

FRENCH POLYNESIA

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1. Physical environment and communications

French Polynesia comprises 117 islands, 4,000 km² in area, scattered over 4,000,000 km² of ocean. About sixty of the islands, totalling 3,265 km², are inhabited; however, Tahiti with an area of 1,042 km² forms one-third of the inhabited area.

The islands are divided into two distinct groups by relief: the high, volcanic islands, less numerous but more extensive and the low coral islands (atolls), more numerous but limited in area.

All the islands lie along ridges of recent volcanic activity aligned NW to SE. The vulcanism has given rise to high islands formed of one or more high cones (Orohena 2,241m in Tahiti) dominating a circular lagoon which is sheltered by a low reef. The low coral islands are more numerous but limited in area.

Average temperatures vary little throughout the year. They rarely rise above 30° C in the warm months of February-April and scarcely fall below 20° C in July-September. The Austral islands have a fresher climate with a minimum of 14° C. The relative humidity is high, constantly between 75 and 80 per cent throughout the year.

Wind direction depends on the trade wind circulations to the east. From October to February the prevailing winds are from the north, northeast and east. Periods of calm are noticeable in April-June and tropical cyclones are only exceptional occurrences.

It is possible to divide Polynesia into four major natural regions based largely on their location and physical characteristics. These divisions also correspond with the administrative divisions.

1. The archipelago of the Society Islands falling into two groups: the Windward Islands (*Iles du Vent*); and the

3. Exploitation of resources, ownership and land tenure

Apart from taro cultivation, Tahitian agriculture has remained a very casual economy, allied to food-gathering subsistence. There are no irrigation or major water supply facilities, no development of cultivable slopes and no reclamation of marshy land. Since the early 1950s it has been official economic policy to embark on farming developments intended to remedy the decline in agriculture and also for the development of new resources in order to meet the growing demands of the population, which is both increasing its numbers and raising its living standards.

Following the visit of a mission sent by the Ministry of Agriculture and the reorganization of the Territorial Agricultural Service, a programme for the reform of Polynesian agriculture was drawn up. Its objectives, undertaken within French national plans, are being progressively carried through. They include the development of the major export crops in relation to the population growth and the relevant demand for imported food products; in 1959 food imports were 60 per cent of all imports by value. On the coconut plantations, whose products represented 63 per cent of agricultural exports in 1958, there was to be the elimination of rat infestations, the replanting of old plantations (78 per cent were over 50 years old and 35 per cent over 60 years in 1958) and the planting of new plantations. Diversification of agriculture was also planned, through the improvement of vanilla bean plantations, which produced 35 per cent of agricultural exports in 1959, the replanting of coffee plantations and the popularizing of new crops such as cacao, peppers and citrus fruits.

The initial plan was altered to accommodate difficulties

that arose from changes in world agricultural conditions that have prevailed since 1960 and from the radical transformation in the economy, from 1963 onwards, brought about by the installation of a nuclear test centre. A fall in the price of copra, a rise in labour costs and a crisis in vanilla production (through the premature exhaustion of the plantations combined with a collapse in prices) all brought about a decline in export-based agriculture. At the same time, in Tahiti and neighbouring areas, such as Mo'orea, the demand for labour stimulated by the installation of the nuclear base and the arrival of expatriate technical personnel absorbed the available labour force, precipitating a decline in the traditional export crop cultivation; the Leeward Islands were affected to a lesser extent.

Concurrently with these events, from 1961-62 onwards, experiments in market-gardening were tried on the Tubuai Islands, where the climate is most suitable, in order to meet the food demands of the new immigrant sector of the population. Although they were not entirely successful, the experiments were put into practice after 1965. Inadequate consideration was given to the enormous distances from the centres of consumption, to the difficulties of liaison with the markets and the lack of communication between the private sector and the experiment administration.

Successive plans have also considered measures for the improvement of stock raising, in which the need for increased production is readily recognized.

