

## Chapter 8

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# Agriculture, Fisheries and Tourism

### Key Points

- The agricultural strategy is to promote subsistence household food production and small-scale farming for sale in the urban markets.
- Household income from copra—still the main source of cash income for many in the outer islands—depends crucially on regular domestic shipping services.
- The copra price subsidy is an important way of redistributing income to rural households.
- Coastal/lagoon fishing provides cash incomes for households on certain atolls, and also depends crucially on domestic shipping services.
- The two-edged fisheries strategy to maximize license income from the exclusive economic zone (EEZ) fishery and develop Majuro as a competitive transshipment port has had encouraging success.
- The immediate potential for tourism in the RMI lies in the promotion and development of special-interest niche market activities.

## Agriculture

The Ministry of Resources and Development (MRD) is responsible for facilitating agricultural development as well as development of other major economic sectors. The MRD has recently adopted a mission statement and work plan for its three divisions, namely agriculture, energy, and trade/investment, which outline the focus of development in these areas. The MRD has initiated the convening of the R&D Working Group comprised of the heads of the agencies involved in resources development, i.e., Marshall Islands Marine Resources Authority, Marshall Islands Visitors Authority, Tobolar Copra Processing Authority, and the Marshall Islands Development Bank, to plan and coordinate the development, production and provision of goods and services in these sectors.

Agricultural production is relatively small, but important to the livelihood of people and the economy of the Marshall Islands. It comprises food crops including small livestock and one cash crop, copra. Land for agricultural production is limited. The total land area of 70 square miles (181 km<sup>2</sup>) is composed of the various atoll islets and islands. The atolls and islands range in size from Jabat with 0.22 square miles (0.6 km<sup>2</sup>) to Mili and Kwajalein each with over 6 square miles (16 km<sup>2</sup>), most of the latter being unavailable for agriculture. There are some islets in most atolls that are not suitable for agriculture crops. Less than one half of the total land area is considered as potential agricultural area. There are competing demands for the use of the available land, e.g., for housing, infrastructure, and US military needs, as well as growing food and other agricultural crops.

### Food crops

Food crops are produced by households largely for their own consumption. Some households on Majuro Atoll sell their surplus food crops to the people in the Majuro urban area. The main staple food crops are green and mature coconut, breadfruit, and pandanus, which produces fruit and leaves used for various purposes. Banana and taro are also staple crops. Other

fruits and vegetables include pineapples, melons, cucumbers, capsicum, cabbages, long beans, tomatoes, eggplants, pumpkins, and chilis.

Estimates of subsistence food production during the last 3 years indicate that households produce 1,200–1,300 short tons of breadfruit a year for their own consumption, 850–950 short tons of green and mature coconuts, and 170–180 short tons of banana, about 100–120 short tons each of pandanus and taro, and 35 short tons of other vegetables a year. The estimated value of subsistence food crop production in 1999 was \$1.4 million.

Households also raise small livestock, mainly pigs and chickens. In 1999, there were about 15,000 pigs and 90,000 chickens in the Marshall Islands. Estimates of the value of household consumption of homegrown pork and chicken averaged about \$2.0 million annually in the last 3 years.

While households do consume local food crops, there is high preference for imported foodstuffs. The high level of consumption of processed and low-nutrition foods and low consumption of fresh fruits and vegetables contribute to the widespread problem of over-nutrition among the adult population and under-nutrition among children. To help deal with this problem, the National Food and Nutrition Task Force produced an agricultural sector development strategy and action plan, which has as its main goal the improvement of agricultural production and food security and focusing on improved nutrition.

To encourage production, the Government in the past provided subsidies for inputs and labor in the form of agricultural extension staff to assist producers. However, there was little community involvement and there was an expectation that the Government would carry out the work for the community. Growers expected that agricultural extension workers would plant crops for them. These efforts have not been very effective in encouraging production.

To increase local food production and import substitution, the Marshall Islands Development Authority (MIDA) established a breadfruit chip factory in Laura. The factory was to produce chips not only from breadfruit but also taro and bananas. The factory has been built and equipment installed. Due to lack of technical and managerial capacity, working capital, and raw

material inputs, the factory remains idle. MIDA is now trying to get a private investor to operate the factory.

