs. In contrast, Solomon Is charges a fuel tax of 10 cents/litre, and 15% GST. As referred to earlier, the cost of fuel in the Solomon Is is 42% above the price in the Fiji (Phil Roberts, pers comm, May, 2012). GST is also charged on consumables making Solomon Is the most expensive of the four locations, and reportedly a disincentive to land fish over and above the preferred location of Fiji (Tony Ting, pers comm, April, 2012). Fiji also offers the additional incentive of good repair and maintenance facilities.

### Onshore processing

As Table 14 shows, PNG and Fiji Is are broadly competitive with foreign based competitors; the same might be the case for the Fiji cannery were it able to operate on a full time basis. The process of seeking exemptions in Solomon Is is not automatic and requires the support of a business plan and investment strategy, and then going through a rather laborious process in securing an agreement on tax concessions with the Ministry of Finance. The major issues facing processors are tariff differentials (Section 7.2.2 below) and the need for a favourable investment climate. PNG and Fiji offer a range of measures to encourage outside investment. Such incentives have attracted Chinese investment into Fiji, and wider international investment into PNG.

Box 7: Financial tax exemptions offered to PNG and Fiji fishing businesses

|  |
| --- |
| **Fiji (all marine resource businesses)**   * Income tax holidays for new businesses for a period of 5 consecutive years (for investments under US$ 500,000), 7 consecutive years (US$500,000 to US$1 million), and 13 consecutive years (US$1 million or greater); * Investment allowances -100% for food processing on capital expenditures excluding land or buildings; * 60% deduction on investment allowances; * Accelerated depreciation; * Loss carried forward; * Duty exemption on imported inputs when used to support manufacturing; * Tax free regions, including Levuka;   **PNG (Processing only)**   * Full exemption from payment of the local regulatory fees and business taxes; * Full exemption from payment of real property tax imposed based on the revenue code of PNG; * Full exemptions for import duties and taxes on the installations and maintenance of fishing equipment, engines, packaging materials and processing plant facilities; * During construction, allow duty free importation of the imported equipment needed for the plant; * 100% deduction for expenditures in developing the land for the plant; * 100% depreciation rate and or accelerated depreciation for the plant and equipment; * A five year corporation tax holiday for manufacturing activity involve in down-stream processing of natural resources, product of which is intended for export; * Tax exemptions for the interest payment to foreign financiers; * Double deduction from income tax for expenses incurred in the companies training program; * Wage subsidy and Staff Training Levy applicable to the canning Industry. |

**Source; PNG National Fisheries Authority and MFF, 2011**

A comment from the PNG industry is that larger companies (and foreign investors) might get concessions because of volumes and strategic importance, but smaller/medium sized operators, and existing players do not get concessions on new investments.

## Accessing markets with high price premiums

### Food safety issues

A further development aspiration is to upgrade vessels, onshore freezing and fish processing facilities for eligibility to export to EU and North American markets. Investments in this area focus on upgrading vessels and onshore handling infrastructure to be compliant with EU and Food and Drug Administration (US) (FDA) legislation. EU legislative requirements are reported to be more stringent, but equally FDA requirements increasingly require the same standards, and without implementing the EU measures, product could well run the risk of rejection by US Veterinary inspectors. All products entering the US are subject to an array of tests including histamine, metals, retort[[9]](#footnote-9) and other potential contaminants.

Expenditure required to support fishing vessel investments to be compliant in these processes are reported to be between US$35,000 (Gillett, 2011) and US$ 120,000 (C. Hufflett, Solander Pacific, April, 2012). Principal expenditures relate to fibre glass coating surfaces, installing temperature probes on board vessels and retaining temperatures at minus 18 to 30°C, and good product storage life, assuming good packaging to prevent oxidation and dehydration.

Meeting phytosanitary conditions also requires inbuilt food testing procedures in plants, and approval and regular testing by national competent authorities. This therefore adds to the cost of equipment, administration and training for both the private and public sector. Testing facilities for histamine, basic PSP contaminants and for heavy metals (cadmium and mercury) are available via NFA in Port Moresby and Lae. The University of the South Pacific also has the facility to test for microbiological but not for heavy metals.

However, it is arguable that most markets require high quality products, and not having such systems in place increases the risk of consignments being rejected. Therefore, a “do nothing” scenario from a vessel perspective, is not really an option. Box 8 below summarises some of the basic requirements to satisfy food safety legislation.

Box 8: HACCP requirements in the three major export markets

|  |  |
| --- | --- |
| USA | Importer and Exporter must both have a HACCP Plan. |
| US Importer required to verify to FDA that fish is processed under an effective HACCP plan. |
| US requires assurance that HACCP programmes of exporters are equivalent to the US system. |
| Exporting country must have an active Memorandum of Understanding with the FDA covering fish and fishery products and documents to verify equivalency of the inspection system (laws, controls on inspection to assure equivalency). |
| A written verification of procedures from an exporter is required, stating that fish were treated with specific requirements and that the product was not contaminated. |
| Temperature control is the main aspect of HACCP in fresh fish exports. In tuna, histamine levels increase with increase in temperature. If temperature is above 4.4°C, 40°F, quality and safety may be questioned. |
| Fish processed without a HACCP Plan is deemed contaminated by the FDA. |
| EU | The EU authorises 3rd countries for imports of seafood based on the principles of equivalence if they match the same general principles of food law, food safety and Competent Authority performance as exist in the EU. These principles are laid out in Council Regulation 178/2002, the consolidated hygiene Regulations 852/2004, 853/2004 and 854/2004, and the official food and feed control Regulation 882/2004. (These conditions include HACCP). |
| The Competent Authority (CA) of the authorised 3rd countries must then “approve” all food business operators in the progression from “raw material to product” in regards compliance with the specific EU legislation applicable. The establishments at the end of the chain (those that export directly to the EU) are to be included on a list of establishments authorised to receive a health certificate for their products. |
| Exports must be accompanied by a EU prescribed model health certificate stating the health conditions of production, handling, processing, packaging and identification as required by the EU standards. |
| While Commission Regulation No 1666/2006 provides for the situation of “non authorization”, via individual bilateral arrangements of the 3rd country with each individual EU Member State whose market it wants to access, it will need to provide appropriate EU required guarantees to the importing Member State and apply the same model health certificate required by the EU. Furthermore, the country of destination needs to implement appropriate measures to ensure that the products do not enter intra-community trade. *The EU has not clarified the potential implementation arrangements option and no country has yet pursued it*. |
| For an analytical result to have “official” validity, the CA must have access to laboratories accredited to ISO/IEC 17025 for the parameters to be tested. |
| Japan | HACCP principles & practices incorporated into the Food Sanitation Law & Quarantine Law. |
| Importers must submit 'notification of importation of food' to the quarantine station with details of the product (including whether it has any additives). |
| Strict inspection & product check is carried out by Japanese Customs before products are released. |

Source: Campling et al (undated)

Because of the commercial risks associated with non-compliance with food safety standards, private sector deficiencies in the area of application are note easily apparent. The main issue is whether the companies can bear the cost, or look to exploit markets where the application of standards require lower levels of investment and do not require the support of a competent authority. This has been the choice made by some domestic operators in Fiji, with some vessels not HACCP or EU standard approved[[10]](#footnote-10). There are currently 7 tuna longliners certified for export to the EU (3 Golden Ocean, 4 Solander), with several vessels in transition to approval, but the pace of transition is slow as operators focus on other more lucrative markets. At present, given the marginal prices available in Europe, allied to the high costs of transport, the costs of supplying the EU market, with the added requirement of providing a competent authority are too high for the longline sector.

Other risks associated with food safety relate more to ensuring that the Competent Authority and other institutional support requirements are in place (Doherty, 2010) to support EU Food Safety standards. These include the following, which are further addressed below under institutional support requirements:

* Lack of training in Good Manufacturing Practices (GMP) and Hazard Analysis Critical Control Points (HACCP);
* The absence of comprehensive operational manuals and guidance related to inspection procedures at landing sites, sampling, recording and documentation for traceability and auditing of GMPs and HACCP in fish establishments;
* No monitoring programme for pesticides, bio toxins and heavy metals or other residues defined or implemented for fisher products;
* Out of date regulations that fail to meet the current fish industry and international markets requirements, such as no HACCP requirements or undefined legislation related to water quality;
* Ineffective enforcement of regulations both at the source of the problem and, in the case of non-compliance, in courts;
* Inconsistent interpretation of the requirements;
* The National Food Control System Infrastructure and laboratories with out-dated equipment and staff not fully trained in Good Laboratory Practice (GLP);
* Poor access to microbiological and heavy metal testing facilities;
* Landing sites without proper hygiene facilities;
* Inadequate cold storage and at the point of export (e.g. airports);

### Tariff barriers

**EU**

In September 2004, the EU and 14 Pacific ACP countries, including the MSG countries, opened negotiations on an Economic Partnership Agreement (EPA), which should eventually replace the preferential access scheme contained in the Cotonou Agreement that expired at the end of 2007. These negotiations target an ambitious and development-oriented arrangement, which should promote regional integration and economic development, policy reform, and sustainable management of resources, such as fisheries, and thus also help to reduce poverty. EPA negotiations entered a crucial phase during 2007, as the deadline jointly set by the World Trade Organisation was approaching. Under time pressure, negotiations focused on preserving ACP market access and complying with the parameters for a World Trade Organisation (WTO) compatible free trade area (as per Article XXIV of General Agreement on Tariffs and Trade (GATT)). Papua New Guinea (PNG) signed the Interim Economic Partnership Agreement (EU/IEPA, 2008), but other Pacific ACPs (PACPs) have not signed onto the EPA. PNG was anxious to avoid trade disruption with the EU as of 1 January 2008 and to benefit from preferential tariffs as has historically been the case for canned tuna (HS code 1604) and new favourable rules of origin for canned tuna offered by the EU in such context. EPA tariffs provide the main margin of preference available to signatories of the PACP EPA, but the IEPA only provides for global sourcing under the Rules of Origin (RoO[[11]](#footnote-11)). Negotiations for a comprehensive EPA with all PACP countries are still in progress, but delayed in part by the desire by the PACPs to include HS Codes 0304/5[[12]](#footnote-12), largely because long-term opportunities for PACPS that may not be exporting at present. Many smaller PACPS see a potential benefit from the extension of ‘global sourcing’ to these products, as they do not currently have onshore canning facilities. Fresh chilled ‘fillets’ and ‘meat’ of all species and frozen tuna ‘fillets’ offer the most attractive tariff advantage to PACPS under EPA and Everything But Arms initiative (EBA) treatment.

