Resources variability and the rise of Tahitian chiefdoms: perspectives from landscape, settlement pattern studies and oral traditions

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Introduction

This paper presents an overview of chiefdoms in four major locations of the Society Islands (French Polynesia), their late pre-contact importance and their link with exploitation of natural resources. Many sources, ethnohistoric and oral traditions, emphasize the intensity of warfare during the pre-contact period, intensified through the arrival of the first Europeans in the archipelago at the end of the 18th century. We examine which factors might have influenced the development of chiefdoms in this specific region and their potential impact on the emergence of territoriality and warfare. We look at several examples of settlement patterns in four islands of the Society archipelago, identified as important chiefdoms (Tahiti, Moorea, Raiatea and Huahine) and their relationship with various environmental factors such as topography, soil types, hydrology, distance to water access, rainfall and wind patterns, spatial distribution of agricultural complexes, etc. We also use ethnohistoric sources and oral traditions documenting the emergence of the Teva in Tahiti, the Tamatoa in Ra‘i‘a‘tea as well as the chiefdoms of Maeva in Huahine and the Marama in Mo‘orea. These accounts will be crossed with available archaeological data. While providing a GIS database and sets of maps combining those various factors (archaeology, environment and oral traditions), we expect to highlight some relationship patterns between territoriality, exploitation of resources and power in the Society Islands. We also hope that our perspectives will contribute to set up issues for further archaeological research in the region.

1. Windward Islands (Tahiti and Mo‘orea)

1.1. The island of Tahiti

Valley of Papeno‘o

Located in the North-Eastern part of Tahiti, this valley is the widest of the island (18 km long). It lies in an intermediary zone, partly protected from the north-east winds. The coastal plain is narrow, there is no fringing reef. The rainfall is quite heavy (3 m/year in the coastal area, 8 to 10 m/year inland). The valley have been studied between 1975 and 1991 by the former local Department of Archaeology. The numerous archaeological remains in the remote inland areas [1] show ceremonial sites with social elite features (important marae, archery platform) as well as small households, associated with simple marae, and agricultural systems. Both dry and irrigated agriculture are represented. An intensive settlement is noticed on most of suitable alluvial terraces.

Leeward of Tahiti, the TEVA i UTA chiefdom: Papara, Mafaitea, Vaiari

According to traditional accounts [2, 3] an ancestor from Bora Bora married a local family of Vaiari at an unknown period. His grandson, Tetuna‘e nui, is known to have built the « first » « marae hui ari‘i » (marae of high rank chief). After genealogical records, the foundation of the Teva line based in Papara, occurred around the 15th century. The chiefdom eventually evolved within two territorial confederations, Teva i Uta (Papara-Papeari), and Teva i Tai (Peninsula). 11 generations after the 1st Teva, Papara won the political supremacy upon Vaiari. During the 18th century, the Teva were the most powerful chiefdom of Tahiti.

The Teva chiefdom was located in the widest coastal plain of the archipelago (2 km wide), with swampy areas and good soils for agriculture (taro crops). Located leeward, it has a regular and moderate rainfall. The reef and lagoon were very important areas for natural resources, as indicated in the numerous land claims from the 1850’s.
The archaeological investigations carried out in Mataiea-Papeari showed an intensive settlement on the coast, while the very narrow and steep valleys could not be densely settled. The recent research in the Taharu’u valley [4] shows the concentration of elite’s residency on the coastal plain (e.g. the huge marae Maha’aiatae), while households and small agricultural sites are spread inland until a swampy area located on a plateau, 800 m high. 173 archaeological structures have been recorded in 2007 within 32 sites located from the coast to the plateau. The marae are all of the interior type in the valley. While on the plain, the important marae of coastal types are associated with the ari’i of Papara.

**The Peninsula : TEVA i TAI**

The Peninsula was divided into 8 districts. At the 18th century, the Teva i Tai chiefdom had been unified under the ruling of chief Vehiatua [5]. It had won the religious and political supremacy previously leaded by the Teva i Utu [3]. The first introduction of the cult of ‘Oro from Taputapuatea, in Raiatea could be at the origin of this new domination. From 1770’s, an alliance was concluded between Vehiatua and Tu (Pomare) families. At the death of the last Vehiatua, Tu inherited the Title, which contributed to reinforce his political authority.

