

## Fiji Islands

### *Employment*

The 1996 Annual Employment Survey has recently been updated with 1998 figures. It has estimates of “paid employment” in the “fishing excluding subsistence fishing category:”

**Table A2.10: Fisheries-related Employment in Fiji Islands, 1996–1998 (F\$)**

Category	1996	1997	1998
Paid Employment in “Fishing excluding Subsistence”	252	173	340
Total Paid Employment	110,081	112,932	112,519
Fisheries Employment as % of Total Employment	0.23	0.15	0.30

Source: 1996 Annual Employment Survey.

Intuitively, the number of jobs appears very low. One fishing company claims 700 staff. Discussions with the Bureau of Statistics officials revealed that the following may contribute to the low estimate:

- The survey used the postal enquiry system in which the questionnaires are mailed out. Large firms (gold mining, garment manufacturing) are more likely to return the forms, or subsequently, respond to government pressure for returning the forms.
- The frame for the survey is based on the business register, and the smaller the firm, the less likely is it to be on the register.
- The survey and follow-up for nonresponse were focused on the larger islands of the Fiji Islands.

If the crew jobs in fishing are taken into account, the 1996 Annual Employment Survey appears to underestimate the fisheries employment in the country by an order of magnitude.

Other sources of fisheries employment information in the Fiji Islands are:

- The Fisheries Division Annual Report 1999 (Fisheries Division 2001) gives the number of crew on registered vessels as 2,304 in 1999, which is about seven times the Employment Survey's total for *all* fisheries employment in the Fiji Islands. Furthermore, the 2,304 people thus employed are only but the crew on the artisanal fishing vessels.
- Gillett et al. (2001) estimate the number of crew on tuna fishing vessels in the Fiji Islands as follows: Foreign fishing vessels, 340; Domestic pole/line vessels, 25; Domestic longline vessels, 462. This totals to 827 jobs.
- An FAO estimate (Visser 1997) shows that, in 1994, there were 64,500 full-time, part-time, or occasional fishers in the Fiji Islands.
- Anonymous (2001a) states that "Total direct employment in the marine sector in 1990 was estimated at 6,500. This increased by 9,570 in 1997. More recent surveys have estimated this to be at 9,000."
- Rawlinson et al. (1993) indicate 8,335 artisanal fishers in the island of Viti Levu.

The 1996 census also gives additional information on employment in the Fiji Islands, as presented in Table A2.11:

**Table A2.11: General Employment Information  
on Fiji Islands, 1996**

<b>Category</b>	<b>No. of People</b>
Population 15 years and over	500,913
Economically Inactive	203,143
Economically Active <sup>a</sup>	297,770
<b>Total Work for Money</b>	<b>219,314</b>
<b>Total Subsistence</b>	<b>61,191</b>
<b>Total Unemployed</b>	<b>17,265</b>

<sup>a</sup> Economically active is defined as people working for money, engaged in subsistence activities, actively looking for work, or the unemployed in the 1 week before the census night of 15 August 1996. Source: 1996 Annual Employment Survey.

In the 1996 census, there is a general category dealing with fishing employment:

**Table A2.12: Fishing Employment in Fiji Islands by Fishing Activity, 1996**

Category	No. of People
<b>Total Fishing Employment</b>	<b>6,246</b>
Fishing	5,052
Crabs, Prawns, Kai, Shellfish	1,181
Smoking and Curing Fish	13

Source: 1996 Annual Employment Survey.

The 6,246 jobs above represent about 2.2% of the 280,505 people formally and informally employed in the country.

In addition, the 1996 census shows that, under the manufacturing category, some 1,100 people are employed in “processing fish.”

### *Volumes and Values of Fish Harvests*

The 1998 and 1999 Fisheries Division Annual Reports (Fisheries Division 2000, 2001) give the following catch information:

**Table A2.13: Estimated Commercial Fisheries Production of Fiji Islands by Volume, 1995–1999 (mt)**

Category	1995	1996	1997	1998	1999
Municipal Market Finfish	590	573	476	481	596
Outlet Finfish	4,108	4,007	3,193	3,701	3,790
Municipal Market Non-finfish	1,537	1,468	1,477	1,660	2,370
Outlet Non-finfish	1,139	680	853	960	1,011
<b>Total</b>	<b>7,374</b>	<b>6,728</b>	<b>5,999</b>	<b>6,802</b>	<b>7,767</b>

mt = metric ton.

Using average price information in the annual reports, the value for the total fisheries catch given in Table A2.13 can be calculated as follows:

**Table A2.14: Estimated Commercial Fisheries Production of Fiji Islands by Value, 1995–1999 (F\$)**

Item	1995	1996	1997	1998	1999
Coastal Commercial	20,323,200	23,898,600	20,744,970	20,720,980	24,963,900

F\$ = Fiji dollar.