Table 15: Current PACPS treatment under EU preference schemes

|  |  |  |  |
| --- | --- | --- | --- |
| **PACPS** | **EU preference scheme** | **PACPS** | **EU preference scheme** |
| Cook Islands | GSP | Palau | GSP |
| FSM | GSP | **PNG** | **IEPA** |
| **Fiji** | **IEPA** | Samoa | GSP |
| Kiribati | EBA | **Solomon Is[[13]](#footnote-13).** | **EBA** |
| Marshall Is. | GSP | Tonga | GSP |
| Nauru | GSP | Tuvalu | EBA |
| Niue | GSP | **Vanuatu** | **EBA** |
| IEPA = tariff preference available to PACPS that have initialled interim EPAs  EBA = Everything But Arms initiative for all countries categorised as LDCs  GSP = ‘standard’ GSP, available to all developing countries | | | |

Under existing rules, non IEPA countries, Solomon Is and Vanuatu being the only MSG countries listed, fall back on the “everything but arms” preferential access to the EU market. This does not contain the EPA rules of origin for processed fishery products, allowing for global sourcing.

Signing up to IEPA provides a far better prospect for MSG countries. PNG and more recently, Fiji’s IEPA status, has been subject to an intense amount of opposition lobbying from EU Spanish fishing and processing interests. The IEPA comes without access conditions. The prospect of including HSS 0304/5, as part of the IEPA, is therefore likely to meet with stiff resistance from Europe unless secured as part of exchange in access agreements. Presently RoO may however, still allow for access for 0304/5, duty free. Any new concessions may require ratification by the EU, as a requirement of the Lisbon Treaty.

An EPA text, once negotiated, may provide more onerous compliance issues. A specific area to watch for, is an attempt by the EC to secure access to country waters, in exchange for access to markets.

Some notable points need to be considered for continuing the focus on global sourcing:

* PACP EPA will ‘last forever’ and is of commercial value for at least as long as the EU preferences for fish products retain a competitive advantage. It cannot be withdrawn as is the case for GSP (Campling *et al,* 2008);
* Section 6.1.1 and 6.1.2 would appear to indicate that there are greater price and freight cost advantages to be had from supplying other markets;
* Transport economies, e.g. the requirement to fill containers, and prospective shortfalls in supply could be a critical impediment (Gillette, 2011);
* Competitor (Indian Ocean or Atlantic suppliers) costs for access to European markets are significantly lower;
* There may already be RoO systems (GSP) in place that can be lived with, without the various conditions, e.g. provision for offering reciprocal access rights (Campling, 2011);
* The cost of qualifying for European market access are high in terms of investment and administrative requirements, or is this a pre requisite to access to other markets where food safety standards may be as stringent (USA, Australia and Japan);
* Would global sourcing attract additional investment from outside the PACPs (Philipson, 2006);
* Is the appropriate CA in place to implement the required validation of food safety standards?

**USA**

The US applies a system of GSP, using a classification system, the designation largely based on protecting its industries, and employment, which would be threatened by value products. GSP ratings are designated A+ for Least Developed Beneficiary Developing (LDBD) countries, allowing duty free access for specified products, and A, allowing duty free for a more limited number of products.

Table 17: Current PACPS treatment under the US GSP scheme

|  |  |  |  |
| --- | --- | --- | --- |
| **PACPS** | **US preference scheme** | **PACPS** | **US preference scheme** |
| Cook Islands | GSP A | **PNG** | **GSP A** |
| FSM | Compact | Samoa | GSP A+ |
| **Fiji** | **GSP A** | **Solomon Is.** | **GSP A+** |
| Kiribati | GSP | Tonga | GSP A |
| Marshall Is. | Compact | Tokelau | GSP A |
| Nauru | Not listed | Tuvalu | GSP A |
| Niue | GSP A | **Vanuatu** | **GSP A+** |
| Palau | Compact |  |  |

Sourc[e: http://](e:%20http://)www.ustr.gov/sites/default/files/U.S.-Generalized-System-of-Preferences-Guidebook.pdf

Import commodities are classified by HS code and GSP concessions provided. HS 0304/5 products are duty free rated for all countries.

GSP A+ concessions are available for canned products in oil and not in oil, subject to specific anti-dumping rulings laid down by US Trade Representative Office[[14]](#footnote-14). An example of product from the Solomon Is can be found at <http://rulings.cbp.gov/index.asp?ru=n190437&qu=1604.14.1099&vw=detail>.

Otherwise products are subject to the following duty rates[[15]](#footnote-15):

* Tunas (HS 1604.14.10) in air tight containers, in oil, 35%;
* Canned tuna not in oil (HS 1604.14.22) and not over 7 kg each, for an aggregate quantity entered in any calendar year not to exceed 4.8 per cent of apparent United States consumption of tuna, 12.5%.
* In foil or other flexible containers weighing with their contents not more than 6.8 kg each (incl AlB), 6%.

These rates apply to PNG and Fiji and are subject to duty free tariff rate quota, but these apply globally to all commodity specific imports into the US, and are quickly filled (Len Rodwell, pers com, May, 2012). However, GSP A countries may be eligible to export product not in air tight containers (cooked loins). PAFCO stated that their exports to the US were duty free, but the author found no specific USTRO ruling for exports of albacore loins from Fiji.

It is noteworthy that countries can be reclassified, say for example in the context of US Multi Lateral Treaty (USMLT) negotiations, subject to the direct approval of the US President.

**Australia and New Zealand**

The South Pacific Regional Trade and Economic Cooperation Agreement (SPARTECA), and subsequently the Pacific Agreement on Closer Economic Relations (PACER), involves the two developed countries of the Pacific Forum, Australia and New Zealand, offering duty free and unrestricted or concessional access for products originating from the developing island member countries of the Forum. The agreement came into effect on 1 January 1981, and its objective is to achieve (progressively in favour of PICs) duty-free and unrestricted access to the markets of Australia and New Zealand over as wide a range of products as possible. There have been some problems associated with compliance with Australian Quality Inspection Service (AQIS)[[16]](#footnote-16) standards in terms of delays encountered and failure to fulfil residue requirements and micro biological limits (e.g. mercury and histamine). However, Australian assessments are now risk based, and certificates are provided to regular exporters. Hence, once established, accessing Sydney fish market is relatively straight forward. For fresh fish the first three shipments are destroyed during the testing process due to detention. However, to 10kgs qualifies as a commercial unit for testing. A single airway bill covering three sets of documents and three 10kg lots is a cost effective solution (M Brownjohn, pers com, July 2010).

**China**

There is also growing evidence of increasing demand in China (Hamilton et al, 2011). Access to the Chinese market is reported at 12% duty for all products (Dongming Xu, PPF, Majuro.pers comm, March 2012). This however, is against the background of duty free access for ASEAN countries, including Thailand into China. As per USMLT above, it would be advisable to secure concessions for access for sashimi type products into China, especially given the growth in Chinese longline effort within the region.

### Additional market requirements

**Japanese trading requirements**

Traders cite the volatility of the Japanese market and susceptibility to rapid fluctuation. Interviews with traders stress that the major reason for price volatility is due more to on-board handling, chilling, freshness levels, appropriate grading and suitable marketing. Market conditions and exchange rates are perceived to be of less importance (Banwell, K., T&F, pers comm, June 2012), though timing market access so that it coincides with lean seasons for domestic supplies from the (Brownjohn, M, pers comm, June, 2012) Japanese fleet, or Hawaii, or during Japanese festivals or bad weather, when the domestic fleet is tied up, will yield very high price premiums. Brownjohn also notes that during full moon, competing Asian supplies are also high, tending to depress the price.

Opportunities for South Pacific sashimi were cited as:

*‘Albacore, Great albacore (nice size and good coloI.....good opportunity here for live-on-line exports of the largest fish for fresh sashimi. Some quite nice yellowfin (if freshness is good) and smaller numbers of reasonable bigeye (although we have from time to time had some exceptional fish).*

**Marine Stewardship Council**

Operating in an environment of a Marine Stewardship Council (MSC) approved fisheries are also seen as an advantage. The Marine Stewardship Council provides an independent third party verification programme to demonstrate sustainable fisheries, and allowing fisheries to use a certificate as a marketing tool. Through an assessment process, originally based on FAO’s Code of Conduct for Responsible Fisheries (CCRF), MSC sets put standards to be used to evaluate performance of a fishery against specific fisheries and ecosystem based management principles.

A fishery is assessed by an Independent Certification Body (CB). As part of the process, the assessment is subject to public scrutiny, and if it passes the test, a certificate will be issued by MSC for a period of 5 years. As part of certification process, conditions may have also been laid down, and attainment of these conditions, are checked by the CB in an annual audit to ensure that the fishery is compliant.

The demand for the MSC albacore product comprises a number of distinct groups. Europe’s canning and steak market represents the main market. These European markets are prepared to pay a price premium for MSC product, but prefer pole & line caught product (Narin Chansiri, Thai Union, pers com. March 2012). The UK’s Sainsburys and Tescos were the main buyers[[17]](#footnote-17).

The MSC certified North American pole & line markets have also sold product into European canning markets at higher prices, e.g. to John West. Price premiums offered for MSC pole & line caught albacore, for Europe started at 28% above the conventional pole & line price in 2010, but by 2012 had fallen to 11% (Table 1). Narin Chansiri, Thai Union, predicts that price premiums will inevitably fall in response to the growing supply of MSC product, but the MSC label allows the product to penetrate newer markets, and would be easier to sell.