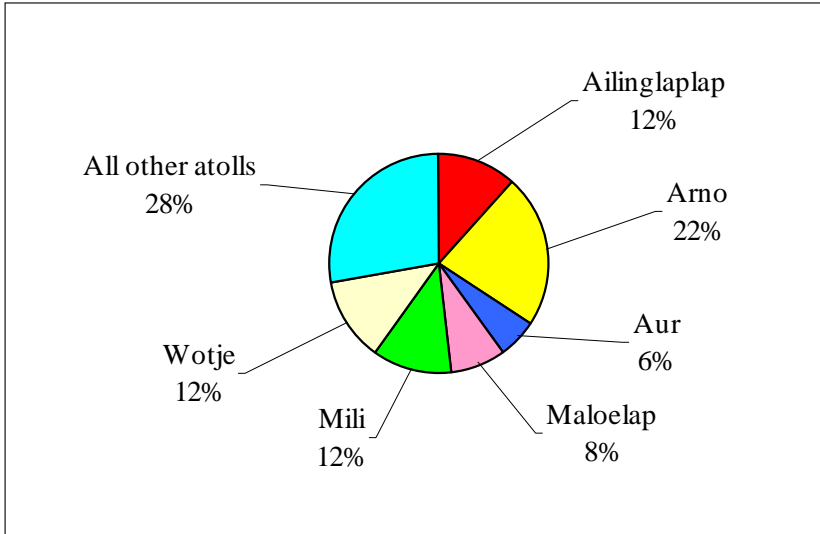
The Agriculture Division of MRD is now working with a group of farmers in Laura on Majuro Atoll, with assistance from a Taiwanese agricultural technical mission, to produce vegetables on a semi-commercial basis for sale in the Majuro urban area. The division is also collaborating with the Ministry of Health and Environment on a nutrition program involving a food growing project on Rita as well as with the Ministry of Education on training in home gardening at the public high schools on Juluit and Wotje as part of the school curriculum and to produce vegetables for the school. The division has a nursery on Delap, which gives out plantings of vegetables and fruit trees to interested people on Majuro and the outer islands.

### **Cash crop – copra production**

The only significant cash crop is copra, which is processed into coconut oil and other products on Majuro. The world coconut oil and copra trade, which has long been dominated by Philippine exports, is in a state of great uncertainty, with stiff competition from other vegetable oils resulting in persistently low international prices. Copra remains the most important—almost the only—source of earned income for people in rural areas, and nearly all the atolls produce it (Figure 8.1).

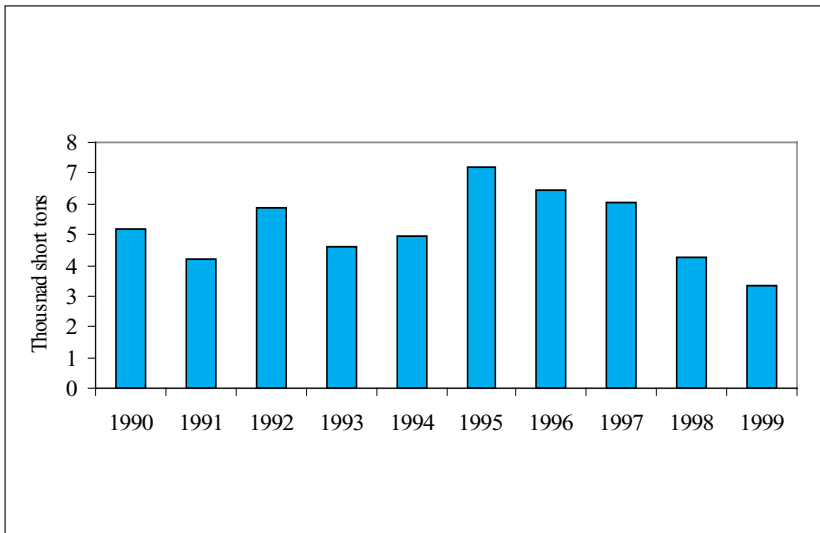
Copra production fluctuated during the first part of the 1990s, rising to its highest level in 1995, then declining during the rest of the decade (Figure 8.2). The 7,201 tons produced in 1995 was the highest production in nearly 50 years. Copra production in 1999 at 3,355 tons was the lowest during the same period, and well below the long-run average of around 5,000 tons. While copra production indicated some price responsiveness (compare Figures 8.2 and 8.3), there are other factors involved. After the occasional impact of adverse climatic conditions, the most important factor is the availability and regularity of domestic shipping services to the outer atolls and islands, which has deteriorated sharply in recent years.

