

FISHERY AND AQUACULTURE COUNTRY PROFILE	Food and Agriculture Organization of the United Nations	FID/CP/SLB
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NATIONAL FISHERY SECTOR OVERVIEW

SOLOMON ISLANDS

1. GENERAL GEOGRAPHIC AND ECONOMIC DATA

Area:	28 370 km ²
Water area:	1 340 000 km ²
Shelf area:	[no continental shelf]
Length of continental coastline:	4 270 km (length of the coast of islands)
Population (2007)*:	498 000
GDP at purchaser's value (2006):	459.6 million USD ¹
GDP per head (2006):	937 USD
Agricultural GDP (2006):	160.0 million USD ²
Fisheries GDP (2006):	27.4 million USD ³

*UN Population Division

2. FISHERIES DATA⁴

2007	Production	Imports	Exports	Total Supply	Per Caput Supply
	tonnes liveweight				kg/year
Fish for direct human consumption ⁵	31 272	2 744	17 282	16 734	33.6
Fish for animal feed and other purposes	120 ⁶	---	120	---	

Estimated Employment (2004):	
(i) Primary sector (including aquaculture):	5 114 ⁷
(ii) Secondary sector:	(post-harvest fisheries employment included in above figure)

¹ 2006 average exchange rate: USD 1 – Solomon \$7.65; GDP source: Statistical Office (2008). Gross Domestic product (GDP) by Economic Activity – Current and Constant Price Values. Ministry of Finance, Honiara.

² This is the contribution to GDP of agriculture, forestry and fisheries; Source: Statistical Office (2008).

³ Fishing contribution to GDP: From Gillett (2009). The Contribution of Fisheries to the Economies of Pacific Island Countries and Territories. Pacific Studies Series, Asian Development Bank, Manila.

⁴ Corrected to reflect actual supply

⁵ Data from FAO food balance sheet of fish and fishery products.

⁶ This is the pet food production of the tuna cannery in 2007, as given in MFMR (2008). Statistics and Information. Special Edition for 30th Independence Anniversary.

⁷ This figure is for “formal jobs” in the fishing and fish processing sub-sectors; From IMF (2005). Solomon Islands: Selected Issues and Statistical Appendix. IMF Country Report No. 05/364, International Monetary Fund.

Gross value of fisheries output (2007):	202 million USD ⁸
Trade (2007):	
Value of fisheries imports:	2.4 million USD
Value of fisheries exports:	22 million USD

3. FISHERY SECTOR STRUCTURE

3.1 Overall fishery sector

The fisheries situation of the country is characterized by the large importance of both subsistence fisheries and offshore industrial fisheries. Because 90% of the Solomon Islands population is living in remote rural areas, subsistence fishing activities are of great importance for nutrition. The offshore fisheries are responsible for a large percentage of formal jobs in the country, while both processed and raw tuna are major export commodities. The license fee for foreign vessels to fish in the Solomon Islands' EEZ is a substantial source of revenue for the government.

The country's fisheries can be placed into six categories. These categories and the associated production in 2007 are estimated as:

	Coastal Commercial	Coastal Subsistence	Offshore Locally-Based	Offshore Foreign-Based ⁹	Freshwater	Aquaculture	
						Tonnes	Pieces ¹⁰
Volume of Production (metric tonnes or pieces ¹¹)	3 250	15 000	23 619	98 023	2 000	165	8 202
Value of production (USD)	3 307 190	10 980 392	32 662 077	153 548 868	1 464 052	40 654	

Source: Gillett (2009)

No discussion of the fisheries sector in the Solomon Islands would be complete without some mention of the rise and fall of the Solomon Taiyo fishing company. The box below gives a summary of that company. The Japanese partner pulled out in 2000, during a period known as the "ethnic tensions", and shortly thereafter the company restructured itself as Soltai Fishing and Processing Ltd. It has struggled to survive to the present.

Solomon Taiyo Fishing Company¹²

Before the ethnic tensions, Solomon Islands had the most vibrant domestic tuna fisheries of any country in the Pacific: the long-running Solomon Taiyo Ltd, established in 1973 as a joint venture between the Solomon Islands Government (Investment Corporation of Solomon Islands had a 51 per cent shareholding since the mid 1980s) and the large Japanese fishing multinational Taiyo Gyogyo (which changed its name to Maruha Corporation in 1993). Solomon Taiyo had a fleet of 21 pole and line vessels employing about 900 Solomon Islanders, of which seven were completely localized, the rest with just the positions of Fishing Master and Chief Engineer (sometimes also Captain) held by expatriates. Around 2 200 permanent staff and 800 casuals were employed by Solomon Taiyo. The base at Noro included a large cannery, arabushi smoking factory and a fishmeal plant.

⁸ From Gillett (2009); includes the six fishery production categories: (1) coastal commercial fishing, (2) coastal subsistence fishing, (3) locally-based offshore fishing, (4) foreign-based offshore fishing, (5) freshwater fishing, and (6) aquaculture.

⁹ This is the catch taken by the foreign fleet within the Solomon Islands EEZ. In FAO statistics of capture fisheries production, this catch is accounted under the catch of the nation(s) under which the vessel(s) is (are) flagged.

¹⁰ Pearls and coral are commonly measured in pieces, rather than kg.

¹¹ The production of the most important aquaculture products, post-larvae and corals, are measured in pieces (individual pearls) rather than in weight.