Table 18: Sales of albacore pole & line tuna (price/tonne)

|  |  |  |  |
| --- | --- | --- | --- |
| Year | Bangkok price (non MSC) | US MSC to Europe | % premium |
| 2010 | 2,650 | 3,400 | 28.3 |
| 2011 | 3,250 | 3,800 | 16.9 |
| 2012 | 3,650 | 4,050 | 11.0 |

Source: TUF

European and US frozen steak markets are also developing. French Polynesia’s main exporter, SARL Pacific (Jean-François Virmaux, pers comm, May, 2011) and Fiji Fish (Russell Dunham, pers comm, May, 2011), have confirmed strong and growing demand from a selection of US and European retailers and caterers, for market ready steaks of 6-8 oz (170-220 g). These companies report that buyers are seeking MSC longline-caught albacore because of its larger size, relative to the pole & line caught product, which is smaller. New England Seafoods (UK) and the ANOVA Food Group (USA and Netherlands), suppliers to the catering trade, suggest a strong demand for MSC albacore steaks when available. However, it is difficult at this stage to predict the size of the price premium that could be offered for certified longline albacore. An 11% differential over and above existing prices, will clearly provide for improved margins in accessing US markets, but will still prove a hard sell into Europe given the other constraints highlighted above.

Accessing new markets is also the experience of the New Zealand troll-caught albacore. New Zealand MSC albacore has succeeded in penetrating new markets, as an alternative supply to canning sector (Stuart Dixon, Talley’s, New Zealand, pers comm, March 2012), either through sales to intermediate processors in Thailand and Vietnam, or direct to France and Spain. The New Zealand Industry Albacore Association (Doug Louder, pers comm, March, 2011), was of the view that MSC certification increased the interest in troll-caught albacore, but, it was less evident that price premiums were paid. The product was sold at the conventional cannery price. However, this has also to be taken into the context of lower yields expected from the smaller sized NZ albacore. Thus demand has been strong despite the lower product recovery.

The North American market for canned albacore, has not shown any signs of demand for MSC canned product, and is perceived to be very unlikely to pay higher price premiums (Thomas Dorku, Soltai, pers comm, December, 2102). However, regional MSC product, if available, might facilitate market access.

The findings of the benefits of MSC from a market perspective are that:

1. There are likely benefits to be had in terms of using the MSC logo to generate market access;
2. Longline caught albacore produces a market ready product frozen steaks;
3. Europe may form the basis for future demand for MSC product, but supplying the European market comes with significant cost in both terms of cost competitiveness;
4. North America may provide an alternative market for MSC frozen steaks, but is probably less likely to generate the same kind of price premiums on offer from Europe;
5. A critical issue to consider is that as more and more albacore fisheries become certified, a ‘do nothing’ scenario could inevitably limit access to some of the main markets, i.e. Europe and North America.

Traders inevitably have to balance the costs of the Certification process (~US$ 150,000-US$ 200,000), against the benefits of access to these markets, and the availability of other markets that presently do not support the Certification process (e.g. Japan and China).

An assessment of the potential for passing MSC assessment is provided below. This is without prejudice to existing assessments in process, where specific domestic conditions might be sufficient to pass a fishery. The term ‘Below’ may not necessarily constitute a fail. It might require the setting of conditions.

Table 19: Fishery Assessment using MSC standards

|  |  |  |
| --- | --- | --- |
| Status | MSC Standard | Required action |
| TARGET SPECIES: ALB | | |
| The stock is at a level which maintains high productivity and has a low probability of recruitment overfishing | Above | Precautionary action to ensure that management limits are set as the stock approaches MSY |
| Limit and target reference points are appropriate for the stock | Below | An explicit Limit Reference Point should be set in management. Given localised overfishing and reduced CPUEs. |
| There is a robust and precautionary harvest strategy in place. | Below | A robust harvest strategy with Reference limits set to at least BMSY and implemented across the range of the stock (North and South of 20⁰S). Monitoring systems also need to be in place that can demonstrate the effectiveness of the strategy.  Apply clearly defined limits instead of blanket exemptions.  The lack of high seas control is a concern, and HS orientated fleets are unlikely to pass unless there is clear evidence of strong flag state control. |
| There are well defined and effective harvest control rules in place | Below | Specific in zone and High Seas Limits set to cover capacity, effort/and or catch |
| Relevant information is collected to support the harvest strategy | Meets | Accurate catch and effort data, especially in the context of Flag versus PIC records. |
| There is an adequate assessment of the stock status | Above | CMM compliance reporting |
| RETAINED SPECIES: YFT/BET | | |
| The fishery does not pose a risk of serious or irreversible harm to the retained species and does not hinder recovery of depleted retained species. | Below | All fishery participants are subject to the strategy.  Apply clearly defined limits instead of blanket exemptions. |
| There is a strategy in place for managing retained species that is designed to ensure the fishery does not pose a risk of serious or irreversible harm to retained species. | Below | All fishery participants subject to control limits  Apply clearly defined limits instead of blanket exemptions. |
| Information on the nature and extent of retained species is adequate to determine the risk posed by the fishery and the effectiveness of the strategy to manage retained species | Above |  |
| BYCATCH: SHARKS | | |
| The fishery does not pose a risk of serious or irreversible harm to the bycatch species or species groups and does not hinder recovery of depleted bycatch species or species groups. | Below | Effective bycatch mitigation measures implemented: Non retention  Strengthening in observer coverage  Strengthening reporting on the effectiveness of the measure |
| ENDANGERED, THREATENED AND PROTECTED: TURTLES | | |
| The fishery meets national and international requirements for protection of ETP species. | Below | Set marine turtles bycatch limits |
| The fishery has in place precautionary management strategies designed to meet national and international requirements | Meets | Strengthening in observer coverage  Strengthen reporting on the effectiveness of the measure |
| GOVERNANCE |  |  |
| The management system contains an effective legal and customary framework | Above |  |
| The management system has effective consultation processes that are open to interested parties | Above |  |
| The management policy has clear long term objectives to guide decision making | Above |  |
| FISHERY SPCECIFIC GOVERNANCE |  |  |
| The fishery has clear, specific objectives designed to achieve the outcomes expressed by MSC Principles 1 and 2. | Meets (in some countries) | Fishery specific objectives and Precautionary and Ecosystem orientated management measures need to be clearly defined and implemented in fishery specific management plans |
| The fishery-specific management system includes effective decision making processes that result in measures and strategies to achieve the objectives. | Below | The decision making process needs to take account, in a timely manner of serious management issues and respond by developing strategies to effectively deal with these. |
| Monitoring, control and surveillance mechanisms ensure the fishery management measures are enforced and complied with. | Above |  |
| The fishery has a research plan that addresses the information needs of management. | Above |  |
| There is a system for monitoring and evaluating the performance of the fishery specific management system | Below | The effectiveness of the CMMs needs to be evaluated. |

Source: Poseidon

The conclusions in respect to attaining MSC certification are as follows:

Principle 1 is marginal and could fail the assessment. Stock is status is neither overfished nor subject to overfishing, but the harvest strategy is only partial. Zone-based limits linked to BMSY have not been set, and there is growing concern over the effectiveness of the existing management strategy as defined by WCPFC 2010-05. Moreover, there are no limits set for the High Seas areas north of 20⁰ S, and existing limits south of 20⁰ S are being ignored by vessels owned in China or Chinese Taipei. Fleets fishing in the High Seas, as opposed to within zones, will have to ensure appropriate levels of control by the flag state and from within the waters that are fished. There are presently no HS limits in place.

Principle 2 is also marginal based on the fact that there is no strategy for any of the SIDS fisheries under assessment. SIDS fisheries are allowed an exemption from the specific management measures for retained species, mainly bigeye and yellowfin tuna. The bigeye stock is overfished and is subject to management restriction, as defined by WCPFC 2008-01.

The bycatch of sharks in some longline fisheries is also a problem issue. PNG and Fiji have both strengthened their shark management measures. However, Solomon and Vanuatu Is have not made any provision in its licensing requirements to mitigate against bycatch.

Principle 3 is marginal for fishery specific management issues, notably, some weaknesses in the management planning and implementation framework.

# Definition of collective MSG objectives and goals

The previous chapters have identified the background to the major issues facing the fishery sector stakeholders. This section provides an analysis of the Strengths, Weaknesses, Opportunities and Threat (SWOT) to the Region over the range of the four MSG countries. The six key themes identified are fisheries management, zonal access, optimising trade and promoting investment and employment.