**Figure 8.1: Copra Production by Atoll, 1999**



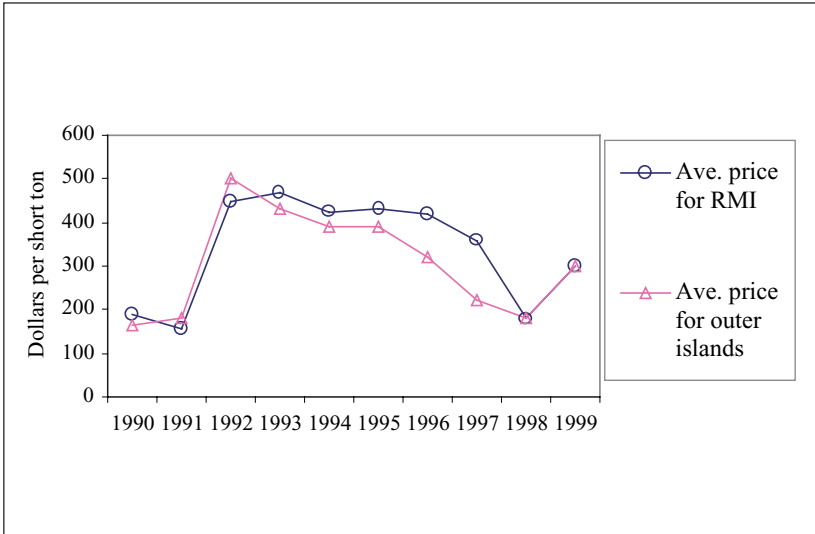
Source: Marshall Islands Statistical Abstract 1998 and 1999, OPS (2000).

**Figure 8.2: Copra Production, 1990–1999**



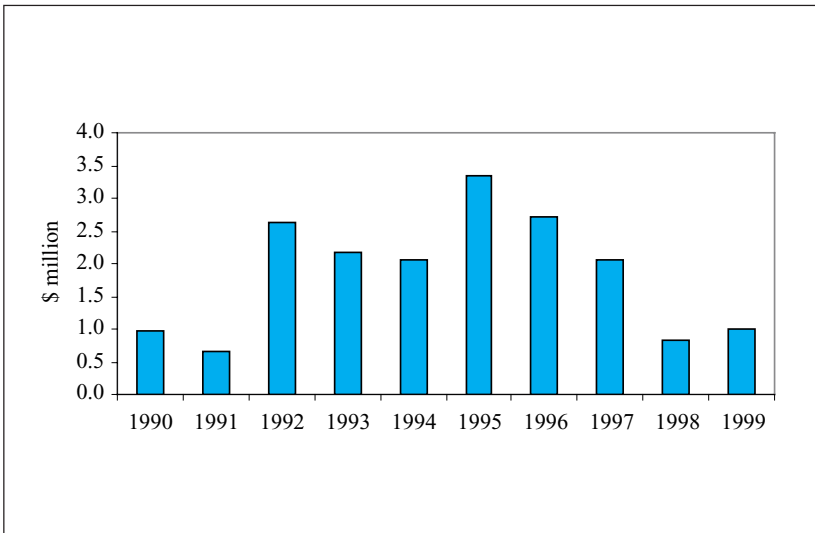
Source: Marshall Islands Statistical Abstract 1998 and 1999, OPS (2000).

**Figure 8.3: Copra Prices, 1990–1999**



Source: Marshall Islands Statistical Abstract 1998 and 1999, OPS (2000).

**Figure 8.4: Total Producer Incomes from Copra, 1990–1999**



Source: Marshall Islands Statistical Abstract 1998 and 1999, OPS (2000).

Copra produced in the Marshall Islands is sold to Tobolar Copra Processing Plant Inc. (Tobolar), a wholly government-owned company. Tobolar is presently managed by Pacific International Inc. under a management contract. Tobolar's board of directors currently consists of three government officials and two people from the private sector.

In the last 10 years, Tobolar has been receiving transfers from the Government to subsidize prices paid to copra producers in the Marshall Islands. The total subsidy received by Tobolar during the last 10 years was about \$8 million. In 1999/2000 the subsidy paid was \$790,000, or about \$235 per ton of 1999 production—equivalent to two-thirds of the price paid to producers. At close to 1% of GDP, this is a significant redistribution of income to rural producers, and one of the very few tangible steps taken by the Government to reduce the income gap between urban and rural areas. If improved domestic shipping leads to increased production but world prices do not improve, maintenance of the domestic price may prove difficult for the government budget.