¹² Source: Barclay, K. (2008). Fisheries and Aquaculture. In: Solomon Islands Diagnostic Trade Integration Study (DTIS). Ministry of Foreign Affairs and External Trade.

The main trends and important issues in the fisheries sector

The main trends in the sector include:

- An expansion of the purse seine tuna fishery and a decline in the longline and pole-and-line tuna fisheries – all for different reasons.
- Over-exploitation and decline of production in the coastal commercial export fisheries.
- Subsistence fisheries being affected by a rising population.
- A tremendous deterioration of the quality of governance in the fisheries sector during the period of ethnic tension – and subsequent efforts by the government and donors to strengthen fisheries institutions.

Some of the major issues in the fisheries sector are:

- There is considerable difficulty in reconciling the economic and political importance of the cannery and pole-and-line fishing to the nation with the fact that those operations require large inputs of government and donor funds.
- There is a need to strengthen the Fisheries Department in a way that is (a) appropriate **for the management required for the nation's fisheries**, (b) **acceptable to** fishery stakeholders and existing staff, and (c) within the budget likely to be available in the future.
- Although coastal fishery resources are crucially important for nutrition in the Solomon Islands, the rising population and stagnant levels of production from these resources suggest that the per capita consumption of fish will fall.
- The demand for fish in the Honiara urban area cannot be met from local coastal areas. The need to make more fish available in Honiara must be balanced with the fact that past attempts to establish the necessary operational and transportation infrastructure in the outer islands have been expensive and have had many failures.

3.2 Marine sub-sector

The marine fisheries have two very distinct components, offshore and coastal:

- Offshore fisheries are undertaken on an industrial scale by both locally-based and foreign tuna vessels: pole-and-line, longline, and purse seine.
- Coastal fishing is primarily carried out for subsistence purposes, but there are some sales for local markets, and exports of high-value products. There is also an industrial-scale coastal fishery for baitfish that are used in offshore tuna fishing.

3.2.1 Marine Catch profile

The annual catch taken by locally-based offshore fisheries has ranged in recent years between about 17 000 and 29 000 metric tonnes. Purse seining is dominating taking more than 80-90% of the catch, with pole-and-line fishing and longlining supplying the balance. About 90% of the catch is tuna, with various species of bycatch making up 10%. The foreign -based offshore fleets catch much more than local vessels. Recent estimates¹³ indicate that about 98 000 tonnes of mostly tuna were taken by foreign vessels in 2007. This equates to three times the offshore catch by local vessels.

Estimates of catches of the coastal fisheries vary widely. The Asian Development Bank recently examined a large number of Solomon Islands fisheries studies on coastal commercial fishing, selectively used the information, and made catch estimates:

- Local sales for domestic consumption: about 1500 tonnes worth about 1.5 million USD annually to the fishers for the years 2005 to 2007. This includes mainly reef and lagoon finfish, but also some edible invertebrates.
- Baitfish: about 800 tonnes worth 100 000 USD annually to the recipient communities for 2005 to 2007.
- Exports: about 950 tonnes worth 1.6 million USD annually to the fishers for 2005 and 2007; about 750 tonnes worth 1.3 USD million for 2006. This includes beche-de-mer, coral, trochus, shark fins, aquarium fish, and lobster. The total value of the coastal

¹³ FFA (2008) and SPC (unpublished information), for the Forum Fisheries Agency and the Secretariat of the Pacific Community, respectively.

commercial production is greatly affected by the value of the beche-de-mer harvest – which is subject to periodic country-wide harvest bans (as was the case in 2006).

Estimates of coastal subsistence fisheries production involve much guesswork. Many of the estimates used at present are derived from dietary surveys in the 1980s. If those early estimates are extrapolated on the basis of population and constant per capita fish consumption, the result is a coastal subsistence production of about 15 000 tonnes in 2007.

3.2.2 Marine landing sites

Landing sites for the offshore fishery are diverse. All landings by the local pole-and-line vessel are made at the cannery at Noro in the Western Province. The local purse seine vessels mostly offload at Noro, either for processing at the local tuna cannery or for transshipment to overseas canneries. Foreign purse seine vessels either transship out of Honiara (during the period 2004-2006, 279 such transshipments occurred), or deliver to a foreign port. When locally-based longliners operate, the catches are unloaded in Honiara for overseas air freighting.

Landings from the coastal commercial fishery are made mostly at population centers. The small-scale commercial fisheries are mainly located near the main urban area of Honiara, and to a much lesser extent, around the towns of Auki on Malaita Island and Gizo in the west.

Subsistence fishery landings occur at villages throughout the coastal areas of the country, roughly in proportion to the distribution of the population.