## Strengths, weaknesses, opportunities and threats

### Theme 1: Strengthening management and control of the south Pacific albacore fishery

|  |  |
| --- | --- |
| Strengths | Weaknesses |
| * Good nucleus of well trained personnel within commercial fisheries * There are some important precedents within WCPO for sub-regional harvest frameworks (e.g. PNA); * Established regional support agencies to provide technical and administrative support * Relatively strong information base upon which to base management decisions * FFA sub committee in place as a potential umbrella for collective positions on albacore management to proposed to WCPFC. | * MSG is unable to effectively control management of the albacore stock independently; cooperation is required with other coastal states within the footprint of the stock * The region is very slow to advance and agree zonal management controls against the background of rapidly expanding DWFN effort * Lower profile for albacore management within international fora – WCPFC, and regional support organisations * Insufficient human and capital resources to cater for an expansion in the fishery and international obligations on MCS * Too many diffuse organisations (TVM, MSG, PNA) * Agreed limits as set in management plans have not been respected and are undermined through successful lobbying of Ministers; * Around 35-40% of ALB access is in the high seas; * Some MSG countries are licensing high seas activities, including allowing fishing by locally based foreign vessels on the juvenile albacore stock, south of 20⁰ S; * Concern about record keeping and potential to under record catches by foreign vessels. National experience in quota system management shows that it is not cost effective. |
| Opportunities | Threats |
| * Establishment of a stock-wide management framework across the footprint of the southern albacore stock (recent experience with PNA has shown that coastal states can generate significant increases in revenue by asserting harvest rights across all (or at least a substantial part) of the stock) * Integration with other coastal state resource owners (New Caledonia, French Polynesia, American Samoa, Australia, New Zealand) results in a stronger collective entity at the international level * Introduction of a harvest strategy aimed at achieving maximum economic return, rather than maximum production (e.g. MEY rather than MSY) * Use establishment of coastal states harvest framework to leverage better control of high seas fishing | * Unwillingness to act collectively * Inability to come to agreement on key decisions (e.g. allocations within participating states) delays implementation of effective management (against a background of rapidly increasing effort) * Insufficient funding to support necessary sub-regional meetings to agree framework. * Conflicting objectives between those countries with domestic fleets, and others seeking to optimise rentals from foreign vessel licensing. * Unrealistic expansionist aspirations by some PICTs * Anticipated intense political lobbying to prevent the setting of limits or to promote access * Regional stock status indicates a reduction in biomass and CPUE, with catch rapidly approaching MSY * Effective control is not exerted over high seas fishing, undermining in zone arrangements |
| Defining MSG sub objectives |  |
| *To strengthen stock-wide management of the south Pacific albacore fishery in order to better protect MSG strategic interests and optimise sustainable revenues for members* | |
| Identification of outcomes | Activities |
| * 1. Agree and implement a sub-regional framework of harvest rights across the full footprint of the southern albacore stock   2. Agree a harvest strategy to optimise long term economic returns from the fishery   3. Use the establishment of the coastal state harvest framework to influence more effective control of high seas fishing | * + 1. Seek agreement to a sub-regional framework of harvest rights through regional meetings and workshops     2. Agree collective implementation arrangements (e.g. management and compliance systems – VDS; proportional shares; trading arrangements)     3. Appoint a secretariat to administer the framework; agree funding streams     4. Agree common objectives for the management of the fishery (e.g. achieving maximum economic yield)     5. Technical advice provided by SPC/FFA and others where necessary on establishment of management targets and TAE setting     6. Develop and agree a set of harvest control rules designed to achieve management objectives     7. Participating states implementing the management system effectively, including constraining annual catches to within their proportional share of the fishery. Domestic legislation amended to empower new arrangements     8. Regular monitoring and provision of advice on the performance of the fishery against management objectives to support decision making according to control rules     9. Use collective influence of larger coastal state alliance to secure more effective management of high seas fishing through WCPFC, using compatibility and other provisions. |

### Theme 2: Establishing licence fee benchmarks

|  |  |
| --- | --- |
| Strengths | Weaknesses |
| * Principle of access fees well established * Demand form foreign access partners is very high, providing for high expectations in licence fees | * Failure of existing licensing systems to optimise the rentals for domestic economies * Different free structures in different countries * Ability of middlemen to extract rentals at cost to government finances * Ability of license fee holders to distort their economic woes as a means to effect reduced fees * Lack of market and economic intelligence |
| Opportunities | Threats |
| * Define licence fee benchmarks * Create a licence tendering system based on LL VDS | * Pressure from stakeholders to reduce fees * Need to ensure strong Ministry control of revenue collection (i.e. no delegation of responsibility to third parties, e.g Vanuatu |
| Defining MSG sub objectives | |
| *To establish a collective benchmarks that set licence access fees for foreign owned fishing vessels that optimise economic and social (employment) rents* | |
| Identification of outcomes | Activities |
| 3.1 Benchmark licensing fees defined and adopted  3.2 Licence tendering system in place  3..3 Security of tenure for domestic vessels | 3.1.1 Evaluate fee structures which optimise economic and social (employment) rents  3.2.1 Collectively agree benchmarks laid down in a signed MoU, including provision for establishing a LL VDS tender system  3.2.2 Create a system to continually monitor market trends, input and output costs, under guidance from FFA (and / or the secretariat)  3.3 Licences granted for domestic vessels |

### Theme 3: Supporting the ecosystem approach to bycatch management

|  |  |
| --- | --- |
| Strengths | Weaknesses |
| * A large number of bycatch fish species are not at risk * Some MSG countries have implemented, or are in the process of implementing shark and turtle management mitigation measures * PICTs generally demonstrate strong support for bycatch mitigation * SPC provides ready expertise to identify risks * Observer systems are in place to monitor the implementation of bycatch management measures | * Only PNG can be said to have constructed anything close to an NPOA on sharks * Many government officials and stakeholders are unaware of the existing requirements for countries (CCMs) to implement bycatch management actions * Some fishing practices actively encourage the targeting of sharks and are s–ill used - wire traces |
| Opportunities | Threats |
| * Update existing risk assessment to non-target species and animals * Design a bycatch management plan covering all at risk species * Develop an MSG observer scheme | * Lack of political will to implement bycatch mitigation measures |
| Defining MSG sub objectives | |
| *To implement a system of bycatch management control which takes account of the risk to species and animals caught in longline fishing* | |
| Identification of outcomes | Activities |
| 4.1 Non target species bycatch management mitigation measures implemented | 4.1.1 Stakeholder participatory risk assessments updated (if required)  4.1.2 Development of mitigation measures for sharks, turtles and others, if appropriate)  4.1.3 Adoption if these measures into MSG Implementation arrangements and through MTCs. |

### Theme 4: Creating a system of parallel and non-conflicting investment incentives to stimulate employment

|  |  |
| --- | --- |
| Strengths | Weaknesses |
| * Prospects for tuna fishing opportunities remain strong * Investment incentives exist in specific countries – tax holidays, depreciation allowances, grants, low or zero duties on imported products * Labour costs are reasonably competitive against international norms * Competitive transport and storage systems are improving | * Domestic fishery alleging marginal profit operations * Competition against subsidised fleets that can sustain lower catch rates * Anticipated high risk industry and lack of security on investment * High commercial interest rates (12%) * High cost of processing labour and power relative to competing countries, such as Thailand * Some expensive air freight linkages (Sol Is) * Investment incentives aren’t available to all e.g. Solomon Is, PNG JV longline sector |
| Opportunities | Threats |
| * Removing all import duties on fishery inputs * Creating a Managed Fund for the fisheries sector, derived from a proportion of licensed rents, with reduced rate of interest * Improving the dialogue between industry and government departments (Public / private partnerships) * Extend the system of tax breaks to all countries to encourage prospective JV partners and facilitate reinvestment | * Lack of action |
| Defining MSG sub objectives | |
| *A system of parallel and non-conflicting investment incentives in place which stimulate growth in the domestic tuna fishery sector* | |
| Identification of outcomes | Activities |
| * 1. Fiscal incentives implemented and input and sales tax barriers removed   2. Bank lending system improved through Management Fund | * + 1. Removal of import duties on all imports     2. Strengthening investment incentive based on lessons learned (PNG and Fiji)     3. National Management Funds created and implemented through National Development Banks |

### Theme 5: Promoting trade

|  |  |
| --- | --- |
| Strengths | Weaknesses |
| * Pacific tuna available all year round * Strong connections to international markets (Air freight) * Strong demand for sashimi products, including albacore * Strong demand for raw material for canning * Development of ULT technology and containerised freight systems reducing costs * Emerging or strengthening sashimi markets – China, USA * IEPA established for PNG and Fiji and to be extended to include Sol Is, allowing for preferential access above competitors, e.g. Thailand * Tariff concessions available for fresh chilled (0304/5) species to USA * No Rules of origin prohibitions to specific markets e.g. USA, Australia/New Zealand * Special duty exemptions for canned products (Sol Is to USA, and also available for Vanuatu) * Production costs (labour) are low relative to some foreign competitors (e.g. cheaper to produce than Pago Pago) * Some domestic facilities for food testing (USP) | * Very limited number of domestic vessels with ULT capacity * Some expensive air freight connections – Solomon Is to Australia, PNG to USA * Freight rates – China (12.5%) and for canned produce (USA) * HACCP plans required along with various food safety standards, the EU requiring the support of a CA * Market prices in Europe unattractive, costs of transport too high * Access to markets might require a PICT commitment to access to waters (EU) * Need to ensure sufficient volume to take advantage of economies of scale * Inadequate ULT technology in some key markets (China, Australia and USA) * Low product yields in canning relative to foreign competitors * Cost of power in some countries, a major disincentive – Sol Is * Thailand remains very competitive in the canning market, especially for sales to USA * Access to food testing facilities in within the region |
| Opportunities | Threats |
| * Investment in ULT capacity * Good opportunities for improved access for canned product to Europe, need for IEPA and global sourcing * Some opportunities for value added products (Tataki, loins) in most producing countries * Access to waters in exchange for access to markets (USA, China), leading to favourable GSP A +, and removal if the Chinese trade tariff * Solomon Is and Vanuatu endorse IEPA * Formulating strong links with Sashimi trading partners * Renegotiating freight rates – Solomon Is/Vanuatu or exploring the prospects for inter island trade * Trade missions to China * Potential longer term commitment to fisheries certification (MSC) | * Strong protectionist lobbies in Europe and US supporting their domestic canning * Competition from Thailand (canned product) * Competition from ASEAN suppliers * High air freight costs (Solomon Is and Vanuatu) * High power costs (PNG, Solomon Is and Vanuatu) |
| Defining MSG sub objectives | |
| *To facilitate access to markets and promote product quality* | |
| Identification of outcomes | Activities |
| 6.1 Prioritising link up to IEPA over EPA  6.1 Eliminating trade barriers (USA, China)  6.2 Promoting investment (HACCP and ULT)  6.3 Capacity for product testing improved  6.4 Evaluating cost inefficiencies and how these might be overcome | * + 1. Solomon Is and Vanuatu signing up to the IEPA     2. Tying access to fish (USMLT) in exchange for access to the US canned market and Chinese sashimi market.     3. Improving quality control standards HACCP standards with support funding made available for the domestic industry     4. Investment in ULT capability for vessels with support funding made available.     5. Strengthening the capacity within the region for product testing should be improved both at University of the South Pacific or greater use made of facilities available within PNG     6. Explore the prospects for alternative air freight systems – e.g., a dedicated inter island network.     7. Lobby for a reduction in power costs (Solomon Is, PNG and Vanuatu). |

