

# ADB BENEFISH STUDY

In early 2001, the Asian Development Bank expressed concern that the importance of fisheries to Pacific Island economies was not fully appreciated by the countries of the region, nor by the donor community. Discussions with the Pacific Islands Forum Fisheries Agency, the Secretariat of the Pacific Community, and the World Bank led to a study to improve the accuracy of estimates used to determine the contribution of fisheries to national economies. The output of that study was the document "The contribution of fisheries to the economies of Pacific Island Countries". Eight years later, discussions between these development partners and the Australian Agency for International Development have resulted in an agreement to update and expand that work in a project referred to as the "Benefish Study"<sup>1</sup>.

The benefits of fisheries is provided for each of the 22 Pacific Island countries and territories. These country sections contain recent, readily available data in the following areas:

- Annual fishery harvests: values and volumes covering 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.
- Fishing contribution to GDP: current fishing contribution, how it was calculated, and a local production approach recalculation based on annual harvest levels obtained during the study.

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- Fishery exports: amounts, types, and the ratio to all exports.
- Government revenue from the fisheries sector: access fees and other revenue.
- Fisheries employment.
- Fisheries contribution to nutrition.

Results of the Benefish Study show that the total volume of fisheries production in the Pacific Islands region in 2007 is estimated to be 1,327,361 metric tonnes (t), plus an aquaculture production of 2,984 t and 305,336 pieces. The total value of fisheries and aquaculture production in 2007 is estimated to be about USD 2,049,500,000.

Offshore foreign-based fishing is responsible for about one-half of the value of fisheries in the region, offshore locally based about one-quarter, and for the remaining quarter, about equal shares of coastal commercial, coastal subsistence and aquaculture.

With respect to changes in fishery production between 1999 and 2007, there was a remarkable increase by Papua New Guinea and a moderate increase by most other countries. By category of fishing, there were substantial production increases for offshore fisheries, whereas coastal fisheries levels were stagnant.

If aquaculture production from three atypical countries in the region is eliminated from consideration, significant aquaculture production comes from a limited range of activities: large-scale private sector pearl culture and shrimp culture where there is a significant tourist trade. There is significant tilapia, milkfish and giant clam culture, but whether net benefits are produced depends on the degree of subsidization, a situation that is often not clear.

In most countries there is an extremely weak factual basis for the estimates of coastal commercial and coastal subsistence catches. There seem to be three types of situations, however, where good estimates are available:

- Countries that have a dedicated ongoing national fisheries statistical system supported for many years by an overseas agency.
- Countries that have carried out an intensive, well-planned survey of fisheries to obtain an accurate snapshot.
- Countries that use a household income and expenditure survey for small-scale fisheries production purposes.

For each country, the official fishery contributions to GDP are given, along with the relative importance in the economy. In addition, a re-estimation is provided for the fishing contribution to GDP in each country. It is not intended that the re-estimate replace the official methodology, but rather the results can serve as a comparator to gain additional information on the appropriateness and accuracy of the official methodology — and possibly suggest a need for modification.

In most locations, the re-estimate by the Benefish Study of the fishing contribution to GDP

is larger than the official figure. In two locations the re-estimate was substantially smaller. On the basis of a good knowledge of the fisheries sector, the results in those two countries are likely to be erroneous.

Changes in fishing contributions to GDP were greatest in the Marshall Islands (with the establishment of a locally based offshore fleet) and Papua New Guinea (with increased activity of the locally based offshore fleet). Fishing contributions to GDP decreased the most in the Cook Islands (with the decrease in production from pearl farming) and Nauru (with the termination of locally based offshore fishing and a decrease in coastal commercial fishing). At least some of the observed changes were due to improved estimates of various fishing categories.

Fishery exports are very important to the countries of the region. In about half of the countries, fishery exports represent over one-half of all exports. Where they represent less than one-half the value of national exports, they are mostly quite large in nominal terms: New Caledonia (USD 157 million), Papua New Guinea (USD 101 million), Fiji (USD 63 million) and Marshall Islands (USD 37 million). The three entities that have the largest value of exports are American Samoa, New Caledonia and French Polynesia. Of the total of about USD 996 million in fishery exports in the region in 2007, about three-quarters are from these three territories.