3.2.3. Marine fishing production means

The composition of local offshore fleet has changed considerably in recent years. The number of pole-line vessels is dropping due to the deterioration of an ageing fleet. The number of longliners is dropping in response to difficult business conditions in the country and sashimi market conditions. The number of purse seine vessels is increasing due to good catches and good conditions in the canned tuna market. The Yearbook of Western and Central Pacific Fishery Commission showed the number of domestic offshore fleet as:

	2000	2002	2004	2006	2008	2009
Longline	14	11	8			
Purse seine	18	12	10	11	3	
Pole and line	5	2	3	4	4	7

A study by the Forum Fisheries Agency¹⁴ tracked the recent evolution of the offshore fleets:

- The local pole-and-line vessels range in length from 24 to 36 metres. They are operated by the government fishing company and characteristically fish inshore for baitfish at night with lights and fish for tuna offshore (mainly close to the six main islands) with the bait using fishing poles with barbless hooks.
- Two of the local purse seiners (the older ones) are 57 metres in length. Information is not readily available on the newer/larger vessels. Four seiners are operated by a single private sector company. They fish both inside (often on fish aggregating devices) and outside the Solomon Islands' EEZ. The length of the fishing trips depends on fishing success and area of operation, but can range from a few days to a few weeks. Trips characteristically finish with fish delivery to the company base at Noro.
- All local longline vessels (mostly 20 to 35 meters in length) were based at Honiara. Vessels used ice for fish preservation and carried out fishing trips of one to two weeks, mainly inside the Solomon Islands' EEZ. Fish were air freighted, mainly to sashimi markets in Japan. During the ethnic tensions in Honiara in the early 2000s several companies found it impossible to continue operations. One company that did continue experienced severe difficulties, including that associated with fish marketing and subsequently suspended operations in 2005.

¹⁴ Gillett, R. (2008). A Study of Tuna Industry Development Aspirations of FFA Member Countries. Forum Fisheries Agency, Honiara, 70 pages.

The coastal commercial fisheries produce finfish and invertebrates to supply the urban markets and for export. The vessels fish in lagoons, on reefs, and in coastal pelagic areas by hand lining, trolling, spearing (spear guns; weighted spears), netting, and hand collection. Mainly small outboard-powered vessels are used, but some commercial fishing (i.e. beche-de-mer) takes place from non-powered canoes, or does not use a vessel (i.e. spear fishing or trochus collection from shore). There is sporadic fishing for live reef fish employing hook/line, holding tanks, and large transport vessels with live wells. Fishing for live bait for pole-and-line tuna fishing occurs in lagoons using underwater lights and a large liftnet, with the baitfish maintained alive in bait wells.

Commercial fishing for finfish, due to their perishable nature, is largely confined to urban areas and locations with direct transport links to urban areas. Many export products (e.g. beche-de-mer, trochus) are non-perishable and the fisheries they support are found in most areas of the Solomon Islands. In an attempt to overcome the transportation limitations on coastal commercial fishing, fisheries centres were established in a number of rural areas in the late 1980s and early 1990s, but for various reasons many have not survived to the present.

In the Solomon Islands there is a large variety of subsistence fishing techniques. Fishing is largely from non-powered canoes or from the shore by swimming. The main types of fishing are hook/line, hand collection, various types of traditional netting, and spearing by both wading and diving. Typical characteristics of subsistence fisheries are: specialized knowledge often passed down through generations, labour intensive operations sometimes involving the entire community, sharing of the catch amongst the community, social restrictions/prohibitions, and specialization of activity by gender. The traditional fishing lore of the country (i.e. knowledge and practices) is extremely diverse and varies considerably between islands and ethnic groups.

3.2.4 Main resources

In 2007 catch taken from the EEZ waters of the Solomon Islands was about 121 600 tonnes. The catch composition was about 24% yellowfin, 62% skipjack, 4% bigeye, 4% albacore, and 6% of other species. Groups that are common in the purse seine catch other than tunas are sharks, billfish, rainbow runner, and triggerfish. Groups that are common in the longline catch other than tunas are sharks, billfish, opah, wahoo, and dolphinfish.

The coastal fisheries catch a large variety of finfish and invertebrate species. A study by the Forum Fisheries Agency¹⁵ showed that approximately 180 species of reef finfish from 30 families are caught from shallow-water by the domestic fishery. Catches are dominated by the families Lutjanidae (snappers), Serranidae (groupers and rock cods), Lethrinidae (emperors), Scombridae (mackerels) and Carangidae (trevallies). Important commercial invertebrate species are beche-de-mer, trochus, green snail, and giant clams, crabs and lobsters. The subsistence fisheries take a much larger diversity of marine animals and plants, with the most important groups being finfish and molluscs.

3.2.5 Management applied to main marine fisheries

The Solomon Islands is a member of the Western and Central Pacific Fisheries Commission that was established by the Convention for the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean. The Convention entered into force in June 2004.

The management of marine fisheries in the Solomon Islands can be placed in three categories: the offshore fisheries, commercial export fisheries, and subsistence fisheries. The offshore/export fisheries are actively managed by the government through the Fisheries Department, whereas subsistence fishing in traditional management areas is mainly undertaken by village-level authorities.

Formal management plans only exist for three fisheries. These are the offshore fisheries, live reef food fishery, and the beche-de-mer fishery. **Management Objectives**

¹⁵ Richards, A., L. Bell, and J. Bell (1994). Inshore Fisheries Resources of Solomon Islands. Report 94/01, Forum Fisheries Agency, Honiara.

The Fisheries Act 1998 states that the objective of fisheries management and development in Solomon Islands shall be to ensure the long-term conservation and the sustainable utilisation of the fishery resources of Solomon Islands for the benefit of the people of Solomon Islands.