### Theme 6: Strengthening national governance

|  |  |
| --- | --- |
| Strengths | Weaknesses |
| Good nucleus of well trained personnel within fisheries administrations | * Long absences from duties because of regional and national obligations, as well as commitments to training needs * Insufficient human and capital resources to cater for an expansion in the fishery and international obligations on MCS * Low morale due to an absence in career path * Insufficient resources made available to support effective operation of fisheries administrations |
| Opportunities | Threats |
| * Strengthen the human and financial capacity (personnel and training) * Strengthen working relationship between government and industry with actions and mutual accountability | * Government’s failure to recognise the importance of the fishery sector against other national priorities * Funding and competition for funding with other Ministries * Governments commitments to downsizing |
| Defining Tonga sub objectives |  |
| *To implement a system of governance that ensures implementation of the of appropriate tuna management development sub objectives* | |
| Identification of outcomes | Activities |
| * 1. Define funding requirements and ensure appropriate funding for the Fisheries Department based on pre agreed proportions of licence fees   2. Appropriate personnel recruited and MCS systems upgraded   3. Review management requirements and costs in cooperation with the industry | 7.1.1 Conduct a budget exercise based on increased fishing activities and obligations to WCPFC  7.2.1 Restructure FD, recruit staff, establish and implement a training and development programme  7.3.1 Creation of an stakeholder management review committee |

## 8.2 Recommended guidance on core activities

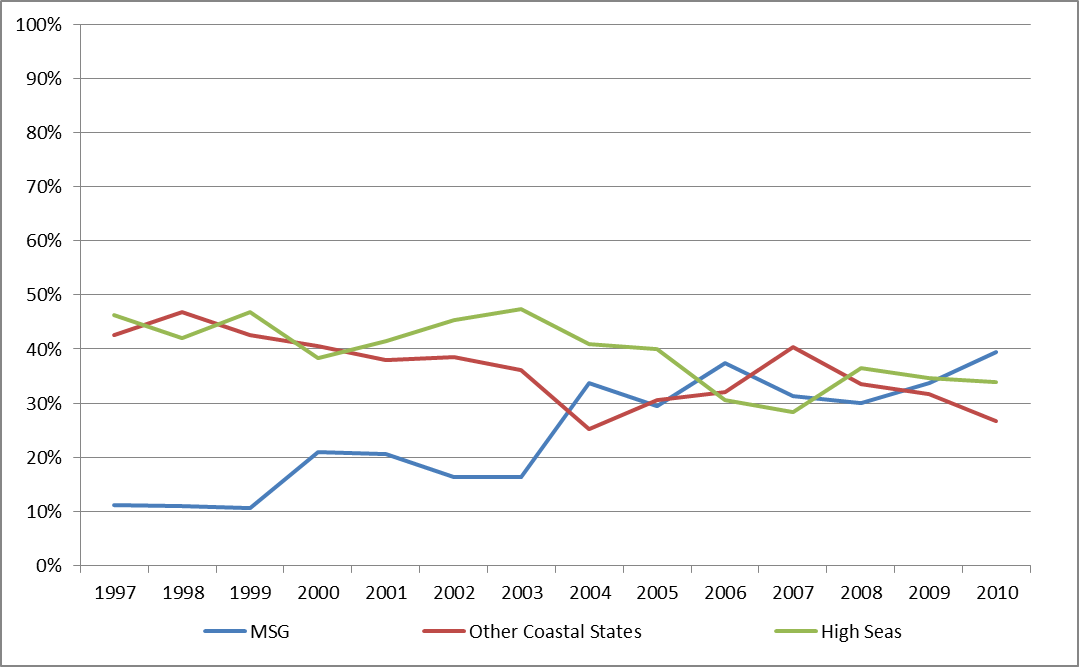
There are a number of core activities that could form the basis of the collective strategic actions.

### 8.2.1 Establishment of a collective management framework for the southern albacore fishery

The capacity for MSG members to extract maximum economic benefit from the southern albacore fishery relies fundamentally on the maintenance of a healthy and productive stock. Given the shared nature of the species, this in turn relies on the existence of an effective framework of management arrangements covering the full footprint of the stock, including the high seas. An analysis of existing catch and effort, stock distribution and management arrangements for the albacore fishery highlights three main strategic messages for MSG members:

* **A management arrangement implemented in MSG countries only is not likely to be effective** (i.e. MSG can’t effectively manage the stock alone). Figure 17 shows that whilst the proportion of the southern albacore catch taken in MSG zones has increased in the past decade, the overall proportion remains less than half of the catch. Given the widespread and highly migratory nature of the southern albacore stock, attempting to exert management control over less than half of the stock is unlikely to be effective;

Figure : Approximate proportion of southern albacore catches taken in MSG waters between 1997 and 2010. (Data source: FFA)



* **Collective action with other coastal state ‘owners’ of the albacore resource is required to achieve national and sub-regional goals of ecological sustainability and maximum economic return**. The greater the coverage of the coastal state alliance over the footprint of the albacore stocks, the greater the capacity for effective management;
* **Urgency is required in the development of a new arrangement**. Recent estimates indicate that catch has rapidly expanded in the past three years and is heading rapidly towards MSY (see Figure 6). This increase in effort has been fuelled both by a desire to extract licence fees from DWFN vessels by coastal states, as well as the introduction of new harvesting technology which has the capacity to operate profitably at lower catch rates. Current arrangements operating at the national level in coastal states and regionally through the WCPFC do not appear capable of effectively constraining this effort within biological limits at present and new arrangements are urgently required.

A number of options for management systems have been proposed that have relevance to MSG members. These include:

* The PNA LL VDS (PNA, 2010) – This arrangement between members of the PNA proposes to manage effort in the longline fishery operating in their waters in a manner similar to the purse seine VDS. Each party will receive a Party Allowable Effort (PAE) allocation, within which they are required to constrain annual fishing effort. PAEs are calculated on each party’s share of the overall Total Allowable Effort (TAE). The arrangement will apply to all vessels, except artisanal vessels. Effort in internal and archipelagic waters is also excluded. Effort will be monitored by satellite VMS, with each day a vessel <40m spends in a zone counting as one day, and each day spent by a vessel >40m counted as two days. While the main target species relevant to the PNA LL VDS are yellowfin and bigeye tuna, albacore will also be taken as bycatch. A Longline VDS Register will be established.
* The ‘FERM’ options (Kingston, 2010)– This study examined two options for regional longline management framework, namely a VDS style arrangement (similar to that applied in the PNA purse seine fishery) and a hybrid system of both catch and effort based controls (“HTAC”). Under the HTAC approach, total allowable catches would be set at species level (i.e. separate allocations for bigeye, yellowfin and albacore), with a VDS used to constrain catches of DWFN vessels operating within the EEZ and catch controls used to constrain and monitor catches of locally-based vessels. The work dismisses the use of vessel and/or licence limits as a viable management strategy. The report noted that irrespective of the option chosen, participating states would need to agree a range of matters including the allowable level of effort or catch in the fishery, individual national shares, options to ensure transferability and options for the distribution of rights at the national level. The report recommended a single regional management arrangement for the tropical and sub-tropical longline fisheries (ostensibly to increase FFA members’ leverage in the WCPFC on high seas management measures), although also noted that there was ‘nothing wrong’ with separate sub-regional arrangements using different management strategies. Ultimately the report noted both the VDS and HTAC systems would be an advance on an interim flag-based in-zone measure, but concluded the HTAC approach would give participants more opportunity to deal with individual species issues and provide more flexibility at the national level (albeit the arrangement would be more expensive to administer).

In addition to the above, a concurrent study is being undertaken on behalf of the TVM participating countries which are examining a possible collective framework of harvest rights for the southern longline fishery.

Given some of the practical difficulties and costs associated with the management of quota systems, particularly where a shortage of resources for national fisheries administrations is a problem, our view is that the VDS option is likely to offer a more ‘low tech’ and practical solution to effort management/monitoring in the short term. This does not preclude some participants within a wider framework managing their own individual national allocation via a quota system (e.g. Australia has a quota system for the Commonwealth Eastern Tuna and Billfish Fishery and will likely wish to retain it should they be part of a broader coastal state management grouping), however some form of mechanism for exchange between the system would be required to facilitate inter-zone trading.

Irrespective of the management systems chosen, the MSG’s collective involvement in any future arrangements for the management of south Pacific tuna fisheries is complicated by the fact that its membership straddles the divide between ‘tropical’ and ‘sub-tropical’ fisheries. PNG’s strategic interests are arguably more aligned to the tropical fishery (focused on yellowfin and bigeye), while Vanuatu and Fiji’s interests are more aligned to the sub-tropical fishery, targeting albacore. The Solomon Islands arguably has an interest in both. In the event that two separate systems are preferred for the tropical fishery – perhaps through the proposed PNA LL VDS – and the sub-tropical fishery – perhaps through a new grouping of interested coastal states – MSG members should make individual decisions about which management systems they wish to primarily participate in. These decisions should be based on biological and ecological parameters such as stock distributions and the characteristics of each fishery, rather than political allegiances.

The main activities required in the development of a sub-regional framework of harvest rights include:

* Seek cooperation from other coastal state ‘owners’ to the establishment of a sub-regional framework for the management of the southern albacore stock;
* Agree a management model in cooperation with other coastal state partners that has the best chance of delivering on management objectives and being implemented effectively across all states. This need not be uniform across participating states – some may have existing systems in place (e.g. Australia) to support quota management; other States may be better placed to manage within national allocations using a VDS. Where different systems operate, arrangements for equivalence will be required to facilitate trading;
* Agree relative shares in the fishery under management;
* Appoint a secretariat to manage the administration of the framework, but not a plethora of organisations (TVM, MSG, PNA) and agreeing equitable funding mechanisms;
* Agree and implement a harvest strategy based on the agreed goals of participating states which incorporates stock-wide target and limit reference points. Given the biological characteristics of albacore and the economics of the fishery, our view is this should focus on achieving a standard above MSY to ensure adequate stock protection and maintain vessel profits while also ensuring an optimum flow of product to onshore processing plants;
* Leverage the establishment of the coastal state framework to secure better control over high seas fishing activities through the WCPFC.

