

PALAU

Capital:	Koror
Land Area (km²)	487
Sea Area/EEZ (km²)	600,900
Islands (No.)	343
Population (No.)	19,100
Annual Growth (%)	2.2
Density (inhabitants/km²)	39
Rural Population (% of total population)	29
GDP (US\$ million)	143.8 (1996)
Agricultural GDP (% of total GDP)	5
GDP per caput (US\$)	8,124 (1996)
Currency:	United States Dollar

A. General

The 343 islands of the Republic of Palau are diverse in geological origin and include volcanic, low platform, high platform, and atoll types. The Republic includes the islands of Koror (the administrative centre and capital), Babelthuap (the largest island in terms of land mass, making up 78% of Palau's land area), Angaur, Peleliu and several coral outer islands including Sonsorol, Tobi, Pulu Anna, Helen's Reef and Merir to the southwest, and Kayangel to the north. The westernmost islands of Palau are closer to Indonesia than they are to Koror, which comprises only 4% of the land area but is home to more than 70% of the population. Politically, the country consists of 16 states vested, *inter alia*, with inshore fishery management responsibilities and a national government with offshore responsibilities.

B. The Agricultural Sector: Constraints and Strategic Options

Agriculture and the Economy: Over the past 25 years Palau's economy has grown rapidly from a GDP estimated at US\$14.5 million in 1975 to US\$144 million in 2000. Along with this growth has come a significant shift in the composition of the economy away from primary production towards services. Agriculture and fisheries constituted in 1999, 3.8% of the economy (down from 25% in 1990) while services constitute 71% of the economy.

Under-representation of informal production greatly complicates analysis of agriculture productivity. A 1996 survey placed the value of the informal sector (consisting primarily of agricultural products) at US\$5 million or twice the value of agricultural products recorded in official economic statistics. Clearly, there is a great deal more agricultural productivity in Palau than recorded officially. Despite this, statistical measures clearly demonstrate that agriculture is declining in importance in comparison to other economic sectors, as evidenced by: share of the GDP, market share, share of total employment, earning per worker and land under cultivation.

The challenge before Palau is to develop a sustainable economy in which the private sector generates sufficient revenues to finance public services without need for external operational subsidies. Equally important, development must be undertaken in a manner, which

maximises the benefits, which accrue to Palauans while sustaining the environmental and cultural resources for future generations.

Land Use, Farming Systems and Institutions. Traditionally, Palauan agriculture featured an environmentally sustainable multi-storey agro-forestry system in which tree crops provided a protective canopy, which supported the intensive production of 40-50 plant varieties. The Palauan system was broadly similar to traditional agriculture systems elsewhere in Oceania. Traditionally, every Palauan woman had a garden. Female-produced agricultural products together with male and female harvested marine and forest products provided a self-sufficient food system with in-built security against natural and economic disasters, pest intrusion and old age.

Today, remnants of the traditional system still remain although less than three per cent of land is now under agro-forestry production. An additional one per cent of land is estimated to be under non-traditional cultivation (e.g. without tree cover). Virtually, all mature rural women and many urban women produce some of their household's food needs through cultivation of a garden or gardens. Typically, a woman will have one or more taro gardens and at least dry land garden for tapioca. The taro gardens most closely resemble the traditional agro-forestry system although contemporary gardens are less intensively cultivated than those of the past. Although traditional methods of composting and mulching are still used, imported agricultural chemicals are also in use. Most crops produced in this informal economy are used for family food and customary exchange. Only small volumes reach the market and still smaller volumes are reflected in official economic statistics.

Agriculture in Palau appears to be entering an 'extended dualism' phase. That is, crops are produced for subsistence and for sale in typical dual-economy mode, but traditional crops of importance to both social activities and subsistence, principally taro, are also now often produced with the assistance of hired, foreign labour.

Subsistent crop production is the predominant agricultural activity with the main crops being taro, cassava, sweet potato, banana and coconut. Betel nuts and betel pepper leaf are also commodities of considerable importance. 'Backyard' chickens and pigs are also important. Commercial agricultural activity is limited.

Exploitation of Palau's living marine resources is diverse. Most fishing is done within the lagoons and on the outer reef slopes, and is commonly conducted on a subsistence or semi-subsistence level, with a portion of catches finding their way to markets in the capital, Koror. Techniques used for subsistence and small-scale commercial fishing range from simple hand-collection of beche-de-mer, sea urchins, clams and other species at low tide, often by women and children, to hook-and-line fishing, underwater spear-fishing, net fishing and trolling, all of which are conducted almost exclusively by men. Fishing licences are sold to foreign fleets.

Major Challenges and Constraints. An important reason for the continuing decline of agriculture is that with few exceptions the cost of local production exceeds the cost of equivalent imported foods. This is especially true with staple crops - taro, tapioca and sweet potatoes - which cannot compete price-wise against imported rice.

Other contributing factors include: the changing roles of and expanding opportunities for women, Palau's traditional agriculturists; shortage of agricultural labour especially in the rural areas which are populated by the very old and the very young; changing attitudes among

young Palauans who view agriculture as a livelihood option of “last resort; land tenure disputes and limited access to prime agricultural land on Babeldaob; colonial policies in the post-WWII era, which favoured investment in urban Koror over rural investment; recent investments in agriculture favouring western models of male-dominated mono-cropping over the traditional female-dominated agro-forestry systems; and fruit fly infestations which decreases production and has virtually eliminated agricultural export.