Tobolar pays a higher price for copra from Majuro because the company pays the freight (\$56.25 per ton) for copra brought in from the outer islands. Majuro copra producers pay the cost of transporting their copra to the plant. Tobolar also pays a brokerage fee of \$19.50 per ton to copra buyers from atolls other than Majuro. In May 2000, copra price for the outer atolls and islands was 15 cents per lb and for Majuro 16.5 cents per lb.

Producer incomes from copra (Figure 8.4) are not received wholly by the producer. Part of it is paid out, in accordance to the traditional land ownership rights, to the *iroij*. Tobolar pays the *iroji* up to one cent per lb of copra purchased from producers. Payments to the *iroij* are deducted from the copra payments made to the producer and then paid by Tobolar to the *iroij*.

Tobolar processes the copra and produces crude coconut oil, copra cake, refined oil, bath soap (beauty bars), and laundry soap. The plant has a processing capacity of 10,000 tons; with minor modifications, its processing capacity can increase to 18,000 tons. Tobolar buys copra from Kiribati to help reduce fixed unit costs. Tobolar sells most of its products overseas; only 1–2% of its sales are to the local market. Low world prices for

coconut products mean that Tobolar has difficulty breaking even. Despite these adverse conditions Tobolar is looking for product diversification that could assist small businesses, and is planning to upgrade its mill, refinery, and soap plant and increase its production capacity in 2000–2001.

## Fisheries

In November 1997, the Cabinet approved the National Fisheries Policy with the main objectives of improving economic benefits from the fisheries sector within sustainable limits, promoting responsible private sector-led fishery developments, and strengthening institutional capacity to facilitate responsible development and management of the fisheries resources. The Marshall Islands Marine Resources Authority (MIMRA) was established in 1988 to manage all marine resources within the EEZ. In 1997, MIMRA was given more autonomy through a new act to carry out its responsibilities more effectively.

Since mid-1999, licensing and transshipment fees are paid directly to MIMRA, which uses the funds to meet its operating budget. The surplus funds, i.e., excess of revenue over MIMRA expenditure, are transferred to the Government's general revenue account. This procedure, which gives MIMRA first go at a major revenue stream accruing from economic rent, not from MIMRA commercial activities, raises important questions of public financial management. The level of funds to be retained by MIMRA should be subject to Ministry of Treasury scrutiny against a Cabinet-approved MIMRA budget and cash flow, and the balance of the fee income promptly reported and passed through to the Treasury general fund.

The fisheries sector comprises two subsectors, coastal and oceanic fisheries. The coastal fisheries consist of inshore and nearshore resources. These are harvested by households for their own consumption and sale to the urban areas. The oceanic fisheries are offshore resources in the EEZ. These are harvested for sale in overseas markets, and since 1999 some of this product is being processed by the Majuro tuna loining plant.

## Coastal fisheries

Coastal fisheries are important for subsistence and cash income for households. Harvesting of coastal fisheries by households for their own consumption is about 1,500–1,700 tons a year. The estimated value of fish and shellfish, including crabs harvested for people's own consumption, was about \$4 million in 1999.

Fish sold in the market are caught in the vicinity of the two urban centers, Majuro and Kwajalein/Ebeye. This is done mostly by individual fishers. Small-scale commercial fishing is limited. In Laura on Majuro Atoll, there is a fishing cooperative, formed with support of an NGO (Mission Pacific) that is carrying out fishing on a commercial basis. The cooperative supplies fish to retail outlets on Majuro.

A number of projects have been carried out by MIMRA with the involvement of donor agencies and the private sector to develop coastal fisheries and commercial utilization of the resource. One such project is the outer islands fisheries project supported by Japanese ODA. The project, which was implemented as a pilot fishery project on Arno Atoll, has been expanded to seven other atolls and islands, namely, Mili, Aur, Likiep, Ailinglaplap, Ebeye, and Namu, with consideration being given to establishing a base on Jaluit. The project purchases fish from local fishers at a reasonable price and then sells the fish to retail markets in both urban centers, Majuro and Ebeye. The project established two outer island fish markets on Majuro, one of which is a wholesale outlet only, and one on Ebeye. The project also provided transport vessels to take fish to the markets on Majuro and Ebeye.

Following pilot projects on pearl farming on Namarik and Majuro by Black Pearl Inc., a Hawaiian-based company, and MIMRA, the potential for commercially viable pearl farming was established. A local company, Black Pearls of Micronesia, was formed to carry out commercial operations. A pearl hatchery and grow-out facility have been established on Majuro. The first harvest from the hatchery-reared oysters took place in 1998 and was sold to a US buyer. The venture employs 20 people. According to MIMRA, the venture has potential to earn substantial revenues.

