

## CHANGING ASPECTS OF AGRICULTURAL PRODUCTION IN PALAU

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### Introduction

The Kagoshima University Research Center for the South Pacific has been carrying out surveys of the aspects of the agricultural production and farming systems used in certain countries of the South Pacific. In 1986 HAYASHI et al. (1987) carried out a survey in crop production in Palau, and reported that permanent farming systems associated with the production of vegetables could be established.

In 1995, the authors carried out additional surveys on agricultural production and their farming systems in Palau. In this present report, we discuss changing in the agricultural situation and production in Palau from 1986 to 1995 by drawing on statistical data and interviews with farmers in Babeldaob and Peleliu islands.

To agricultural development, one of the most important factor is inarguably population. In 1986, Palau's population was about 12,000, in 1995 it was estimated at 16,000, an increase of 4,000 over 9 years. However, as of 1990, in Koror with only 4% of Palau's land area, was home to 69% of total its population (National Environmental Management Strategy 1994).

### Materials and Methods

In this survey, agricultural statistical data were obtained from the Division of Agricultural office. The authors also interviewed farmers in several villages in Babeldaob and Peleliu islands from October to November 1995 about their farming systems, kind of crops grown, cultivation methods, and related topics.

### Results and Discussion

Table 1 and 2 show the trend of production of marketing agricultural commodities such as processed staple food, vegetables, fruits, meats and eggs in 1989 and 1994 growing seasons, defined as the period from October of the stated year to September of the next. (In other words, the 1989 growing season starts from October 1989 to September 1990.)

In Palau the staple food is tuber crops such as taro, and cassava, as it is very difficult to grow cereal crops given the area's high rainfall and humidity condition. During the 1985-1994 period, sales of processed staple food such as taro and sweet potato increased 2 to 10 times. Cassava production increased very rapidly in recent years, due to cassava's relative suitability for not-so-fertile land and its export as materials for tapioca starch.

Production of most agricultural commodities such as cabbage, cucumber, tomato, and daikon (or Japanese radish) increased 2 to 15 times during the 9 years. In our survey, vegetables farms continue developing near Koror because it is densely populated area, as we have mentioned. The presence of new truck farms near Koror in Babeldaob island was particularly notable. As BOWEN et al. (1994) have pointed out, some truck farmers in the region use labor

Table 1. Trend of agricultural production (1985, 10-1986, 9=100)

Item	Indices	
	'89, 10-90, 9	'94, 10-95, 9
<b>VEGETABLES</b>		
Head Cabbage	249.1	132.1
Chinese Cabbage	340.0	458.6
Cucumber	241.3	411.3
Tomato	338.8	834.4
Green Onion	706.4	636.7
Beans, String	497.8	1112.3
Eggplant	104.8	946.8
Bell Pepper	378.5	180.9
Daikon	145.0	2558.7
Ginger Roots	169.2	1437.7
Canteloupe	112.2	3949.0
Watermelon	94.3	1406.5
Okra	252.7	1519.6
<b>FRUITS</b>		
Banana	342.9	548.5
Papaya	643.3	1416.3
Pineapple	12.2	364.0
Avocado	—	870.8
Lemon	601.0	848.6
Soursap	271.3	2366.2
Coconut Drink	352.6	312.1
<b>EGG AND MEAT</b>		
Eggs	201.7	524.1
Beef	138.0	148.5
Pork	121.6	132.2

(Republic of Palau, Agricultural Monthly Report-September 1986, 1990, 1995)

imported from the Philippines and Taiwan. All vegetables harvested appear to be shipped to markets in Koror. Production of banana, papaya and pineapple also increased from 3 to more than 10 times. Even orange, tangerine and soursorp which were originally only for personal consumption fruits are now sold at market.

Comparing with large increases seen in vegetable production, beef and pork production increased more slowly, up about 150% over the 9-year period, except for eggs, production of which was up 5 fold.

On the other hand, in Peleliu island, subsistence agriculture is still the dominant form of agricultural production, and the traditional cultivation system is still used. Near Koror most farmers use chemical fertilizers, with some even using small agricultural equipment and chemicals. The farming system used the suburbs of big towns and in the rural districts are substantially different.

Table 2. Trend of processed staple food sold at the market  
(1985, 10-1986, 9=100)

Item	Indices	
	'89, 10-90, 9	'94, 10-95, 9
Yam	—	197.7
Taro	188.6	251.6
Cassava	459.0	629.3
Sweet Potato	62.7	660.5
<i>Xanthosoma</i>	—	1021.6
<i>Cyrtosperma</i>	166.9	402.8

(Republic of Palau, Agricultural Monthly Report-September 1986, 1990, 1995)

Table 3 shows trend of imports of agricultural products. Though imports of frozen meat, fresh vegetables and fruits increased 2 to 4 times, imports of rice and flour remained relatively flat, rising only 50% the same as domestic production rate.

Table 3. Trend of imports of agricultural products (1985, 10-1986, 9=100)

Item	Indices	
	'89, 10-90, 9	'94, 10-95, 9
<b>FROZEN MEAT</b>		
Beef	165.5	330.2
Pork	1219.9	513.9
Chicken	137.8	215.8
<b>CANNED MEAT</b>		
Beef	101.2	210.6
Pork	43.7	84.5
Chicken	11.4	8.7
Eggs	53.4	—
<b>FRESH VEGETABLES AND FRUITS</b>		
Vegetables	117.6	398.2
Fruits	180.0	135.7
<b>CANNED VEGETABLES AND FRUITS</b>		
Vegetables	74.0	230.5
Fruits	6.2	37.1
<b>STAPLES</b>		
Rice	108.0	111.5
Flour	72.2	67.0

(Republic of Palau, Agricultural Monthly Report-September 1986, 1990, 1995)

These findings imply that a change of diet has slowly occurred, with a definite in favor of a more “modern” style of diet. Export of some vegetables and fruits is beginning and it remains highly possible that vegetables and fruits production will continue developing in Palau as long as intensive soil management is practiced, as the soil suffers from severe damage under the heavy rains and high temperatures common to such a tropical area.

### Reference

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