The origins of the present-day system of land ownership go back to the *Code Pomare* of 1842, which established the existence in Tahiti of individual ownership. The Tahitian laws of 1845 and 1852 respectively authorized changes in land ownership

FARM LAND BY SIZE GROUPS, 1961-63
(Sample on Society and Tubuai Islands)

Size group	Hauti (Rurutu)		Taahuaia Mataura (Tubuai)		Teavaro (Mo'orea)		Faaaha (Tahaa)		Vairao (Tahiti)		Total sample	
	Area (ha)	%	Area (ha)	%	Area (ha)	%	Area (ha)	%	Area (ha)	%	Area (ha)	%
Under 1 ha	71.4	34.6	249.8	7.4	35.4	2.5	19.7	2.3	90.1	11.0	466.4	7.0
1-5 ha.	102.2	49.5	711.1	21.4	207.2	14.5	48.7	5.7	212.3	26.0	1,281.5	19.4
5-20 ha	32.7	15.9	746.5	22.5	428.0	30.0	292.8	34.4	292.4	36.0	1,792.4	27.1
20-50 ha	—	—	752.3	22.6	410.0	29.0	273.7	32.1	160.2	20.0	1,596.2	24.1
Over 50 ha	—	—	870.2	26.1	333.5	24.0	217.8	25.5	59.4	7.0	1,484.9	22.4
Total	206.3	100.0	3,329.9	100.0	1,416.1	100.0	852.7	100.0	814.4	100.0	6,619.4	100.0

Source: M. Panoff, Agricultural Holdings in French Polynesia, ORSTOM, 1964.

FARM LAND BY OWNERSHIP, 1961-63
(Sample on Society and Tubuai Islands)

Ownership	Hauti (Rurutu)		Taahuaia Mataura (Tubuai)		Teavaro (Mo'orea)		Faaaha (Tahaa)		Vairao (Tahiti)		Total sample	
	Area (ha)	%	Area (ha)	%	Area (ha)	%	Area (ha)	%	Area (ha)	%	Area (ha)	%
Communal	185.5	87.5	2,748.2	82.5	1,110.0	77.5	568.5	70.0	692.2	85.0	5,304.4	79.9
Private (individual)	26.5	12.5	478.5	14.4	319.0	22.5	284.2	30.0	122.2	15.0	1,230.4	18.5
State-owned	—	—	103.4	3.1	—	—	—	—	—	—	103.4	1.6
Total	212.0	100.0	3,330.1	100.0	1,429.0	100.0	852.7	100.0	814.4	100.0	6,638.2	100.0

Source: M. Panoff, Les structures agraires en Polynésie française, ORSTOM, 1964.

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and prescribed land and ownership registration. From then until the beginning of the 20th century, various legislations have been brought in with the intention of extending the principle of transferable individual ownership as sanctioned by the *Code Civil* and of obtaining the total registration of titles. This led to the establishment of a survey and register, progressively undertaken between 1920 and 1945.

The establishment of individual, transferable ownership allowed newly arrived Europeans to acquire land legally, contrary to the former Polynesian custom which only conferred the right to use land, both to inhabitants and to foreigners. It allowed the introduction of a class of ownership, through marriage, purchase or inheritance, in the hands of Europeans or their descendants of mixed blood. This coincided with the spectacular development of coconut plantations for copra production, around the turn of the century. Subsequent immigration of foreigners, between 1920 and 1940 and since 1945, is too recent for land in the new class of private ownership to pass through intermarriage into partially Tahitian hands.

The most characteristic feature that distinguishes European or half-caste lands from the Polynesian properties lies in the provision for subdivision of the holdings. Most of the Polynesian-held land is not subdivided, and many half-castes have various rights on such land. This results generally in intricate theoretical rights which, though in practice they can be settled by private contract within the framework of the village communities, are a hindrance to such works as plantation or construction development, which require legal definition.

It is impossible to indicate for the whole territory, without exhaustive research, the divisions of land ownership according to area, ethnic groups or legal status. However, M. Panoff in 1964 presented data for a sample of districts in the Society Islands and Tubuai Islands, of holdings according to size groups and ownership.

Supplementary data for other districts can be drawn from other studies of agrarian structure in the 1960s.

	Maharepa ⁽¹⁾ (Moorea) %	Pueu ⁽²⁾ (Tahiti) %	Paea ⁽³⁾ (Tahiti) %
Communal ownership	30	82	70
Private ownership	70	18	30

Sources: ⁽¹⁾ F. Ravault, Maharepa, Orstom, 1967; ⁽²⁾ A. R. Grand, L'indivision foncière et le développement économique et social en Polynésie française.

