

3 Study Considerations and Definitions

3.1 This Study

This study covers many of the same topics as the two earlier Benefish studies (Gillett and Lightfoot 2001; Gillett 2009). For the convenience of the target audience, this book does not need to be read in conjunction with the earlier studies – the important conclusions and recommendations from the earlier studies appear in Appendix 1, and many of the explanations and observations that are still valid are incorporated into the text of the present study.

The treatment of prices represents an important difference between the present study and Gillett and Lightfoot (2001). In this study, except where otherwise noted, fish prices given are the prices paid to the producer – either dockside prices, prices at first sale, or (for aquaculture and subsistence fishing) farm gate prices. For offshore fishing, a similar system is used, in which the readily available world market prices for the concerned fishery commodities are discounted by an amount to cover transport of the commodities to those markets – that is, a pricing system that closer reflects the in-zone value, which is an important consideration in periods of high fuel costs. Other aspects of prices in this book are as follows:

- In most cases the prices for production from offshore fishing are based on those given in a study by the Forum Fisheries Agency (FFA 2015), with adjustments for the volume and value of bycatch and for the cost of transport to destination markets.
- Where information judged to be more accurate than those in FFA (2015) is available (e.g. data from the American and French territories), the more reliable source is used.
- Unless otherwise stated, all gross domestic product (GDP) values are expressed in current market prices.

The valuing of subsistence fisheries production requires some special attention. There are several methods that could be used to assign a monetary value to subsistence production, including: (i) farm gate pricing (used in this book); (ii) the value of calories produced; (iii) the opportunity cost of labour; or (iv) the reservation price of labour. The farm gate pricing method uses the market price of the product less the cost of getting that product to market. In effect, it is indicating that the value of self-consumption is equivalent to the price the product could be sold for in the market, less the cost of getting the product to market. This approach assumes that the volume of subsistence production would have little or no effect on the market price if it were to be marketed. While there are advantages and disadvantages to each of these valuation methods, practical issues determine the best or most appropriate method. In this study the consultant has used the farm gate pricing method, as recommended by SPC in the publication, *A Guide to Estimating the Value of Household Non-Market Production in the Pacific Island Developing Countries*. (Bain 1996)

3.2 The Study Area

In fisheries of the Pacific Island region there is often uncertainty over the geographical area involved. The region could be considered to be as large as the area bounded by the entire western and central Pacific Ocean (WCPO) to the coastal waters of the countries of the region. The “region” encompassed in this study consists of 22 Pacific Island countries and territories (PICTs)¹ and their associated 200-mile zones. This region can be seen within the wider Western and Central Pacific Fisheries Commission (WCPFC) area illustrated in Figure 3-1.

Summary details of the 200-mile zones and populations of the Pacific Island countries and territories are provided in Table 3-1.

¹ For convenience, “countries and territories” is often simplified to “countries” in this book, and unless otherwise specified, is taken to be inclusive.

Table 3-1: Information on PICT 200-Mile Zones and Population Change

	Country/ Territory	Area of 200-mile Zone (km ²)	2007 Population	2014 Population	% Change 2007–2014
Independent Pacific Island Countries	Cook Islands	1,830,000	15,369	15,225	-0.9%
	FSM	2,978,000	104,754	102,908	-1.8%
	Fiji	1,290,000	836,239	863,073	3.1%
	Kiribati	3,550,000	95,470	111,117	14.1%
	Marshall Islands	2,131,000	53,059	54,550	2.7%
	Nauru	320,000	9,373	10,660	12.1%
	Niue	390,000	1,587	1,499	-5.9%
	Palau	629,000	20,162	17,862	-12.9%
	Papua New Guinea	3,120,000	6,324,106	7,570,686	16.5%
	Samoa	120,000	181,267	187,372	3.3%
	Solomon Islands	1,340,000	506,422	626,247	19.1%
	Tonga	700,000	102,248	103,347	1.1%
	Tuvalu	900,000	11,130	11,099	-0.3%
	Vanuatu	680,000	227,056	271,089	16.2%
Pacific Island Territories	American Samoa	390,000	63,563	56,803	-11.9%
	French Polynesia	5,030,000	259,300	262,059	1.1%
	Guam	218,000	172,390	179,523	4.0%
	New Caledonia	1,740,000	239,590	262,254	8.6%
	N. Mariana Islands	1,823,000	64,109	56,338	-13.8%
	Pitcairn Islands	800,000	49	49	
	Tokelau	290,000	1,169	1,166	-0.3%
	Wallis and Futuna	300,000	13,801	12,011	-14.9%
Total	30,569,000	390,000	10,776,937	15.8%	

Source: SPC's PRISM website

3.3 Definitions

This study organises fish harvests in the Pacific Islands region into six production categories. In using a classifying scheme that focuses on the fate of the catch (rather than on the type of fishing), many of the difficulties that arise in classifying fisheries (i.e. the indistinct boundary between subsistence and small-scale commercial fisheries) are avoided. These six categories are as follows:

- **Coastal commercial:** The catch that is sold (i.e. enters commerce) and that derives from fishing operations that take place in lagoon, reef, deep-slope or shallow sea areas. This category also includes fish caught by trolling/handing from small vessels in the open sea adjacent to islands.
- **Coastal subsistence:** The catch that is retained for consumption by the fisher or given away to family or friends. For simplicity, the catches from recreational fishing are considered as production for home consumption, and therefore as a component of subsistence fisheries.
- **Offshore locally based:** The catch from industrial-scale tuna fishing operations that: (a) are based at a port in the relevant Pacific Islands country; and (b) are generally harvested more than 12 nautical miles offshore. McCoy (1991) further defines “industrial fishing” as those operations that offload the catch primarily to a fish plant or processing facility.
- **Offshore foreign-based:** The catch from industrial-scale tuna fishing operations that are based at ports outside of the relevant country.
- **Aquaculture:** The production from the farming of aquatic organisms, including fish, molluscs, crustaceans and aquatic plants. Farming implies some form of intervention in the rearing process to enhance production, such as regular stocking, feeding or protection from predators.
- **Freshwater:** The catch from streams, rivers and lakes, whether for subsistence or commercial purposes.

Some additional terminology clarifications are required, as follows:

- In this study “fishing” is considered to be the harvesting of aquatic animals and plants, and includes aquaculture unless otherwise stated.
- Similarly, “fisheries” is considered to be an inclusive term, and includes aquaculture and post-harvest activities.
- The terms “catch”, “production” and “harvest” are considered to be equivalent.
- For GDP purposes, the economic sector is “fishing” rather than the more inclusive “fisheries” (Section 4-2 below). In this book, the term “fisheries sector” includes the “fishing sector”, plus post-harvest activities.

- “Fish” is defined (as in the legislation of most Pacific Island countries and territories) to be aquatic living organisms, and in this study the term includes invertebrates and plants. The term “finfish” is used to emphasise the narrower definition of fish.
- The phrase “information not readily available” is used often in this book. It is intended to convey the concept that the information may be available somewhere, but that a substantial amount of intense searching for several days in-country, and opportunistically over a period of several months, has not resulted in locating the information. In several cases the term is used euphemistically for the situation in which a civil servant may have promised to send information but failed to do so.