The management objectives for the offshore fisheries is covered in the **"Solomon Islands National Tuna Management and Development Plan"** which came into force in June 1999. The plan (three volumes and 196 pages) gives the following objectives:

- to ensure that the tuna resources of the Solomon Islands are not exploited beyond their optimal sustainable yields; and
- within the limit set by this conservation objective, to harvest the resource in such a way that maximises the economic and social benefits received by the people of the Solomon Islands

The management objectives for the coastal commercial fisheries are focussed on resource sustainability (or prevention of resource exhaustion) for the export species. Some management interventions (e.g. high taxes on the export of raw trochus) have the objective of encouraging the development of a local processing industry. The management objectives for the subsistence fisheries are much less formal, but usually involve some aspect of protecting village food supplies.

Management measures and institutional arrangements

The current tuna management plan specifies that the management measures for the industrial fishery consist of a limit on the number of licences and restrictions on access by certain vessels to some areas. In the decade that the plan was in force, problems were experienced with implementing these measures, especially those related to restricting licences during the period of ethnic tensions. The licensing procedures have since been tightened, and further strengthening is anticipated in a new tuna management plan presently being formulated.

The institutional arrangements for tuna fishery management, as prescribed by the current tuna management plan are:

Minister Responsible for Fisheries

- accountable for the sustainable use of fisheries resources
- retains all powers but works within agreed constraints
- prescribes tuna fishery regulations

Fisheries Advisory Council

- advises Minister on management & research
- administers Fisheries Management & Development Fund

Tuna Management Committee

- operational authority for implementing the Management Plan
- strategic direction

Director of Fisheries

- legal authority for implementing the Management & Development Plan (under s7(1))
- acts on advice from the Tuna Management Committee

The management arrangements for the coastal commercial export fisheries consist mainly of temporary and long-term bans, mostly enforced at the point of export. The 2006 national closure of the beche-de-mer fishery is an example of a national temporary ban. Gold-lip pearl shell, turtle shell, and crocodiles are under a long-term ban. The Fisheries Department typically formulates the measures and enforcement is done by non-fishery government officials at the point of export. Some coastal communities have other management arrangements for the management of coastal commercial fisheries that occur in their areas. The residents of Ontong Java atoll, for example, have alternating annual closures for beche-de-mer fishing and for trochus fishing.

Most of the areas where coastal subsistence fishing is undertaken are covered by traditional management arrangements. A recent study found that nearly 85% of the inshore marine areas in the Solomon Islands are customarily owned and managed by local villages, tribal groupings and communities. There is a wide diversity of fishery management provisions

between areas, but most involve traditional authorities, often a hereditary chief, making management decisions after considering the views of their resident stakeholders. The measures often involve limiting access by outsiders to the fishing areas and various types of input restrictions on the fishing activities of local residents. Common restriction include periodic harvesting bans in specific areas and bans on gear types. In recent years some of the areas have an external management partner, such as the local branch of an international NGO.

Solomon Islands is a member of the South Pacific Commission (SPC), the Pacific Islands Forum Fisheries Agency (FFA) the South Pacific Regional Environmental Programme (SPREP), and the Food and Agriculture Organization of the United Nations (FAO).

Solomon Islands is also party to a number of treaties and arrangements relating to the management of regional fisheries, including:

- The Harmonized Minimum Terms and Conditions for Foreign Fishing Vessel Access;
- the Treaty on Fisheries Between the Governments of Certain Pacific Island States and the Government of the United States of America;
- the Wellington Convention for the Prohibition of Fishing with Long Driftnets in the South Pacific;
- the Niue Treaty on Cooperation in Fisheries Surveillance and Law Enforcement in the South Pacific Region;
- the Nauru Agreement Concerning Cooperation in the Management of Fisheries of Common Concern;
- the Palau Arrangement for the Management of the Western Pacific Purse Seine Fishery; and
- the FSM Arrangement for Regional Fisheries Access.

Solomon Islands is a party to the United Nations Convention on the Law of the Sea (UNCLOS), the Agreement for the Implementation of the Provisions of the United Nations Convention of the Law of the Sea of 10 December 1982 Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, and the Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean.

3.2.6 Fishermen Communities

The concept of “fishermen communities” has limited applicability to the Solomon Islands. Nearly all households in coastal villages are involved in coastal fishing activities. It could therefore be stated that all villages in the Solomon Islands that are rural and coastal are “fishing communities”. One village, called “Honiara Fishing Village” carries out much of the commercial fishing for sale in Honiara, but the village is based on resettlement from another area in the Solomon Islands (Residents are originally from the Lau Lagoon of Malaita island), rather than on fishing.

Many of the people that work on the industrial fishing vessels live in Noro close to the cannery where those vessels are based. Other fishers are widely dispersed and do not live in distinct communities.

3.3 Inland sub-sector

The many large islands in the country result in a relatively large inland population with no direct access to marine food resources. This results in the Solomon Islands having a significant subsistence freshwater fishery, albeit much smaller than the marine fishery. Although there is no official report, recent studies have estimated an annual inland fishery

production to be about 2 000 tonnes per year, valued at about 1.5 million USD. Although some of the catch may be sold, the vast majority is for subsistence purposes.

The main fishing and landing areas are small streams near villages and the banks of the larger rivers, mainly on the larger islands. The smaller islands and atolls generally have no sizeable freshwater bodies and consequently no freshwater fishing activity.

All inland fishing is carried out with very small-scale gear. This consists of baited lines, spears, variety of traditional woven traps, hollow poles, snares and knives.

