

Agroforestry in Palau¹

Ebals Sadang²

Abstract: Agroforestry was an important land use in Palau, located in the western Caroline Islands. However, as a result of land restrictions and concentration on cash crops, the incorporation of trees in agriculture has declined.

The Palau islands lie at 7°20' N latitude and 134°28' E longitude, on the western edge of the Caroline Islands. Palau lies approximately 800 km north of the equator, 800 km east of the Philippines, and 6000 km southwest of Hawaii. The archipelago consists of high volcanic islands and low, raised and atoll coralline islands totaling ^(sic) 350 islands, the heavily forested island of Babelthuap being the largest. The other three volcanic islands are Koror, Malakal, and Ngerkebesang. Limestone islands consist of Peleliu, Angaur, and the numerous rock islands, while Kayangel in the north and the southwest islands are atolls. The famous coralline limestone Rock Islands occupy the area south of Koror Island to Peleliu Island. This includes a group of 70 islands known as Ngerukewid or Seventy Islands Reserve, a cluster of islands, including a one mile surrounding marine area reserved as a marine and bird sanctuary, off-limits to both tourists and local people.

Being tropical, the Palau Islands are hot and humid, with a mean annual temperature of 27°C and a mean annual rainfall of 3,730 mm. There are nine months of heavy rainfall and three months of moderate rainfall. July is the wettest month. The driest months are from February to April with rainfall of about 881 to 1175 mm each month.

Agroforestry Systems

Agroforestry was traditionally practiced on Palau in a more intensive form than at present. The traditional agroforestry system was important in terms of soil conservation, protection (windbreak), and production of wood and food. Agroforests in Palau are usually located along the coastal areas and near dwell-

ings or on abandoned village sites. They are characterized by fruit trees, forest trees, and ornamental plants. In the local system, which has survived to the present, timber trees and other larger fruit trees like *Terminalia*, Malay apple, and breadfruit are interplanted with coconut and betel nut. Also associated with these trees are bananas and papaya. Smaller fruit trees such as lemon, guava, orange, *Spondias*, and others are inter-mixed with *Xanthosoma* taro, banana, and papaya. *Colocasia* and *Cyrtosperma* taros are also planted between rows of coconuts. Even the walkways around the taro swamps are planted to fruit trees such as mango, *Eugenia*, betel nut, lemon and other citrus, and other crops like papaya, banana, and sugar cane. The use of tree leaves as green manure, mulch, and compost has been and is still common in cassava gardens and taro patches.

The agroforest in Palau seems to be declining in size. This is probably due to tighter land holding restrictions than in the past and to the fact that people are concentrating their efforts on the production of mainly cash crops. Aside from the vegetable farms, cash crop farms of cassava, *Colocasia* taro, and a limited amount of sweet potato are increasing steadily. Usage of farm tractors and commercial fertilizers have become common practices in modern Palau.

Research Possibilities

The Division of Agriculture and Forestry is currently supporting an agroforestry program. Being a relatively new research area, there is a lack of detailed data. The only information available at this time is the estimated acreage for agroforest and agroforest with coconut, made available in the recent USDA Forest Service "Vegetation Survey of Palau." According to this report, the total acreage of agroforest is 1 ha and agroforest with coconuts is 279 ha, demonstrating the current precarious state of agroforestry in Palau.

¹ An abbreviated version of this paper was presented at the Workshop on Research Methodologies and Applications for Pacific Island Agroforestry, July 16-20, 1990, Kolonia, Pohnpei, Federated States of Micronesia.

² Forester, Division of Agriculture and Forestry, Koror, Republic of Palau.