The establishment by Europeans and Euro-Polynesians, mostly resident in towns, of large estates for coconut plantations created a related group of landlords, cultivators and labourers which is quite apart from the small family holdings based on ownership and operated by the owner and his family. The latter type is the most common on land owned entirely by Polynesians, producing their traditional crops. Several kinds of enterprises exist, using paid labour or leasing land.

In the case of absentee landlords, common types of rent contracts depend on the kind of crops grown. Plots used for market-gardening may be rented on 3, 6 or 9-year renewable leases. On permanent plantations (vanilla bean, for example) there may be a caretaking-sharecropping arrangement, under which the landlord receives a share of the harvest: 40-50 per cent for copra or coffee where the tenant-operator provides the labour for an existing plantation and harvesting; 20 per cent in the case of vanilla bean plantations established entirely by the tenant.

If labour is required, cultivators hire daily workers who are paid in kind at rates based on official wage rates and who receive certain benefits (for example up to three meals per day).

On properties composed of several scattered plots, it is not uncommon for the owner to use several forms of operation, according to the distance of the plots from his home and the type of crops grown. He himself, with the help of his family, cultivates the land around his home, growing subsistence crops; on plantations (coconut, coffee or vanilla bean) fairly close to his home he may employ daily labour, either casual or permanent; and on more distant plots he will lease the land according to one of the methods described above.

Farmers of Chinese origin, who have no French nationality, can acquire ownership rights only with great difficulty, and are normally compelled to rent land in order to practise cultivation.

AGRICULTURAL POPULATION, BY EMPLOYMENT, 1962

	Persons	%
Owner-cultivators	6,831	58.9
Owner-operators (employing labour)	111	1.0
Agricultural workers	1,243	10.7
Family labour	3,056	26.3
Tenant farmers	356	3.1
Others	5	—
Total	11,602	100.0

Source: INSEE, Census of French Polynesia, 1962.

LAND TENURE, 1965

	Area (1,000 ha)
Owner-operation	60
Tenant-operation	2
Other forms of operation	2
Total	64

Source: Estimations.

4. Land utilization, crops and animal husbandry

Of the total land area, about 55 per cent (some 204,000 ha) is cultivable, but a little over 30 per cent of the cultivable area is in fact in productive use. Productive land is limited to 16 per cent of the total area.

The chief land use for the productive land is in coconut plantations, which occupy all the coastal lowlands and spread up the major valleys of the high islands. They are the exclusive vegetation cover of the atolls. Other plantations occupy a much more modest area. At their peak (1949-54) the vanilla bean plantations covered 2,400 ha but since 1962-63 they have declined, for various reasons: fall in prices, plant diseases and exhaustion of the plantations, and the diversion of both labour and owners to other paid employment.

Market-gardening has developed considerably since the mid-1950s, alongside the urban developments. Operated chiefly by Chinese and other Asiatic farmers, the market-

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LAND UTILIZATION, 1965

	Area (1,000 ha)	%
Arable land, fruit trees, market gardens and plantations . . .	64	16
Rough grazing	7	2
Woods and forests	115	29
Non-agricultural land and inland water	214	53
Total	400	100

Source: FAO Production Yearbook 1968, Rome, 1969.

gardens are established in temporary clearings in the valleys or on hillsides. There has been a parallel development in fruit cultivation (pineapples, bananas and oranges) as well as in traditional subsistence crops (taro, tarua and *fei* banana (*Musa troglodytarum*)). The horticultural experiments carried out in the Tubuai Islands have been developed under the Agricultural Service since 1962, and in the Gambier and Leeward Islands smaller centres of market-gardening have been developed recently.

Crops and fruit trees — more or less free-growing — are found around dwellings. They include breadfruit, tropical fruits, bananas and coffee and supply an appreciable proportion of the domestically consumed food in the subsistence farming sector. Some of the products are also sold in village markets. The valleys in the high islands also carry semi-wild stands of coffee bushes. These are not tended and have a variable yield, often more or less negligible, except for those on the Marquesas and the Tubuai Islands, where the crop is commercialized and some of it exported to Papeete. On the Society Islands the production is lower and at times is insufficient to meet domestic consumption needs.