Source: Fisheries Division (2000; 2001).

For the subsistence fisheries, the annual reports give the estimated volume of catch as follows:

**Table A2.15: Estimated Subsistence Fisheries Production of Fiji Islands by Volume, 1995–1999 (mt)**

Item	1995	1996	1997	1998	1999
Subsistence Fishing	17,000	17,200	17,400	17,600	17,800

mt = metric ton.

Source: Fisheries Division (2000; 2001).

Sources of information on the value of the subsistence catch include:

- Dalzell et al. (1996) give the value of 16,600 mt subsistence fisheries production (early 1990s) as US\$45.8 million.
- World Bank (2000) calculates the value of the Fiji Islands' 18,057 mt of finfish subsistence catch and 7,042 mt of shellfish subsistence catch as US\$3.9 million in caloric value, or US\$6.7 million in protein value.
- Passfield (1994), using a variety of sources, states that recent estimates of the value of the Fiji Islands' subsistence and small-scale commercial sector are around F\$50 million to F\$60 million.
- Anonymous (2001) states that "Recent surveys on the subsistence fishery estimate the sub-sector to be worth \$50 million and supplies 40% of total protein to the community."

Using the "farm gate" system of pricing for subsistence production, which discounts the average fish price by 30% as an allowance for getting the product to market, the nominal 17,800 mt of

production from the subsistence fisheries in 1999 would be worth about US\$40 million dollars.

There are some indications that the statistical system of the Fisheries Division appears to underestimate the catches of the small-scale fisheries. This contention is based on discussions with individuals in charge of the Fisheries Division statistical system on a previous review of that system and on recent developments:

- The Fisheries Division staff involved with the statistical system states that there is good coverage of the 12 municipal markets in Viti Levu and Vanua Levu. In addition to the regular sampling survey, there are other methods (i.e., records kept by market master) to verify the data: (i) good coverage of the tuna exports, (ii) the coverage of the "outlets" is of lower quality, and (iii) there is no coverage of subsistence fisheries.
- "Outlets," which include all places where food is sold outside of municipal markets, are rapidly changing. According to the Fisheries Division, they are covered monthly if there is available staff. Officials of the Fisheries Division stated that outlets are only covered in Viti Levu and Vanua Levu. All catches on the other 78 inhabited islands in the Fiji Islands are considered to be entirely subsistence.
- J. Cook, in a 1986 review of the fisheries statistical system in the Fiji Islands (Cook 1986), indicated that (i) the emphasis on the municipal markets should be reduced and efforts on the outlets should be increased, and (ii) the methodology of the 1979 survey of subsistence fisheries is questionable.
- The Fisheries Division estimates of subsistence catch are based on a 1979 small-scale fishing survey which covered only Viti Levu, and used the ability of a single respondent in each village to recall landings over the previous 12 months. For the past 22 years, the estimate of small-scale production for all of the Fiji Islands (the largest component of the domestic catch) has been made simply by adding 200 mt of fish to the questionable 1979 figure. The results of a small-scale fisheries survey in 1993 (Rawlinson et al. 1993) were not used to modify the 1979 estimate. Also, the results of the 1995 survey of the Northern District were not written up nor used to modify the 1979 estimate. The Rawlinson survey suggested that the small-scale commercial catches in Viti Levu were larger than those estimated by the statistical system.

From the above information, it appears that the production of small-scale fisheries given by the statistical system is probably an underestimate.

For the offshore fisheries, the annual reports give production data for the “local longliners” as follows:

**Table A2.16: Estimated Offshore Locally-based Fisheries Production of Fiji Islands by Volume, 1995–1999 (mt)**

Item	1995	1996	1997	1998	1999
Offshore Locally-based Fisheries	3,069	4,341	4,157	4,801	5,056

mt = metric ton.

Source: Fisheries Division (2000; 2001).

Tuwai and Lagibalavu (2001) report that:

- The production in 2000 for the 55 local longliners is 5,728 mt.<sup>6</sup>
- The production of the single operating pole-and-line vessel in 1999 and 2000 is 507 mt and 351 mt, respectively.

Gillett et al. (2001) give information on the 1999 catches in the Fiji zone by foreign-based vessels.

**Table A2.17: Estimated Offshore Foreign-based Catches in the Fiji Islands EEZ, 1999**

Fishing Nation	mt
United States of America	795
Taipei, China	98
Japan	23
Tonga	1
<b>Total</b>	<b>917</b>

EEZ = exclusive economic zone; mt = metric ton.

Source: Gillett et al. (2001).

<sup>6</sup> During the preparation of the present report, it is understood that SPC made an estimate of the 2000 catch by the locally-based offshore fishery; but the details of the estimation are not yet available.