### 8.2.2 Licence rentals

National administrations, when interviewed were seeking advice on the level of licence fees that could be charged on foreign licensed vessels. There are three levels of licensing, domestic, locally based foreign and foreign. Licensing of domestic vessels is only relevant to Fiji, and nominal licence levels are charged (US$ 6,000-US$9,000), or less in the case of PNG. The consultants have do not propose to review fees for domestic or JV vessels.

A recommended fee structure for foreign based vessels needs to take account of whether vessels are required to land into the country where the licence is granted or land elsewhere, which in this case is almost always into Fiji. MSG governments generally seek to optimise rentals in two forms, by way of licence fee, or through generation of employment and subsequent value added. The problem is that the two approaches generate different outputs, and more specifically the requirement to land in other MSG countries, outside Fiji, may incur additional costs for vessels, especially when ex vessel prices are lower (Tables 12 and 13), reflecting some disparities in domestic production costs, as well as fuel, duties, goods taxes and transhipments costs. The different impact of ex vessel prices, for the same average size vessel is shown below. The table below also assumes similar catch compositions, which in the case of PNG, with only seasonal catches of albacore, is not the case.

The critical difference is the price of fuel, with some additional distortions created on the costs of consumables, especially in the Solomon Is.

Table 20: Estimated vessels sales and cost differentials (US$ 000)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Fiji | PNG | Sol Is | Vanuatu |
| Vessel sales | 1,224 | 1,057 | 1,004 | 1,019 |
| Vessel sales | 0 | -13.6% | -19.7% | -20.1% |
| Fuel costs | 230.7 | 225.0 | 282 | 270.7 |
| Fuel as % turnover | 19% | 21% | 28% | 27% |

The table below provides assessment of potential benchmark licensing prices, assuming Fiji as the reference point. Alternative benchmarks reflecting distortions created by cost inefficiencies are also provided for the other countries. The table provides a range of results based on percentage of turnover. A decision on where to set these benchmarks would be for countries themselves. Under the scenarios below, owner profits are still attainable.

Table 21: Estimates of potential licence charges to foreign vessels non locally based (US$/vessel)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Turnover % | Fiji | PNG | Sol Is | Vanuatu | Average |
| Licence cost per vessel | | | | |  |
| Current | 16,000 (1.3%) | Domestic only | 15,000 (1.4%) | 35,000 (3.4%) |  |
| 10% | 122,136 | 100,411 | 105,758 | 101,925 | 107,558 |
| 9% | 110,147 | 90,370 | 95,182 | 91,733 | 96,858 |
| 8% | 97,909 | 80,329 | 84,607 | 81,540 | 86,098 |
| 7% | 85,670 | 70,288 | 74,031 | 71,348 | 75,334 |
| 6% | 73,431 | 60,246 | 63,455 | 61,155 | 65,574 |
| 5% | 61,193 | 50,205 | 52,879 | 50,963 | 53,810 |
| Recommended Charge per day | | | | | |
| 10% | 1,197 | 1,080 | 1,127 | 1,098 | 1,126 |
| 9% | 1,077 | 972 | 1,015 | 988 | 1,013 |
| 8% | 958 | 864 | 902 | 878 | 901 |
| 7% | 838 | 756 | 789 | 768 | 788 |
| 6% | 718 | 648 | 676 | 659 | 675 |
| 5% | 599 | 540 | 564 | 549 | 563 |

The table shows that Fiji’s strategic advantage broadly provides for higher rentals than other countries. The other countries have two courses of action, change the additional costs incurred, i.e. fuel duties, duty rates on imports, transhipment rates, or re-negotiate air freight costs (e.g. Solomon Is) to level out some of deficiencies; or simply allow foreign vessels to choose their own hubs, and optimise their specific profits accordingly. Relieving these disparities would make it more attractive to use the licensing country as the hub.

An over rider to the above, is that licence values have been calculated on a combination of vessel sales and species catches which may vary between vessels. These represent a benchmark only. The new more efficient super-frozen vessel is likely to be able to afford to pay a considerably higher fee than the average fresher/standard freezer foreign albacore longliner. Other variables needing to be considered will include the following:

* Scarcity will increase the returns to the licence holders. Scarcity will occur as less efficient vessels are forced to leave the fishery, i.e. cannot afford to pay for the licence, but an added means of promoting scarcity would be to remove licences in the event of non-compliance;
* Fewer licensed vessels, operating with each respective zone, or the region as a whole, will improve the returns to a fishery. If zonal limits are set at MEY, then this is likely to generate some form of optimum vessel performance, and as such will require a review of returns and licence fees, once these are in place;
* With the limits set on LL VDS days, these can in turned be auctioned to the highest bidder with the prospect that licence fees will increase
* Access to other zones, including the high seas will devalue the price of individual country licences;
* Changes in rentals will be dependent on changes to the price of fuel and fish, so fluctuations in rentals are extremely likely;
* Licence prices will increase where there is a system of tendering in place.

An alternative scenario is to explore the prospect of discounting licence fees as a quid pro quo to employment. Such a scenario to be worthwhile, could explored where the opportunity costs for labour are low. An example of this can found in the Solomon Islands or outer island such as Levuka. Labour costs / kg in the Solomon Is are approximately half those in the other MSG countries, consequently licence fee rates, where the product is destined for canning, where onshore benefits from employment and profits are likely to generate around US$200-300/day[[18]](#footnote-18), resulting in a discounted licence fee of up to 25-30%. Largely because for every one tonne landed, around 30 additional jobs are generated. For every one vessel licensed, around 11 jobs may be generated. However, this discount would only be available were the foreign licensed vessel to land exclusively into a domestic canning operation. Employment generation for in sashimi type operations is likely to be much smaller, i.e. for every one vessel, onshore employment generated is no greater than 1-2 persons. This would suggest discounting for locally based foreign vessels of around 5-10% of the licence fee. Much will depend on where the authorities would seek to set the benchmark.

In the early phases of the scheme, it will be mutually beneficial to set one benchmark, but also to recognise that demand will vary depending on the opportunities offered within each zone. Hence, it is important to keep to the conservative limits set under MEY, and not to over subscribe foreign access. A mistake often witnessed by some countries is to seek to optimise vessel numbers. In essence, the fewer the vessel numbers, the higher the profits generated, and the higher the rentals that will accrue.

The table provides a range of fees based on vessel sales of 5% to 10%. Licence fees based on 10% of vessel sales are often used in some international access fisheries as a benchmark for setting fees. Using this figure would set a rate/vessel somewhere between US$ 80,000-$100,000 for foreign licensed vessels, equivalent to around US$ 1,000/vessel day. Locally based foreign, assuming some provision for discounted benefits would be expected to pay around 5% less, but most specifically higher than the existing differentials. However, if landings are made into canneries, thus generating employment, there may be room for additional discounting, in some cases, by as much as 25%-30%.

Within this structure, lessons learned from Solomon Is and Vanuatu is that licence fees should be managed specifically by fishery departments, and not through vessel agents. Agents have had a history within the MSG region of selling on licences at higher costs, and also failing to release funds to the management authorities.

### 8.2.3 Ecosystem management

The report does not seek to dwell on ecosystem management issues, but it is clear that ecosystem management is a desirable outcome for SIDS, and establishing particularly National Plans of Action (NPOAs) for sharks and turtles are important issues. Were fisheries to seek fisheries certification through MSC, national authorities would be required to evaluate the risks, including interacting with stakeholders (Table 2), and prepare management mitigation measures such as banning use of wire traces and use of circle hooks are important. However, of more concern is the potential risk to endangered species, notably silky sharks and oceanic white tip sharks. FFA needs to ensure that its advice on MTCs incorporates the required actions for sharks species and other endangered, threatened or protected species (ETPs), and national authorities (Solomon Is and Vanuatu) should ensure that measures are integrated into licence conditions. Implementation will almost certainly require the deployment of observers.

### 8.2.4 Improving the investment environment

A proposed financing option of lowering the cost of loans to industry would be well received. Creating a managed fund, guaranteed by government, and sourced from licence fee rentals would remove the opportunity cost of capital for the development banks. In this sense, all development bank representatives consulted have indicated willingness to manage a fisheries fund and providing preferential rates dependent on the terms to which the capital were provided. That is, the preferential interest rate will occur if capital were provided at low-zero interest because operating overheads will still need to be met. Furthermore, by earmarking these funds specifically to fisheries, development bank representatives have indicated that removing the issue of opportunity costs of investing these funds in fisheries should improve access to credit for this industry. Suggested rates of interest would be around 6-7%, with overheads typically being at 4-5%. Loans would be conditional on secured licence tenures, vessels being insured, and support to the development of business plans along with continued bank mentoring would be essential. In this context, FFA, working in the industry, could devise a template for an investment strategy, focussing on vessel upgrades to improve quality, implement equipment to support HACCP requirements, and evolve into ULT freezing investments. Other investment options might also be considered.

Other issues that require addressing would be removing duties on imports and taking advantage of the tax incentives schemes as applied in PNG and Fiji.

### 8.2.5 Trade related issues.

Albacore represents an exciting product which is in demand in the key markets of Japan and USA, as well as potentially China, Korea and Taiwan, and markets within easy access, Australia and New Zealand.

The MSG countries have reasonably good access to these markets through air freight, and the development of ULT allows for another cost efficient option where air freight costs are prohibitive (e.g. Solomon Is and Vanuatu).

Main issues for market development are as follows:

* IEPA, or a re constituted EPA, is important for access for canned product to Europe and these countries not (Solomon Is) affiliated to the IEPA, should sign up to it;
* Europe offers a very limited prospect fresh 0304/5, and most definitely falls well below opportunities offered in the markets mentioned above. This also suggests that focus on establishing Competent Authorities to support the quality inspection requirements, only required for accessing European markets, is questionable with the current economic climate;
* Focus for canned product should also be made in tying access to fish (USMLT) in exchange for access to the US market. Negotiations should ensure that MFN status should therefore be made available to PNG, Fiji and Vanuatu;
* Reciprocal arrangements might also be explored with China, which already provides duty free exemption for products from ASEAN countries;
* Quality control to facilitate catching and handling of ‘live’ fish requires a strong commitment to on board investment. This should include provision for upgrading to meet with HACCP standards, as well as adding ULT capability for vessels. Capital investments in this area may be facilitated through the provision of grants (Fiji), and access to finance through national Development Banks;
* Strengthening the capacity within the region for product testing at University of the South Pacific or utilising facilities available at POM (or Lae);
* Given the costs of air freight, the prospects for alternative air freight systems could also be explored – e.g., a dedicated inter island network. This is potentially an action that might be explored through establishing strategic partnerships with the larger Chinese and Taiwanese based companies.