Information is scarce on the resources that support the inland fisheries – no comprehensive survey has been carried out. Anecdotal information and survey reports focussed on single islands suggest that flagtails, gobies, eels, and freshwater shrimps are important native species. Tilapia, an introduced species, appears to be important, especially in small ponds and lakes.

The management applied to inland fisheries in the Solomon Islands is poorly documented. In general, it could be considered similar to that for the coastal subsistence fisheries – in which management is oriented to protecting village food supplies. Decisions are characteristically taken by traditional authorities and involve exclusion of outsiders and various types of bans on community members.

3.4 Recreational sub-sector

Although subsistence fishing may have a large social component and be enjoyed by the participants, there is little recreational fishing as a leisure activity for local residents. Several of the resorts offer fishing activity to their overseas guests and some local expatriates in Honiara occasionally carry out some fishing on the weekends. This mainly involves trolling for coastal pelagic fish, such as Spanish mackerel, barracuda, and tunas.

There is no active management of the recreational sub-sector.

3.5 Aquaculture sub-sector

The current aquaculture activities in the Solomon Islands are limited and based on three types of products:

- The coral culture involves *Acropora* and soft corals.
- Post larval capture and culture is based on postlarval lobsters, shrimp and fish, with that of coral shrimp (*Stenopus* spp.) and especially spiny lobsters (*Panulirus* spp.) showing the most promise.
- Seaweed culture utilizes the species *Kappaphycus alvarezii*.

A New Zealand-sponsored project recently summarized the aquaculture situation in the Solomons Islands¹⁶:

There has been a wide range of species cultured within the Solomon Islands, including giant clams, penaeid shrimps, freshwater prawns, pearl oysters, sea weed, sea cucumbers, hard and soft corals, milkfish, sponges and the capture/culture of postlarval animals. To date, the aquaculture industry has had limited contribution to the livelihoods of the rural sector. Since the political unrest within the nation the commercial aquaculture operations have been closed with little private sector interest in restarting operations. Coral culture (hard and soft) has provided small-scale sustained economic benefits through the successful development of community based farms that service the private sector aquarium companies. Similarly seaweed, although still in its development stage, has provided positive indications that the industry may become viable in the long term.

The most significant attempt to promote aquaculture in the Solomon Islands was the Coastal Aquaculture Centre, which was a joint project between the Government of the Solomon Islands and the International Centre for Living Aquatic Resource Management (ICLARM; now the

¹⁶ Source: Lindsay, S. (2007). Aquaculture Sector Assessment, Solomon Islands. Lincoln International Pty Ltd., Marine Resource Organizational Strengthening Project Solomon Islands.

WorldFish Center) and promoted mainly the culture of juvenile giant clams for the live aquarium trade. The clams were grown out by small-scale farmers who then sold their production to exporters. In the late 1990s efforts were made to explore giant clam sashimi markets in Taiwan and Hong Kong. The Centre also initiated a black-lipped pearl oyster collection programme with a view to investigating pearl culture, experimental culture of beche-de-mer, and a project to investigate green snail and trochus resources, the latter with Japanese assistance. The Centre ceased operation in early 2000 due to violence associated with the ethnic tension.

The latest attempt to quantify the volume and value of aquaculture production in the country was undertaken by the Asian Development Bank (ADB). Using a variety of source documents, ADB determined:

Recent Annual Volumes and Values of Aquaculture

	2005		2006		2007		2008	
	Volume	Value (USD)	Volume	Value (USD)	Volume	Value (US)	Volume	Value (USD)
Post larval capture/culture	1 400 pcs	1 200	1 200 pcs	1 000	n.a.	n.a.	n.a.	n.a.
Coral	1 800 pcs	1 900	7 000 pcs	7 400	n.a.	n.a.	n.a.	n.a.
Giant tiger prawn	n.a.	n.a.	n.a.	n.a.	1 t	14 000	1 t	14 000
Seaweed	326 t	87 000	169 t	33 000	108 t	21 000	144 t	58 000

Note: Values are producer prices;

Source: Gillett (2009) for post larval culture and coral, FAO for the rest

Most of the current aquaculture production is supported by donors with an interest in rural development. Accordingly, many of the aquaculture operations are located in rural areas. As an example, the Coral Gardens program of the Foundation of the Peoples of the South Pacific International aims to alleviate poverty and reverse ecological damage by mariculture initiatives such as coral culture in Marau Sound, the Nggela Islands and Langalanga Lagoon in Malaita.

Other than efforts to promote its development, there is no active management of the aquaculture sub-sector in the Solomon Islands.

4. POST-HARVEST USE

4.1 Fish utilization

In general offshore fishing is export oriented. The local purse seiners supply the cannery in the Solomon Islands, but most of the catch is exported unprocessed to overseas canneries. Catches taken by foreign-based purse seining is exported to overseas canneries. Longlining (presently all foreign-based) is oriented to producing sashimi for Asia and North America.

Coastal commercial fishing produces mainly fresh products (finfish, invertebrates) for urban consumption and non-perishable products (beche-de-mer, trochus) for export. Some perishable fishery products (e.g. lobster tails) are sporadically exported, while aquarium items are exported much more regularly.

The subsistence fisheries (both coastal and inland), as the name implies are focused on production of food for household consumption. Significant amounts of fish are, however given away to friends and relatives. Often attempts are made to market any of the valuable species captured - if a market exists (e.g. lobster to a resort). In some communities, production in excess of immediate needs is salted or dried for future use.