Commercial agricultural and forestry production requires substantial capital investment and the financing of that investment. Funds available for equity investment are limited and foreign investment is restricted by the inability of foreigners to own land. Loan funding through the domestic banks is constrained because of legislative interest rate ceilings and lack of ability to acquire security over land titles. The National Development Bank lends little to agriculture because of more lucrative lending to building construction given its ability to access of land title.

The growing use and dependence on, imported foods has diminished the use of traditional systems. As a result of largely Compact-driven rises in real cash incomes, a generation of Micronesians has grown up without having to depend on island food production and the know-how is not being passed on.

Outer Island transport is severely limited. The national road system is still under construction and many large tracts of arable land are not easily accessible. There is a general lack of feeder roads.

National development plans and policies are largely not followed. Most contain no defined roles for participation of the public, no community involvement activities and lack step-by-step implementation schedules.

In the area of crop protection, the constraints are: lack of agricultural knowledge and farm management skills; weeds; and erosion hazard –land in Palau mostly have slopes greater than 6%. In terms of animal production, most feed is imported, and the cost of importing feed makes it cheaper to import pork and chicken than to raise them here.

The current market system is cumbersome and problematic. Little information is available about returns from agriculture, nor is there any provision of formal market information e.g. production and price trends. There has also been little or no thorough investigation into export market potentialities.

Perhaps the greatest single constraint on development of agriculture in Palau relates to human resources. Agriculture is considered to have low status, to be hard work, and to be typified by low returns. Palau is seriously lacking in agriculture professionals. Less than a handful of Palauans have higher degrees in agriculture and even fewer are working towards such degrees.

Strategic Options. Available arable land in Palau is in excess of existing needs and those of the immediate future. There is considerable room for expanded production of vegetables and fruits, staple crops, trees and tourist attractions such as botanical gardens. Palau is blessed with a uniform mild climate, in temperature and rainfall and is outside the typhoon belt. Multiple crops may be grown at the same location. Traditional knowledge of agriculture, microclimate and ecology is widespread and there exists a strong tradition of agro-forestry.

There is good potential for establishing a local fruit industry to improve the nutrition of the population and to nurture an export industry. Furthermore, appropriate downstream processing to serve local demand and for export offer viable option for development.

Local production is currently limited by a rain-fed traditional system. There is good potential for adoption of water harvesting and irrigation and for increased use of land preparation machinery and of labour saving plant and equipment and techniques e.g. weeders, taro cookers etc.

Services provided to support agricultural production should be strengthened. Scholarships for the agricultural sector should be provided and the financial support for the sector, strengthened. The extension services should be expanded and decentralised and an agricultural information centre should be established.

It is imperative that the feasibility of establishing a central market for Palau is investigated and land and adequate resources made available for establishing such a market.

C. Project Interventions: Income Generation Activities

I. Development of Value Adding to Improve Food Security

This project seeks to increase the production and consumption of value added products from locally grown food crops through appropriate capacity building. Value adding to locally grown food is considered as one of the potentially most sustainable livelihoods available to rural residents. And the proportion of impoverished and vulnerable households is three times greater in rural areas than the urban centre. A major characteristic of the heads of these households is they are mostly female. Over 50% of rural households are economically disadvantaged.

The value added products selected to be developed will be based on the criteria: (1) existing market demand; (2) existing knowledge and skills in the production of the raw materials; (3) low investment in supplies and equipment and (4) relative ease to process. The products currently include: snack food products such as chips from root crops and ‘candied’ fruits; fruit juices and ‘health’ drinks; jam, jelly, chutney, etc. from fruits; dehydrated fruits; and, ‘Oriental’ pickles and other preserves.

A recent value adding mission noted that a small processing unit spu (kitchen type) is needed for training and demonstration purposes. There is also a need to introduce and demonstrate simple, inexpensive time saving equipment and other tools to bring potential food processors up-to-date and to enable them to produce more efficiently and compete with imports (which are using similar equipment). Problems related to packaging are caused by the hot and humid climate and limited local selection of available packaging materials. These problems have resulted in the closing of at least three value-adding enterprises. There is thus need to introduce and demonstrate suitable packaging. Furthermore, quality control equipment and other tools for health reasons, e.g. tools that measure sugar, acid, etc, need to be introduced and demonstrated.

This project proposes to undertake capacity building through a two-step approach. A consultant will be available through a separate FAO project. The first step is the training of a

core team of trainers, in assessing value adding opportunities and techniques and value adding technologies. The second step is for the national trainers to conduct a national training programme for interested farmers, processors and entrepreneurs in value adding technologies.

The local contribution includes: local staff supervising the project, training facilities and office for project staff.

The cost and financing plan are indicative as the implementation and cost details will be worked out in detail with RPMU (see TOR for Project Co-ordinator) and the Palau Government.

Success Indicators

- Improved income and food security of participating farmers and processors through diversification;
- Sufficient trained personnel in value adding, food hygiene and sanitation, to build the critical mass necessary to sustain a value adding industry;
- Appropriate equipment, supplies, tools and facilities available for purposes of experimentation and development of new value added products;
- Tourists and the general public have a greater supply of nutritious locally processed products;
- Contribute revenue to the national economy and financial saving through improved health and import substitution;
- A national cadre of trainers to train producers, processors and entrepreneurs;
- Provides on-going assessment of value adding opportunities;
- Provides a plan of action for developing value adding; and
- Provides a plan for the continued transfer of skills in value adding.