In terms of export commodities, tuna products are by far the most valuable. Tuna exports from American Samoa alone approach the value of *all* fishery exports in *all* other Pacific Island countries combined.

In nominal terms, the value of regional fisheries exports al-

### Some surprising results of the Benefish Study

- Tuna exports from American Samoa approach the value of all fishery exports in all other Pacific Island countries combined.
- French Polynesia and New Caledonia produce 95.5% of the combined value of aquaculture in all 22 Pacific Island countries and territories.
- The range in estimates for participation in the coastal subsistence fisheries in Papua New Guinea (often given as between 250,000 and 500,000 t) approaches the magnitude of the participation in all other countries of the region combined.
- Several countries located in areas of good tuna fishing (as judged by access fees) export little or no tuna: Kiribati, Nauru, Tokelau and Tuvalu.
- The export value of fishery products is about 80% or greater than that of all exports in six Pacific Island countries and territories.

most doubled in the period 1999–2007. Fishery exports have increased relative to total exports in most countries, but have fallen significantly in the Solomon Islands and Samoa.

Access fees received by Pacific Island countries are provided and compared with the total government revenue, population, and catch value. Total access fees received in 2007 were USD 78.5 million, an increase of about 25% since 1999.

The national fisheries employment information in the country sections is very much a jumble of facts. Nevertheless, an attempt has been made to extract the information that best characterizes the national fisheries employment situation. For each country of the region, the best available information is provided on the relative importance of employment in commercial fisheries, and involvement in subsistence fishing.

Two important features of the data are the importance of: 1) participation in subsistence fisheries, which seems to have a strong relationship to island

type. The level of importance is highest in atolls, followed by small islands, and least in large high islands; and 2) fisheries in formal employment, which seems to be related more to business conditions than to island type. These conditions include, among others, proximity to processing facilities and airline connections to fresh fish markets.

The readily available information on the consumption of fish and other fishery resources has been compiled and compared. Some of the past comparisons between fish consumption surveys and between countries may be inappropriate due to methodological differences. The main difficulty is that most studies on fish consumption in the region determine one of two kinds of consumption: either the amount of food actually ingested or the whole weight of the fish that produces the food. Comparing fish consumption surveys should be avoided unless the methods used by the studies are known and they are either the same or corrected so that equal features are being compared.

The fishery categories used in the Benefish Study (coastal commercial, locally based offshore, etc.) could be re-arranged slightly to represent ecological zones. In partitioning benefits by those zones some interesting patterns emerge. A large part of the benefits from employment and nutrition — things that directly affect Pacific Islanders — come from the coastal zone. The less tangible and more abstract benefits (contribution to GDP, exports and government revenue) tend to come disproportionately from the offshore area.

In recent years, most Pacific Island countries have had a household income and expenditure survey (HIES) conducted. All of the independent Pacific Island countries and several of the territories are planning for a HIES in the next few years. An HIES may be a good opportunity to improve the measurement of small-scale fisheries, but on the other hand, some significant problems are apparent in the use of HIES for fishery purposes. A feature common in many countries of the Benefish Study

was that coastal fisheries production estimates by an HIES were relatively low. The way forward appears to be for fisheries specialists to cooperate with HIES specialists on an initiative for improving the applicability of HIES to the fisheries sector.

By international convention, the “fishing” sector for GDP purposes does not include post-harvest activities, which are quite important in many Pacific Island countries, and are likely to become more important in the future. To rectify this problem, a “satellite account” can be constructed. Groups and subgroups of industries can be identified and aggregated to form a satellite account that, in the case of fisheries, would include post-harvest activities. As an example, a simple first order satellite account was constructed for Fiji’s fisheries sector. It showed that the estimated FJD 104,375,000 for the broad fisheries sector in the satellite account is about 34% greater than the estimated FJD 77.8 million for the narrow fishing sector. If Fiji’s total GDP in 2003

was FJD 4,390,551,000, then the contribution to GDP increases from 1.8% for the fishing sector to 2.3% for the fisheries sector.

The Asian Development Bank is scheduled to finalize and make available the Benefish report by early November 2009.

<sup>1</sup> Gillett, R. 2009. The contribution of fisheries to the economies of Pacific Island countries and territories. Pacific Studies Series, Asian Development Bank, World Bank, Forum Fisheries Agency, Secretariat of the Pacific Community, and Australian Agency for International Development. 362 p.



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