4.2 Fish Markets

Fish canned in the Solomon Islands is exported to Japan, Europe and regional markets (e.g. Fiji). Currently, the Solomon Islands has duty-free access for its canned tuna into the EU market. The non-processed tuna that is exported has as its final market (after processing in mainly Southeast Asia or American Samoa) mostly the United States and Europe, with small amounts going to a large number of countries.

The main domestic market for fish is in Honiara, but other markets exist in the towns of Gizo, Buala, Tulagi, Auki, Kirakira, and Lata.

Beche-de-mer is exported to China, with smaller amounts going to Southeast Asian countries. The markets for trochus shell are the processing plants in Europe and Asia, with the processed buttons going to fashion clothes for consumers in Europe, North American and Japan. Lobster tails are primarily for Australia and the aquarium products for North America.

5. FISHERY SECTOR PERFORMANCE

5.1 Economic role of fisheries in the national economy

A recent study by the Asian Development Bank attempted to quantify the fishery-related benefits received by Solomon Islands. The study gave the available information on the contribution of fishing/fisheries to GDP, exports, government revenue, and employment. The results can be summarized as:

- Official estimates show that fishing in 2006 was responsible for 6.0 % of the GDP of the Solomon Islands. A recalculation using a different methodology shows it was 6.8 % in 2007.
- Exports of fishery products are about 12.0 % of all exports (13% in official report).
- Access fees paid by foreign fishing vessels represent 4.4 % of all government revenue.
- Formal jobs directly related to fisheries represent about 12.1 % of the total number of formal jobs in the Solomon Islands.

From the above it can be seen that fisheries make a relatively important contribution to GDP, exports, government revenue, and employment.

5.2 Demand

The per capita consumption of fish in the Solomon Islands, based on the 2007 FAO Food Balance Sheet, is 33.6 kg. Various other studies have made estimates ranging between 27.5 and 40.0 kg. Considering the Solomon Islands' population, 35 kg of fish consumption per capita translates into a 2010 demand for 18,750 tonnes of fish.

Factors influencing the future demand for fish are a rising population, increases in price of fish (over-exploitation of inshore areas, gradual devaluation of the local currency, fuel cost increases), and relative cost of fish substitutes.

5.3 Supply

The government has several strategies to increase the national fish supply. These involve supporting the marketing of fishery products in Honiara from remote parts of the country and promoting the use of offshore tuna resources by encouraging (a) small-scale fishers, and (b) increase domestic utilization of industrial tuna catches.

Major factors affecting the local supply of fish are over-fishing, siltation, destructive fishing, transport links to the outer islands, and the offloading of fish by the offshore fleet.

5.4 Trade

Exports of fishery products in 2007 were S\$168.6million (USD 22 million) and represented about 13 % of all exports of the Solomon Islands. The vast majority of the exports were tuna products. The major non-tuna commodities were beche-de-mer, trochus, items for the aquarium trade, seaweed, and shark fins.

5.5 Food security

Fish is an important element of food security in the Solomon Islands. The FAO Food Balance Sheets show that in 2007 fish contributed an average of 22% of all protein to the diet and 76 % of animal protein. In rural areas of the country the contributions are even higher.

Animal protein substitutes for fish consist mainly of various types of livestock and imported canned meat. Food imports are now relatively expensive in the local currency due to deterioration of the economy during the previous decade.

5.6 Employment

The most recent estimate of the formal employment in the Solomon Islands, including the fisheries component, was carried out by the International Monetary Fund in 2005.¹⁷

Formal Employment in the Solomon Island

	2001	2002	2003	2004
Formal fishing jobs	5 179	5 030	5 015	5 114
Total formal jobs	42 631	41 067	41 723	42 297
Fishing jobs as % of all formal jobs	12.1%	12.2%	12.0%	12.1%

An important component of fisheries employment in the Solomon Islands are those jobs related to offshore fishing. A study by the Forum Fisheries Agency¹⁸ tracked the number of **Solomon Island citizens employed in the country's** offshore fishing industry (both onboard and in processing plants) over a seven-year period:

Locals Employed in the Solomon Islands Tuna Industry

	2002	2006	2008
Local Jobs on Vessels	464	66	107
Local Jobs in Shore Facilities	422	330	827
Total	886	396	934

5.7 Rural development

An assessment by UNDP¹⁹ earlier in the decade indicated that most future employment opportunities lie in the informal rural sector. Fisheries development in rural areas has a major role in providing such employment.

One of the major mechanisms for rural fisheries development has been the fisheries centres. About 25 of these facilities were established in rural areas and were intended to serve as market outlets for fish caught by rural fishermen. It was planned that the centers would sell fishing gear and provide training in new fishing techniques and improved catch handling. Although they were plagued with problem (especially during the ethnic tension), about two-thirds of the centres continue to function – **and are vital in the government's attempts** to develop rural fishery resources.

¹⁷ IMF (2005). Solomon Islands: Selected Issues and Statistical Appendix. IMF Country Report No. 05/364, International Monetary Fund

¹⁸ Gillett, R. (2008). A Study of Tuna Industry Development Aspirations of FFA Member Countries. Forum Fisheries Agency, Honiara, 70 pages.