Other MIMRA projects include a giant clam hatchery at Likiep, which has been in operation since 1990 with the objective of reseeding sites in the outer islands. Outgrowing has not taken on as was hoped. Baby clams from the hatchery are bought by private business for sale to aquariums in the US. A new project funded by Japanese ODA trains fishers on Jaluit, Aur, and Mili on deep-sea fishing. A pilot project for aquaculture nursery at Arno is being planned.

To assist fishers with financing of small projects, MIMRA is interested in establishing a Fisheries Revolving Trust Fund. Apart from fisheries projects, other small-scale outer island income-generating projects would also be considered. Technical assistance from the ADB is assisting MIMRA in assessing the feasibility of operating such a fund.

MIMRA has delegated the responsibility for management of coastal fisheries within five miles to local governments and is assisting them to develop fishery ordinances and coastal management plans. The Majuro Atoll Local Government has developed a fishery ordinance, which is now in the approval process. MIMRA is now working with Likiep Local Government to carry out a resources survey and then develop a fishery ordinance and management plan for the Likiep coastal fisheries.

## **Oceanic fisheries**

Oceanic fishery resources are exploited through licensing of vessels from distant water fishing nations (DWFNs) to fish in the Marshall Islands EEZ. Licensing of DWFNs is carried out under the Multilateral Fishery Treaty among the US and 16 Pacific island parties, including the Marshall Islands, and bilateral fisheries agreements between the Marshall Islands and a number of the DWFNs from Asia.

The Forum Fisheries Agency (FFA) manages the Multilateral Fishery Treaty with the US on behalf of the Pacific island countries who are parties to the treaty. Under the treaty, the US fishing fleet is allocated a total of 55 licenses for purse seine vessels to fish in the treaty area, for which the US pays \$18 million annually (shared between the US Government [\$14 million] and fishing industry [\$4 million]). A portion of the payment is made

to FFA as administration cost of the treaty and \$1.8 million is paid into the Project Development Fund administered by the FFA to be allocated equally among member countries for fishery and related development projects. The remaining balance is available for payment to the countries as follows: 15% is divided equally among the countries, averaging about \$149,000 a year for each country, and 85% is apportioned according to the percentage of catch in the EEZ of each country. The revenue for the Marshall Islands thus depends on the amount of catch from its EEZ.

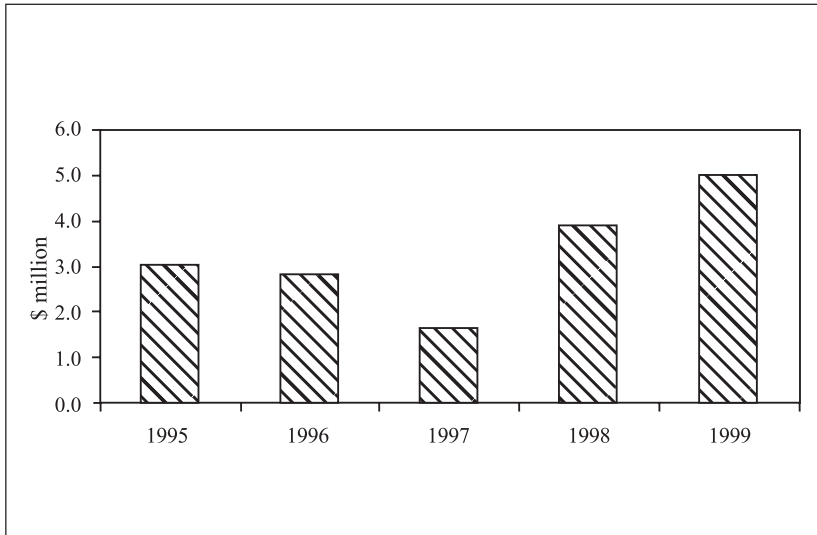
The Marshall Islands has bilateral fisheries agreements with three countries: Japan, Korea and Taipei,China. These agreements are for 2 years with provision for annual consultations. The minimum terms and conditions set by FFA for fishing in the EEZ of member countries are a component of these agreements. Bilateral fisheries agreements with Korea and Taipei,China began in 1998.

In the past 5 years, the Marshall Islands received a total of \$16.4 million from fisheries licenses and transshipment fees, with annual receipts of \$2–5 million (Figure 8.5). Japan, US, Korea and Taipei,China accounted for about 85% (\$14.0 million) of receipts during the period. License fees from Japan contributed about a half of the fishing revenue in the last 2 years (Figure 8.6).