### 8.2.6 Strengthening national governance systems

It is important for national governments to realise that selling access rights to foreign owned vessels, raises potentially substantial revenue, but increases the management requirements. Most specific needs will relate to:

* Monitoring LL VDS
* Strengthening the licensing section
* Log book data collection and input
* Port sampling
* Observer coverage and use of alternative technologies
* Patrolling at sea and coordinating MCS activities with other countries
* Attendance at regional management meetings

Fisheries departments / divisions will be aware of their staff capacities but a number of features need to be explored:

* Supervision and operation of the LL VDS system
* Strengthening the statistical capacity – collection and data inputting
* Training for staff in all aspects of data collection
* Increasing the awareness of fishery managers in respect of international and regional management obligations
* Training of observers

MSG, along with the National governments should also encourage stakeholder participation in management decision making, including options to develop a national or regional Management Advisory Committee specific to tuna longlining.

# References

**Berger, A., and Reid, C**., 2012, A bioeconomic analysis of the Fiji longline fishery, SPC/FFA, 2012

**Campling, L., Havice, E., and Ram-Bidesi, V (Undated)** Pacific islands countries, the global Tuna

**Campling, L., Hamilton, A., and Batty M.,** 2008, An assessment of the potential benefits to PACP states of a revision of the rules of origin for fisheries products of HS chapters 0304 and 0305, The Pacific Islands Forum Secretariat

**Clarke –**., 2011. - An indicator based analysis of key shark species data held by SPC-OFP, WCPFC SC 7, EB WP-01

**Clarke S.,** 2011**,** A Status Snapshot of Key Shark Species in the Western and Central Pacific and Potential Management Options, WCPFC-SC7-2011/EB-WP-04

**Davies, N., Hoyle, S., Harley, S., Langley, A., Kleiber, P., Hampton, J**., 2011, Stock Assessment of Bigeye Tuna in the WCPO, WCPFC-SC7-2011/SA- WP-02

**Doherty, M,** 2010**.** The Importance of Sanitary and Phytosanitary Measures to Fisheries Negotiations in Economic Partnership Agreements. ICTSD Series on Fisheries, Trade and Sustainable Development. Issue Paper No. 7, International Centre for Trade and Sustainable Development, Geneva, Switzerland, Ava[ilable at](file:///C:\Users\Richard\Documents\FFA\FFA%20MSG%20LL\Report\ilable%20at) http://www.acp-eu-trade.org/librnalysees/doherty\_EN\_010210\_ICTSD\_sps\_fisheries\_epas.pdf

**FFA**, 2011, Tenth Meeting of Officials, Honiara, Solomon Islands, 27-29 October 2011, Record of proceedings of the Sub-Committee on South Pacific Tuna and Billfish

**FFA,** 2011, The Harmonised Minimum Terms And Conditions for Foreign Fishing Vessel Access, as amended by FFC77 (24-27 May 2011), <http://www.ffa.int/system/files/HMTC%20FFC77%20Approved_0.pdf>

**FFA**, 2012, Draft Amendments to the CMM for South Pacific Albacore, 2012, WCPFC8-2011-DP/03

**Gillett, R**, 2011, The Export of HS 0304/0305 Fish Products from Selected Pacific ACP Countries to Europe, A Report Prepared for the Pacific Islands Forum Secretariat

**Government of Fiji**, Fisheries Act, the Laws of Fiji, Ch 158A, 1985, <http://www.spc.int/coastfish/Countries/fiji/fiji.leg.ffa.pdf>

**Hamilton, A., Lewis, A., McCoy, M., Havice, E., and Campling, L.,** 2011, Market and industry dynamics in the global tuna supply chain, FFA.

**Hoyle, S**., (2011), Stock Assessment of Albacore Tuna in the Southern Pacific Ocean, WCPFC, SC7-2011/SA-WP-06

**Hufflett, C**., 2011. Solander Pacific, Serious concern is rising over the build up of the southern longline fleet OPRT, Dec, 2011

**Kingston, A., 2010,** Feasibility of alternative regional longline management options, FFA

**Kirby, D. and Hobday, A**. (2007). Ecological Risk Assessment for the Effects of Fishing in the Western and Central Pacific Ocean: productivity-Susceptibility Analysis*.* WCPFC-SC3-EB SWG/WP-1.

**Independent State of Papua New Guinea,** Fisheries Management Act, 1998 (no. 48), <http://fisheries.gov.pg.dnnmax.com/LinkClick.aspx?fileticket=43Of6hMc9e8%3d&>tabid=86

**Independent State of Papua New Guinea,** Fisheries Management Regulation, 2000, <http://fisheries.gov.pg.dnnmax.com/LinkClick.aspx?fileticket=25a9q0dguoo%3d&tabid=86>

**IUCN** (2010), Guidelines for Using the IUCN Red List Categories and Criteria, <http://intranet.iucn.org/webfiles/doc/SSC/RedList/RedListGuidelines.pdf>

**Kolody, D., Campbell, R., Davies, N. (2009).** South-West Pacific Swordfish (Xiphias gladius) Stock Assessment 1952-2007. Information paper GN-IP-02 presented to the fifth regular session of the Scientific Committee for the Western Central Pacific Fisheries Commission, held 10-19 August 2009

**Langley, A., Hoyle, S., Hampton, J**., 2011. Stock assessment of yellowfin tuna in Western Central Pacific, WCPFC SC 7, 2011 SA, WP-03, <http://www.wcpfc.int/doc/sa-wp-03/stock-assessment-yellowfin-tuna-western-and-central-pacific-ocean>

**Lawson** **–**., 2011. - Estimation of catch rates and catches of key shark species in tuna fisheries of the Western and Central Pacific Ocean, WCPFC, SC7, 2011, EB IP 02

**Lewison. R.L., and Crowder, L.B**., 2007, [Putting Longline Bycatch of Sea Turtles into Perspective](http://onlinelibrary.wiley.com/doi/10.1111/j.1523-1739.2006.00592.x/pdf), Biology Department, San Diego State University, Conservation Biology, Vol 21

**Miyake, M.P., Guillotreau, P., Chin-Wa Sun and Ishimura, G**., 2010, Recent developments in the tuna industry, stocks, fisheries management, trade and market developments, FAO Technical paper 543.

**MFF,** 2011, Fisheries Business Guidebook

**MFF**, Tuna management Plan, 2009-2010

**MFMR**, Solomon Islands National Tuna Management and Development Plan, 1999

**NFA**, National Tuna Fishery Management Plan, 1999

**Philipson, P**., 2006, An Assessment of Development Options in the Longline Fishery. Development of tuna fisheries in the Pacific ACP countries (DEVFISH) Project, FFA, Honiara.

**PNA, 2010. Palau Arrangement for the Management of the Western Pacific Tuna Fishery – Management Scheme (Longline Vessel Days Scheme)**

**Republic of Vanuatu**, Fisheries Act, No. 55, 2005

**Solomon Islands Government, Fisheries Act, 1998,** <http://www.paclii.org/sb/legis/consol_act/fa110/>

**Suzuki, Z 2012** Tuna Scientist, Rapid increase in fishing capacity of small-scale tuna long  
line fleet in the Sou– Pacific--A verification of PITIA–tatement--ATuna, February, 2012

**US Customs and Border Protection,** Harmonised Tariff schedule, [**http://hts.usitc.gov/**](http://hts.usitc.gov/)

**United States Trade Representative**, 2009, US Generalized system of preferences guidebook, Office of the Executive Office of the President, Ava[ilable at](file:///C:\Users\Richard\Documents\FFA\FFA%20MSG%20LL\Report\ilable%20at) http://www.ustr.gov/sites/default/files/U.S.-Generalized-System-of-Preferences-Guidebook.pdf

**Vanuatu Department of Fisheries,** A National Policy for the Management of Vanuatu Tuna Fisheries, 2009

**WCPFC CMM 2010-07**, Conservation and management measures for sharks

**WCPFC** (2011), South Pacific Albacore Fishery, **WCPFC8- 2011-IP/04**

**WCPFC CMM 2007-02**, Vessel Monitoring System, <http://www.wcpfc.int/doc/cmm-2007-02/commission-vessel-monitoring-system>

**WCPFC CMM 2008-01**, Conservation and management measure for yellowfin and bigeye tuna in [the WCPO,](file:///C:\Users\Richard\Documents\FFA\FFA%20MSG%20LL\Report\the%20WCPO,) http://www.wcpfc.int/doc/cmm-2008-01/conservation-and-management-measure-bigeye-and-yellowfin-tuna-western-and-central-pa

**WCPFC 2008-02**, Conservation and Management Measure of Sea Turtles, <http://www.wcpfc.int/doc/cmm-2008-03/conservation-and-management-sea-turtles>

**WCPFC 2010-05**, Conservation and Management Measure for the Conservation of South Pacific Albacore

**WCPFC CMM 2010-07**, Conservation and management measure for sharks, <http://www.wcpfc.int/doc/cmm-2010-03/conservation-and-management-measure-compliance-monitoring-scheme>

**WCPFC**, 2010, Convention on the Conservations and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean. <http://www.wcpfc.int/doc/convention-conservation-and-management-highly-migratory-fish-stocks-western-and-central-pacific>

**WCPFC**, 2011 Review of the implementation and effectiveness of CMM 2008-01, SPC/OFP WCPFC8 -2011-43

**Williams P, Kirby D, Beverley S**, 2009, Encounter rates and live status for marine turtles in the WCPO longline and purse seine fisheries, WCPFC SC5 2009 EB WP-07

**WCPFC CMM 2009-08**, Charter notification scheme. <http://www.wcpfc.int/doc/cmm-2009-08/charter-notification-scheme>

**WWF**, 2011. Position statement to TCC[-7, 2011,](file:///C:\Users\Richard\Documents\FFA\FFA%20MSG%20LL\Report\-7,%202011,) http://www.wcpfc.int/doc/wcpfc-tcc7-2011-ob-05/wwf-position-paper-0

# Appendix A: Project Terms of Reference

Strategic Position for MSG in Future Management and Development Arrangement for South Pacific Albacore Fisheries

**Introduction:**

The Melanesian Spearhead Group (MSG), through its Fisheries Technical Advisory Committee (FTAC) has requested the Pacific Islands Forum Fisheries Agency (FFA) to assist with a study on Strategic Position of MSG on future Management and Development for South Pacific Albacore Fisheries.