Pasture is limited both in area and in quality. Mediocre grazing or pseudo-grassland on the coconut plantations supports some livestock, on a very extensive basis; the low nutritional value of the pasture usually results in overgrazing, despite the low numbers in the herds. Of note are a few improved upland pastures on the plateaux of Taravao in Tahiti.

Farming techniques are still extremely simple, except in the growing of taro, vanilla bean and market-garden vegetables and in fruit cultivation. The native farming is essentially a food-gathering economy extended to include some maintenance work such as the clearing of brushwood, the repair of livestock

vinegar brewing, other breweries and rum distilleries, and dairies. In 1964, 58 tons of copra were produced for sale, and the oil factories used around 500 tons for the processing of edible oil, 80 tons of second-quality oil, and 152 tons of soap. In 1962 and 1963, the vinegar works consumed 214 tons and 183 tons of fresh bananas respectively; there is difficulty in supplying sufficient bananas. Up to 1963 the Tahitian brewing industry used manioc starch in beer production, but since then it is made entirely from imported products. Hundreds of kg of local fruit products are used in jam making, and in 1964 105 tons of coffee beans were produced. Rum distilling was formerly carried on by an agricultural society, which grew a few hectares of cane sugar for the purpose, but this has now ceased production. In 1962 the dairy production of milk amounted to 450,000 litres.

MAJOR LAND USES, BY ISLAND GROUPS, 1965
(in hectares)

	Society Islands		Tubuai	Tuamotu-Gambier	Marquesas
	Windwards	Leewards			
Coconuts	6,240	9,160	1,610	40,000	3,080
Other cash crops	1,560	2,140	690	—	20
Pastures	3,200	1,700	700	500	400

Source: Waters and Forests Agricultural Service, Papeete, 1965.

MAJOR AGRICULTURAL PRODUCTS, 1963
(in tons)

	Society Islands			Tubuai	Tuamotu-Gambier	Marquesas
	Windwards	Leewards	Tahiti			
Copra	7,090	5,309	25,818	344	10,867	2,208
Vanilla	34	436	470	—	—	—
Coffee	—	27	171	71	—	73
Vegetables	—	—	—	110	—	—

Source: Waters and Forests Agricultural Service, Papeete, 1965.

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GROSS DOMESTIC PRODUCT BY SECTORS OF ECONOMY, 1960

Sector	%
Agriculture	30.4
Food industries	4.1
Extractive industries	9.8
Other industries	2.9
Construction and public works	5.2
Services	18.3
Commerce	21.0
Tourism	4.3
Other sectors	4.0

The gross domestic income from agriculture alone totalled 10 million U.S. dollars, though it is very difficult to evaluate what was consumed domestically. The relevant data can give only an indication of the values.

AGRICULTURAL AND LIVESTOCK PRODUCTION, 1960

	Value in million U.S. dollars
<i>Animal and vegetable products</i>	
Consumed domestically	1.63
Surplus margin	0.42
Commercialized production	1.44
Total	3.49
<i>Food products</i>	
Commercialized production	4.12
Traditional farming	1.69
Total	5.81

NET AGRICULTURAL PRODUCT, 1960

	Million U.S. dollars
<i>Gross domestic product (at market prices):</i>	
Wages and social contributions	0.45
Indirect taxes	0.01
Gross revenue from production	9.48
Total	9.94
Input	0.18
Total output	10.12

Source: INSEE, Economic Budget of French Polynesia, Paris, 1965.

Unfortunately, in the source from which these data are taken, no information can be obtained regarding the application of the gross revenue from agricultural exploitation, in terms of maintenance, mortgages or new investment.

There were in 1960 a number of markets of limited extent, for each of the major export products (copra, vanilla, mother of pearl); these were entirely informal, without any legal or administrative organization. The price of copra benefited by a government subsidy. Two major markets for food products were established at Papeete and Uturoa, and several minor markets served specific products, such as fish. A great deal of the production was sold direct to urban retailers.

Imports were valued at 16 million. The value of major agricultural exports was as follows:

	Million U.S. dollars
Copra	3.97
Vanilla	1.86
Coffee	0.10

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