The RMI has been an active participant in the Multilateral High Level Conference (MHLC) on the conservation and management of highly migratory fish stocks in the Western and Central Pacific. It is a party to the convention signed in September 2000. The RMI has offered to host the MHLC secretariat on Majuro on the basis that its proximity to the main fishing grounds allows easy access for scientific research on the fishery and monitoring and surveillance of fishing fleets in the region.

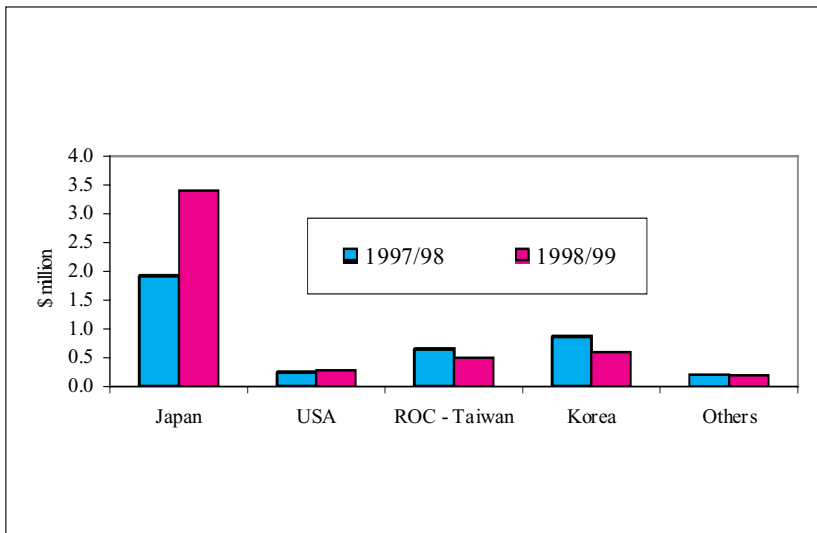
Apart from the multilateral and bilateral fisheries agreements, an important strategy of the Marshall Islands fishery policy is to make Majuro an attractive port for transshipment, not only to derive additional revenues from transshipment fees but also to inject spending into the local economy. In 1998, there were 132 tuna transshipments at Majuro. This increased nearly 2.5 times to 322 in 1999. The revenue from transship-

**Figure 8.5: Revenue from Fishing Licenses and Transshipment Fees, 1995–1999**



Source: MIMRA 1999 Annual Report.

**Figure 8.6: Revenue from Fishing Licenses and Transshipment Fees by Source, 1997/78–1998/99**



Source: MIMRA 1999 Annual Report.

ment fees jumped from \$78,800 in 1998 to \$193,200 in 1999. The actual amount of contributed to the local economy by fishing vessels during transshipment is not known, but it has been estimated by MIMRA to be about \$15,000–20,000 per ship per port call, suggesting annual expenditure of \$5–6 million in the Majuro economy. Shore-based facilities being considered include a net repair facility and a salt/brine storage facility. There is also a government-owned dry dock, presently leased to a private company, which can be used by foreign fishing vessels.

The establishment in 1999 of a fish loining plant on Majuro marked a breakthrough in foreign direct investment. The government provided various tax concessions and exemption from minimum wage requirements, and secured a \$2 million loan from a commercial bank for the construction of the plant, as well as arranging lease of the site. A private company operates the loining plant. The loining plant processes fish for Starkist, for shipment to its cannery in American Samoa. The plant has a processing capacity of 50 tons of tuna a day and employs 350 people, 80% of whom are women.

MIMRA has been negotiating with foreign fishing companies interested in managing and operating the Majuro Fish Base. In preparation for such an agreement, MIMRA intends to complete management plans for longline fishery by-catches (specifically for sharks and seabirds). An earlier lease to an Asian operator was terminated in 1998 due to failure to meet the conditions of the lease—including defaulting on lease payments and allowing the condition of the Fish Base to deteriorate substantially. The poor state of the facility is hampering efforts to lease it to another operator, and some renovation may be required before it can be successfully leased out.

The main issue in fisheries policy is how to maximize the rents from the fisheries resource within sustainable limits. The approach taken by the Marshall Islands is not only to encourage licensing but also spending by foreign fishing boats in the local economy and establishing onshore fish processing and other support facilities. This is well under way. It would be useful for an assessment to be carried out to determine the economic and social impacts of this policy to date, and to recommend how to minimize the costs and maximize the net benefits to the country.