1. This study was endorsed by MSG Senior Officials when deliberating on the outcomes of the Trade and Economic Officials outcomes held from 29-30 June 2011. The following are the specific decisions in the context of the FTAC outcomes, where the Senior O Agreed that the MSG Secretariat in collaboration with the FFA undertake a study to provide advice on strategic position for MSG in future management and development arrangement for south pacific albacore fisheries; and

(ii) Agreed that the Terms of Reference for the study be developed and circulated to members for consideration and approval “out of session”, and submitted to the next meeting of the TEOM and SOM for approval.

**Background**

The MSG members, comprising of Fiji, Papua New Guinea (PNG), Solomon Islands and Vanuatu have agreed to identify and strengthen cooperative arrangements amongst themselves in order to bolster economic development and employment opportunities for their citizens. Through FTAC, discussions have been ongoing with regards status of fisheries development and investment amongst the members, and it is obvious that each member has slightly different development priorities largely due to competing interests. However, the general feeling amongst the members is the need to maximise economic returns from their fisheries for the benefit of their respective economies.

The MSG countries note that if they can collaborate and work together they may be able to strengthen their control and capacity to better develop and manage their fisheries, especially the tuna fishery where commercial fishing activities has been dominated by distant water fishing nations (DWFN) for years.

An opportunity for greater cooperative arrangement between the MSG countries does present itself with the South Pacific Albacore fisheries, where a number of MSG countries especially Fiji and Vanuatu, including Solomon Islands have seen expansion in their longline fleets and record catch in recent times.

A recent overview of the South Pacific Albacore fisheries by the Sub-Committee on South Pacific Tuna & Billfish fisheries attest to this as it showed that FFA fleet has increased over the decade to around 300 vessels with notable increases in the Fiji and Vanuatu fleets. Record catches of albacore has been recorded for Fiji at close to 12,000mt in 2006, and Vanuatu at close to 10,000mt in 2010. PNG recorded its albacore catch at 883mt for 2010 which is from its mostly domesticated longline fleet. Solomon Islands catch of 7,966mt is noted to be the country’s record catch for albacore which was mostly caught by foreign fleets.

The same review reports that value of Southern Albacore catch between the periods 2008-2010 averaged at $153million with longline catch accounting for 96% ($146m). Out of the longline catch FFA fleet share was 36% ($65m), as compared to DW fleet of 50% ($91m), while the balance came from others at 14% ($25m). With regards the MSG countries, Fiji and Vanuatu jointly accounted for 57% ($33million) of FFA average catch value, while the dominant DW fleet was China who accounted for the greatest portion of 55% ($45m) of DW catch. From this review it is clear that MSG countries no doubt are important participants in the fishery, and that prospects to increase returns is quite promising since at the national level MSG are pursuing development of onshore processing and are looking to encourage DW partners to reflag.

It is however also important to note that conservation and management measures have a lot of bearing on the development of the resource, and therefore it is important the MSG is conscious of ongoing discussions amongst the FFA and the wider Western and Central Pacific Fisheries Commission (WCPFC) members. Particularly work done by the Sub-Committee on South Pacific Tuna & Billfish fisheries on management options, including Te Veka Moana (TVM) and the Parties to the Nauru Agreement (PNA) would be of specific interest to the MSG. These sub-regional groups have advanced their aspirations through various studies and initiatives in the areas of innovative management schemes and promotion of business and investment development concepts.

As coastal states, including MSG countries pursue Article 30 of WCPF Convention, which reads:

*The Commission shall give full recognition to the special requirements of developing State Parties to this Convention, in particular small island developing States, and of territories and possessions, in relation to conservation and management of highly migratory fish stocks in the Convention Areas and development of fisheries for such stock.*

The challenge for MSG and the sub-regional groups would be to consider ways whereby they can synergize; complement and promote integration of development and management efforts so as to ensure their respective goals can still be achieved and enhanced even amid various competing interests both within the membership and from the wider stakeholders in the fishery.

**Tasks and Methodology**

**Activities:**

Specifically the consultancy shall:

* Carry out a background literature review of the status of development and management of albacore fisheries in each MSG countries;
* Identify options (example zone based catch limits, vessel days scheme (VDS) or a hybrid system etc) and scope out opportunities for cooperative arrangement;
* Review country level studies, TVM, PNA and Southern Committee initiatives for sub-regional and domestic tuna longline fisheries development and identify specific opportunities arising in the areas of business, development and key management issues that MSG could consider with the view to encourage integration of efforts amongst the countries;
* Identify areas of investment and business opportunities members may consider to be most effective under a cooperative arrangement approach;
* Identify and recommend options on a cooperative model whereby MSG could consider adopting in the implementing of its development goals and management priorities;
* In consideration of the above, identify and summarize key strategic development and management priority areas for consideration by MSG, taking into account developments in other sub-regional groupings, the FFA and the latest developments pertaining to regional and internationally agreed conservation, management and development frameworks;
* Taking account of the findings of the study, provide recommendations to the MSG as to development and management opportunities and possible strategies as to how these might be implemented. The paper should be written with a view to explaining the issues and decisions clearly to policy makers and addressing issues most important to policy makers, of resource sustainability and national and collective economic advantage and maximization.

**Consultant(s) skills and experience:**

The consultant(s) will have the following background and experience:

* Familiarity with tuna fisheries management and development issues in the region and most specifically in the MSG countries including experience of domestic fisheries development strategies both within and outside the Pacific Islands region.
* Well versed with management measures and issues currently affecting the longline fishery in the region
* Strong commercial and financial skills and an analyseto analyze and present commercial and financial data are essential.
* Preference will be given to applicants who are familiar with tuna longline fishing, processing, and distribution/marketing, and who can demonstrate a network of contacts in this industry.
* A track record of previous successful work of this nature.

**Timing:**

The consultancy will begin on or around **14 April 2012** for a total period of 30 days of inputs including the preparation of a draft report.

A draft report should be submitted for review no later than the 20th February 2012 and comments on the draft will be provided back to the consultant within a further 7 days. The Consultant will then have up to seven working days to prepare and submit a final report.

**Travel:**

The consultancy will primarily be undertaken as a desk study. However, travel may be required to Vanuatu and Honiara to visit the MSG Secretariat and the FFA.

**Deliverables:**

Draft copies of the Report shall be completed and submitted to both the MSG Secretariat and FFA in advance of the FTAC meeting on 3 May 2012.

**Reporting:**

The Consultant shall report directly to the Director, Fisheries Development, FFA. The Director shall then coordinate with the MSG Secretariat to take advice and recommendation in relation to the consultancy and other matters thereto.

# Appendix B: Persons met

|  |  |  |
| --- | --- | --- |
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1. New Caledonia has observer status on MSG, and is largely excluded from this analysis. [↑](#footnote-ref-1)
2. Excluding foreign workers [↑](#footnote-ref-2)
3. Calculated from Poseidon estimates [↑](#footnote-ref-3)
4. No limits had previously been specified for the Solomon Is [↑](#footnote-ref-4)
5. Carriage, Insurance & Freight [↑](#footnote-ref-5)
6. In PNG referred to as a Goods and Services Tax. [↑](#footnote-ref-6)
7. The loans are capitalised by funds borrowed at 7.9%. n order to at least meet their own interest payments, the development bank cannot loan at less than 7.9%. [↑](#footnote-ref-7)
8. <http://www.fijitimes.com/story.aspx?id=94946> [↑](#footnote-ref-8)
9. A large autoclave for sterilizing cans or pouches after filling and sealing. Sealing & retorting are the fundamental CCPs for eliminating the botulism hazard associated with low-acid food canning, like tuna [↑](#footnote-ref-9)
10. Fiji based Golden Ocean and Hangton had taken the decision not to have all their vessels HACCP approved, relying on the Japanese and canning markets. [↑](#footnote-ref-10)
11. Global sourcing arrangements provide countries with preferential duty rates to be allowed to export all processed product covered under the IEPA definition, [↑](#footnote-ref-11)
12. Other non-fisheries issues are also delaying progress on the EPA (Len Rodwell, pers comm, July, 2012) [↑](#footnote-ref-12)
13. Reported to now being committed to the IEPA (April, 2012) [↑](#footnote-ref-13)
14. Evidence must be provided on submission of an application demonstrating that merchandise imported directly from a designated LDBDC into the customs territory of the United States must: (i) be the growth, product or manufacture of the designated LDBDC, and (ii) the sum of (1) the cost or value of the materials produced in the LDBDC … plus (2) the direct costs of processing operations performed in such LDBDC … must be not less than 35 per cent of the appraised value of such merchandise at the time of its entry into the customs territory of the United States. The price actually paid or payable for the merchandise when sold for export to the United States. [↑](#footnote-ref-14)
15. <http://hts.usitc.gov/> [↑](#footnote-ref-15)
16. http://www.daff.gov.au/aqis/export/fish/guidelines [↑](#footnote-ref-16)
17. AAFA Pacific Tuna, Net benefits, MSC, 2011 [↑](#footnote-ref-17)
18. This includes a calculation for wages, shadow wage rates (@50%) and profits. [↑](#footnote-ref-18)