¹⁹ UNDP (2002). Solomon Islands Human Development Report. United Nations Development Programme.

6. FISHERY SECTOR DEVELOPMENT

6.1 Constraints and opportunities

Some of the major constraints of the fisheries sector are:

- Many of the inshore fishery resources, especially those close to the urban markets, are fully or over-exploited.
- Small-scale fishers cannot economically access the relatively abundant offshore fishery resources.
- Although the government-owned cannery and tuna fleet is vitally important for the national economy and for the welfare of the people employed, those operations are unprofitable. The government cannot afford the financial injections required to keep them operating, but for political and social reasons it cannot afford to shut them down.
- There are considerable difficulties associated with marketing fishery products from the remote producing areas to the urban areas where the marketing opportunities are high.

There was a large decline in the quality of governance of the fisheries sector during the period of ethnic tension.

The opportunities in the fisheries sector include:

- Upgrading the cannery to meet EU fish sanitary requirements
- Domestication of the purse seine fishery
- In-country processing of a greater proportion of the tuna catch taken by foreign fleets **within the Solomon Islands' EEZ**
- Expansion of the marine aquarium fishery
- Greater use of management partnerships (community, government, NGO) in the management of coastal fisheries
- Increasing the effectiveness of the Fisheries Department by enhancing staff capability and re-orientation of the Department to current needs

6.2 Government and private sector policies and development strategies

The Government's 2008 "National Unity and Rural Advancement Government Policy" gives the current official development strategy in the fisheries sector:

- Increased opportunities for rural fishers to improve their standard of living by establishing on-shore fish processing facilities and the introduction of pump-boats.
- Establishment of a dolphin assessment and monitoring program
- Increased potential value of fisheries and marine products by setting up two tuna loin processing plants in the country.
- Strengthen Soltai fishing and processing company to ensure its long-term survival and economic viability.
- Improve Solomon Islands earnings through the realization of the international value of the resource and effective licensing procedures.
- Management plans and appropriate legislations are in place for the main stocks.
- Monitoring systems are in place that provide accurate and timely information on commercial and sustainable fisheries for all stakeholders including regional agencies.
- Enhanced organizational capacity, systems and skills to support the ministry to meet its commitments.
- marine products by small-scale fishermen or fishing communities so as to allow them to actively participate in in-shore fisheries activities

The private sector policies are much less formal. Recent action by the major industrial fishing company suggest their position is that they are comfortable with the size of the domestic tuna fishing fleet and that any significant expansion in vessel numbers should be accompanied by increased fishing outside the EEZ of the Solomon Islands. The tuna processing company feels that access by small-scale fishers to tuna resources is essential. Coastal commercial fishers do not have an articulated policy.

6.3 Research

The older fishery research in the Solomon Islands has been compiled into one volume by a project undertaken by the Forum Fisheries Agency²⁰. Most of the recent fisheries research carried out in the Solomon Islands has been undertaken through cooperation with overseas partners. The fishery-related research subjects and partners include:

- Aquaculture – with the WorldFish Center and NGOs
- Tuna – with the Oceanic Fisheries Programme of the Secretariat of the Pacific Community (SPC)
- Reef fish and invertebrates – with the Coastal Fisheries Programme of the Secretariat of the Pacific Community
- Corals – with the Foundation of the Peoples of the South Pacific International and the Secretariat of the Pacific Regional Environment Programme (SPREP)
- Spear fishing – with the Food and Agriculture Organization of the United Nations (FAO)
- Assessment of the biodiversity and status of coral reefs, seagrass beds, oceanic cetaceans, reef food fish, commercial invertebrates and associated habitats – with the Nature Conservancy (TNC)

6.4 Education / Training

Education / training related to fisheries in the Solomon Islands is undertaken in a variety of institutions:

- Academic training in biological, economic and other aspects of fisheries is given at the University of the South Pacific in Suva, Fiji, and to a lesser extent at the University of Papua New Guinea.
- Practical aspects of fisheries and certification of vessel officers is undertaken at the Solomon Islands College of Higher Education.
- Training courses, workshops and attachments are frequently organized by the regional organizations: the Secretariat of the Pacific Community in New Caledonia and by the Forum Fisheries Agency in the Solomon Islands. The subject matter has included such diverse topics as fish quality grading, stock assessment, seaweed culture, fisheries surveillance, and on-vessel observing.
- Regional workshops (e.g. Code of Conduct for Responsible Fisheries, IUU fishing, Coastal fisheries management, Ecosystem approach to coastal fisheries management, Fishery statistics, annual roundtable meeting on WTO agreements, etc.) are also conducted by the FAO.
- Courses and workshops are also given by NGOs and by bilateral donors, such as those by Japan.
- Some Solomon Islanders have received advanced degrees in fishery-related subjects at overseas universities, especially those in Australia.

6.5 Foreign aid

Important donors in the fisheries sector (and major initiatives) are the European Union (rural fisheries enterprises, seaweed culture, wharf at Noro), Overseas Fishery Cooperation Foundation (renovation of fisheries centres, a loan for cannery construction), Japan International Cooperation Agency (fisheries wharf, cold storage and social facilities), and the Nature Conservancy (fisheries centre, live reef fish management plan).