Other issues that MIMRA is now beginning to address are the protection of coastal resources, which is being initiated through delegation of responsibility to local authorities and communities along with technical support to help them address the issues, and development of income opportunities in coastal fisheries for local fishers. Part of this effort is the establishment of the Fisheries Revolving Trust Fund the viability, of which is now being assessed.

## Tourism

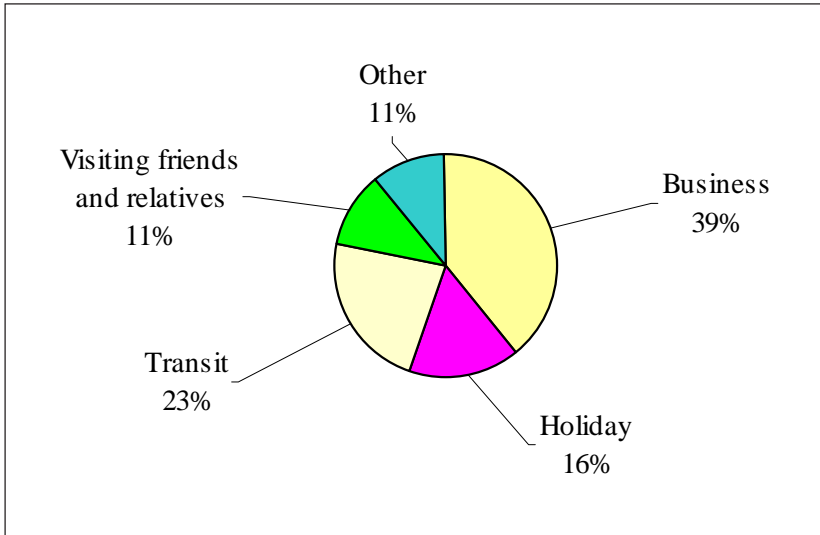
The tourism industry in the Marshall Islands is very small, but appears to have a useful development potential in certain niche markets. The total number of visitors to the Marshall Islands ranged between 4,000–6,000 a year with an estimated spending of \$2–3 million. People visiting on business, 1,800–2,500 a year, made up 39% of the total visitors during the last 5 years (Figure 8.7).

Visitors to the Marshall Islands on holiday, i.e., tourists, averaged less than a 1,000 a year in the last 5 years (Figure 8.8), making up 16% of all visitors. About 23% were transit visitors going on to Honolulu, FSM/Guam and Kiribati/Tuvalu/Fiji. Those visiting relatives and friends accounted for 11%.

Most of the visitors to the Marshall Islands are from the US, followed by Japan (Figure 8.9). Visitors from Japan and other Asian countries made up nearly one-quarter of the visitors to the Marshall Islands during the last 5 years. Visitors from the Pacific region including Australia and New Zealand accounted for about one-third of the visitors. Over half of the Pacific visitors to the Marshall Islands were from FSM and Kiribati. Most of the Kiribati visitors were in transit on Majuro.

Tourism infrastructure, hotels, and restaurants are found mostly on Majuro and Ebeye with some facilities in other islands such as Mili. The most recent hotel to open on Majuro is the Marshall Islands Outrigger Resort, which opened in 1996 and is of international standard with 150 rooms. The hotel is government-owned and managed by the Outrigger Hotel chain of Honolulu.

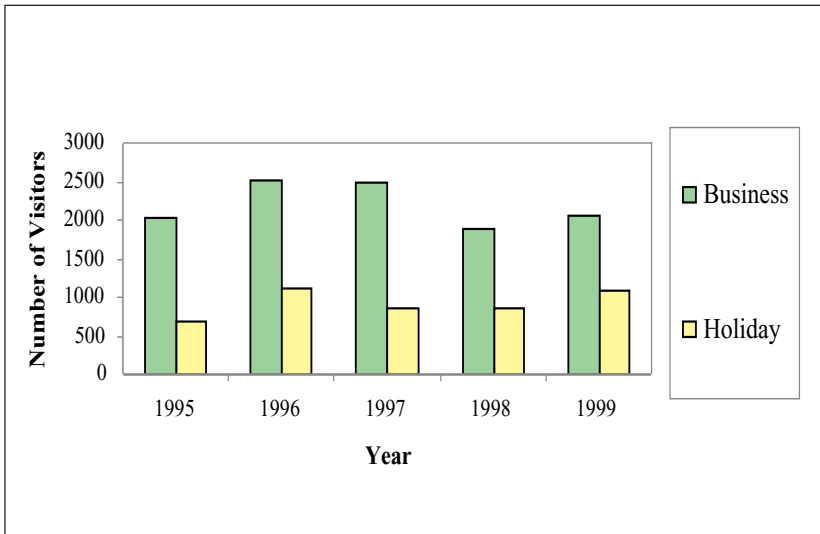
**Figure 8.7: Purpose of Visits, 1995–1999**



*Note:* The data covers only those who arrived by air to Majuro Atoll.