Using the above information and the contention that the production of the small-scale fisheries given by the statistical system is an underestimate, the following annual fisheries production in 1999 has been estimated:

**Table A2.18: Estimated Annual Fisheries Production of Fiji Islands, 1999**

Fishing Sector	Volume (mt)	Value (F\$)
Coastal Subsistence	21,600	48,600,000
Coastal Commercial	9,320	30,000,000
Offshore Locally-based	5,500	50,500,000
Offshore Foreign-based	917	1,093,000
<b>Total</b>	<b>37,337</b>	<b>130,193,000</b>

F\$ = Fiji dollar; mt = metric ton.

### *Fishery Exports and Imports*

Using data from the Fiji Islands Revenue and Customs Authority, the Fisheries Division annual reports provide some information on the "export of fishery products." Reserve Bank (2000) also gives the value of "fish exports." The data from these two sources are presented in Table A2.19:

**Table A2.19: Estimated Annual Fisheries Exports of Fiji Islands, 1997–1999**

Fish Exports	1997	1998	1999
From the Fisheries Division			
Volume <sup>a</sup> , mt	16,487	13,978	12,445
Value, F\$	54,314,225	52,764,911	46,277,044
From the Reserve Bank			
Value, F\$	50,400,000	49,500,000	57,500,000

F\$ = Fiji dollar; mt = metric ton.

<sup>a</sup> The volume figures do not include exports of live fish, as those are expressed in pieces.

Sources: Fisheries Division (2000; 2001); Reserve Bank (2000).

During a visit to the Fiji Islands on Hazard Analysis at Critical Control Points (HACCP) issues, specialists studied the export

situation in 1997 and concluded that “(i) the various official fish exports statistics which were made available during the visit are erroneous, and (ii) a rough approximation of the total value of Fiji’s food fish exports is around US\$40 million” (Gillett 1997).

It appears that the official Fiji Islands government export statistics may be subject to a number of weaknesses as:

- Many of the main fishery export items stated in the statistics do not even occur in the Fiji Islands. For example, for most years in the 1990s, large amounts of “other salmonids” are listed (i.e., F\$3.6 million exported in 1998).
- Independent estimates of some export commodities are quite different from the official figures. For example, a World Bank report (Icecon 1995) states: “Official Japanese and Korean import statistics from 1992 show that 107.5 tonnes of raw trochus was imported from Fiji, however the official export statistics (Fisheries Division 1993) for raw trochus exports to *all* countries is given as 71 tonnes.”
- There appear to be many incentives to under-report exports.
- According to Bureau of Statistics officials, the 1999 fishery exports of \$46 million seemed low, so the original export documentation was re-examined by the Bureau and the total was recalculated to be \$57 million. The Fisheries Division believes the figure to be closer to \$77 million.

Discussions with the Customs Authority indicate that, because there is no revenue involved, the official recording of fisheries exports is a mere documentation formality.

Using data from the Fiji Islands Revenue and Customs Authority, the Fisheries Division annual reports give the information on the “import of fishery products” as presented in Table A2. 20:

**Table A2.20: Estimated Annual Imports of Fishery Products in Fiji Islands, 1997–1999**

Fish Import	1997	1998	1999
Volume <sup>a</sup> , mt	17,973	16,854	5,170
Value, F\$	32,659,719	43,921,228	28,174,630

F\$ = Fiji dollar; mt = metric ton.

<sup>a</sup> The volume figures do not include exports of live fish, as those are expressed in pieces.

Source: Fisheries Division (2000; 2001).

*Access Fees*

It is estimated that the Fiji Islands received about US\$212,000 of access fees in 1999.

*Levels of Marine Resource Consumption*

Fisheries Division (2000) gives consumption per head for 1986–1999 based on the official production data (section above) divided by the Fiji Islands population. The results show:

- 1999—56.0 kg per person per year, of which the subsistence fishery provided 46%
- 1998—47.0 kg per person per year, of which the subsistence fishery provided 51%
- 1997—44.0 kg per person per year, of which the subsistence fishery provided 53%
- 1996—62.0 kg per person per year, of which the subsistence fishery provided 37%
- 1995—58.0 kg per person per year, of which the subsistence fishery provided 39%

Preston (2000) using 1995 FAO production, import, and export information indicated the apparent per capita supply of fish in the Fiji Islands was 50.7 kg per year.

Coyne et al. (1984) state that the Fiji Islands imported 20.2 kg of fish per capita in the 1970s.

World Bank (2000) indicates that seafood represents 23% of animal protein intake in the Fiji Islands.

*Exchange Rates*

Fiji dollar (F\$) to the US dollar (US\$) as per ADB average-of-period rate:

1995 – 1.4063
1996 – 1.4033
1997 – 1.4437
1998 – 1.9868
1999 – 1.9696
2000 – 2.1286