A recent study²¹ summarises the activities of the main donors active in the fisheries sector:

- Japan has been a long term donor, for the rural fisheries centres, and for projects supportive of the domestically owned and run pole-and-line fishery, most recently for two new vessels for Soltai Fishing and Processing in 2005-6. Japanese fisheries aid also comes through organizations like the Overseas Fisheries Cooperation Foundation. This organization supports Japan-based technical training for a range of fisheries related personnel in the public and private sector, and also has funded two technical advisors in canning and engineering to work in the government-owned Soltai Fishing and Processing in recent years.

²⁰ Skewes, T. (1990). *Marine Resource Profiles: The Solomon Islands*. Report 90/61. Forum Fisheries Agency, Honiara.

²¹ Barclay, K. (2008). *Fisheries and Aquaculture*. In: *Solomon Islands Diagnostic Trade Integration Study (DTIS)*. Ministry of Foreign Affairs and External Trade

- New Zealand is currently a major player in fisheries aid with its Solomon Islands Marine Resources Organizational Strengthening project focusing on the Ministry of Fisheries and Marine Resources since 2006.
- The EU funded long-term Rural Fisheries Development Project in the 1990s and 2000s, and has provided its assistance to two projects, one on seaweed production and another on pearl farming.
- Taiwan through its funding of the Rural Constituencies Development Fund provides its assistance in rural fisheries development. It also has injected funds into specific fisheries activities over the years. For example, it provided several million dollars to enable Soltai Fishing and Processing to reopen operations after having lain dormant for a year.
- FAO assisted in formulating a National Plan of Action to prevent, deter and eliminate illegal, unreported and unregulated fishing (IUU fishing) in Solomon Islands in 2009-2010.

7. FISHERY SECTOR INSTITUTIONS

Under the Fisheries Act 1998 the administration of fisheries is under the Minister for Fisheries and Marine Resources (MFMR). Until 2006, the government fisheries authority was a department under the Ministry of Natural Resources. In 2006, the Ministry of Fisheries and Marine Resources was created. The MFMR has five divisions. These are Research, Aquaculture, Licensing and Enforcement, Extension, and Statistics plus an administration unit. The latest annual report of the MFMR states that there are 65 established posts (of which 26 were vacant) and four non-established posts.

The MFMR is now being strengthened by the New Zealand-funded Solomon Islands Marine Resources Organizational Strengthening Program in its transition from the current organizational arrangements to new arrangements. The MFMR Corporate plan 2008 – 2011 states that the Programme will assist in several areas, including (a) agreeing on the new direction of the Ministry (reflected in strategic plan), (b) agreeing on and implementing an appropriate organizational structure able to provide strategic direction, (c) securing budget and other resources, and (d) building sound institutional capacity within the MFMR (financial, administration, IT, technical, policy). In general, the MFMR has elected to shift its focus away from attempting to be a full service provider to a role that enables it to more productively use the skills and resources available to it.

With respect to fishery stakeholder institutions, there is no grouping that represents the interests of small-scale fishers in the country. For the offshore fisheries, the two individuals that head the tuna processing company and the tuna fishing company often meet informally to discuss issues of mutual interest. Although the **Fisheries Act 1998 established a "Fisheries Advisory Council" consisting of stakeholders**, that group has not met in several years.

Some of the important internet links related to fisheries institutions in the Solomon Islands are:

- www.spc.int/Coastfish/Countries/solomons/solomons.htm - Information on Solomon Islands fisheries, linking to other sites and some SPC reports on Solomon Islands.
- www.paclii.org/cgi-pacii - Text of Solomon Island fishery legislation
- www.sprep.org/att/IRC/eCOPIES/Countries/Solomon_Islands/9.pdf - information on the fishery resources of the Solomon Islands

8. GENERAL LEGAL FRAMEWORK

The legal framework for fisheries development and management in the Solomon Islands was established by the Fisheries Act 1998. Major features of the Act are:

- Establishment of a Fisheries Advisory Council
- Establishment of a Fisheries Management and Development Fund which receives funding from foreign fishing vessel access fees
- Requirement for a national Fisheries Management and Development Plan

- Establishment of the principle that provinces are responsible for the management of reef, inshore and freshwater fisheries
- Requirement for licences for commercial fishing vessels
- Requirement for licences and access fees for foreign fishing vessels
- Prohibition of fishing using explosives
- Requirement for written permission for aquaculture activity and for the export of live fish
- Requirement for a licence and record keeping by fish processing establishments

The most important subsidiary legislation is the Fisheries (Local Fishing Vessels) Regulations, which specify the obligations of a master of a licensed fishing vessel, including a ban on fishing within five hundred metres of low water mark, within one nautical mile of any village or fish without permission in writing. The Fisheries (Foreign Fishing Vessels) Regulations prescribe the terms and conditions for foreign fishing vessels fishing in Solomon Islands waters. The Fisheries (Prohibition of Importation of Live Fish) Regulations prohibit the importation of live fish into Solomon Islands without authorization from the Director of Fisheries. A number of proposed regulations have been submitted by **MFMR to the Attorney General's** Office in recent year but have not yet been approved.

Other fisheries-relevant legislation includes:

- Delimitation of Marine Waters Act (1978) and subsequent amendments
- Declaration of the Archipelagos of the Solomon Islands (20 August 1979)
- Declaration of Archipelagic Baseline (20 August 1979)
- Fisheries (Foreign Fishing Vessels) Regulations 1981
- Fisheries (United States of America) (Treaty) Act (1988)

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