*Source:* MIVA and Marshall Islands Statistical Abstract 1998 and 1999.

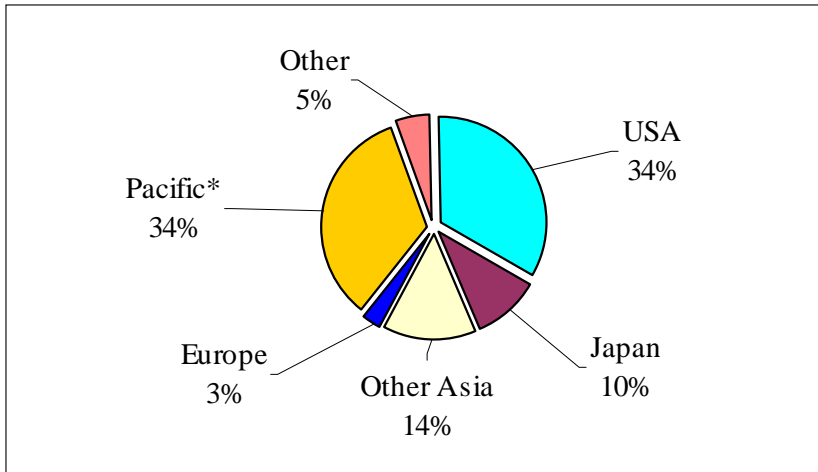
**Figure 8.8: Visitors by Purpose of Visit, 1995–1999**



*Note:* The data covers only those who arrived by air to Majuro Atoll.

*Source:* MIVA and Marshall Islands Statistical Abstract 1998 and 1999.

**Figure 8.9: Visitors by Country/Region of Origin, 1995–1999**



*Note:* The data covers only those who arrived by air to Majuro Atoll.

\* Pacific includes Australia and New Zealand.

*Source:* MIVA.

In 1997, the government established the Marshall Islands Visitors Authority (MIVA), a statutory government corporation responsible for national tourism planning, development, marketing, and promotion. MIVA has identified a niche marketing tourism development approach as the most feasible option for the short- and medium-term. MIVA has specifically targeted the following niche markets for tourism development and promotion: (i) scuba diving (both wreck and general sport diving), (ii) sport fishing (big game, fly fishing, and other types), (iii) WWII historic tourism, (iv) cultural tourism (centered on annual cultural events), and (v) yachting/cruising. MIVA has identified the US and Japan as the top two markets where MIVA will focus its promotional activities.

Some of the major short- and medium-term objectives of MIVA include: (i) improving dissemination of information on the RMI, particularly in the two main target markets; (ii) generating widespread positive publicity on the RMI, particularly in the target markets; (iii) increasing internal awareness on tourism and environmental issues; (iv) improving tourism-re-

lated domestic economic policies; and (v) improving international and domestic transportation.

In the longer term, MIVA plans a shift in its approach from one that solely concentrates on the development of the smaller, special-interest niche market activities to one which focuses increasing attention on the development of self-contained, private island resorts. The availability of 1,225 islands, most of them pristine and uninhabited, is an almost unique resource base upon which MIVA believes a general-interest tourism industry might one day be built if adequate transportation as well as the appropriate economic and land related policies are in place.

While MIVA plans to shift its focus to the development of general-interest tourism in the longer term, for the immediate future it will concentrate on developing and maintaining a high profile within its special-interest markets. MIVA's longer-term aims include: (i) continue improving the RMI's tourism investment environment; (ii) establish the RMI as the Pacific's premier coral atoll destination; and (iii) establishing Majuro Atoll as a travel hub, feeding tourism traffic to and from other atolls.

The main issues in attracting tourist development are the same as for other sectors, namely: a conducive investment environment, secure and bankable access to land, a transparent and appropriate taxation regime, and improved transportation and telecommunications—all at internationally competitive prices. With these conditions in place—a major task, but required for all sectors—a significant expansion of specialized tourism to the RMI should be commercially feasible.