The Peninsula is located leeward, and the rainfall is one of the most important of Tahiti. Three valleys (Vaitepiha, Vaiote, and ‘Aiuruua) have been studied [6,7]. They show a dense settlement in the inland areas ceremonial sites, important horticultural potential associated or not to household sites.

**1.2. MOOREA (Windward areas)**

**1.1. Valley of ‘Opunohu**

This valley is the best documented example for household and religious sites in the Society Islands [8, 9]. In the 1960’s, R. Green and al. carried out a pioneering research project, emphasizing the first broad settlement pattern in Polynesia. It was eventually followed by the study of ancient agricultural systems [10], and the reconstruction of settlement patterns through domestic architecture [11, 12, 13].

Around 1650 A.D, the Marama clan from Haapiti won over the Atiro’o clan from ‘Opunohu. The valley was then divided into two main areas : Amechiti in the Western part, and Tupauru’uru in the Eastern part. The Marama line ruled the area until the end of the 18th century. Between 1774 and 1790, several attacks from Tahitian fighting groups were successfully pushed away. ‘Opunohu was considered as a refuge area. After 1790, ‘Opunohu was under the influence of the Pomares, and in 1804, Pomare II became the paramount chief of Mo’orea. Some people were still living in the valley in 1804-1805, until they deserted around 1815 for the protestant mission in the village of Papetoai.

Archaeological investigations have shown a high concentration of sites in the Tupauru’uru area (East), where specialized, elite structures (fare pote’e, important marae, archery platforms, etc.) and horticultural systems are found. The construction and the occupation of residential sites in that area occurred between mid-15th and 17th century [12, 13]. Important horticultural systems concentrated in the Tupaururu area were used at least from the 13th century on.

In conclusion, the political importance of the Tupauru’uru area may be directly linked to its horticultural potential.

**1.1.2. Valley of Papetoai, Apo’ota’ata**

This valley (2 km long) is identified as a refuge area according to oral traditions, at least for the late pre-contact period. A marae Taputapuatea was built on the coastal plain, as a sign that the cult of ‘Oro was established in this district. The preliminary results of an ongoing archaeological research project [14, 15] recorded 205 archaeological structures, within 25 sites : 17% of horticultural sites, 23% of habitation sites, and 12% of marae.

The distribution of inland settlements shows a concentration of important marae/habitation/horticultural sites in the middle valley in a defensive settings (part natural and anthropic) versus a high density of horticultural sites isolated and/or associated to simple habitation sites and small marae tupuna in a natural defensive settings (topography) at the bottom and upper parts of the valley.

**2. Leeward Islands**

**2.1. Huahine : Mata’irea hill, Maeva**

Traditionally, Huahine had eight main chiefdoms divided around the island. The ancient history was divided into several periods : hau mo’oree corresponded to a long period of warfare between the different groups, mostly in inland areas. Later, hau ari’i, or hau pahu roa was the unification of the eight chiefdoms. Towards 1650 A.D, Maeva became the main political chiefdom of the island. It leaded towards a unique socio-political and land tenure situation : the eight chiefdoms shared a same main marae : Mata’irea rahi. Hotuhiva, coming from abroad (might be from Raiatea, Marquesas, Tahiti…) had eight sons with a high chief from Huahine. They were the founders of the eight chiefdoms of the island. Hotuhiva may be the metaphor for a new religious order from a different island (cult of the god ‘Oro from Raiatea ?). Around that time, two chiefly lines from the Tamatoa attached to the marae Taputapuatea in Raiatea dominated the eight chiefdoms of Huahine. Then the political center of Mata’irea moved to Tefareri’i, in Huahine iti [16].
Mata’i’rea hill and Maeva have been the location of 40 years of archaeological work, mostly by Pr. Sinoto (Bishop Museum) [17]. The hill has no rivers, only springs mentioned in ethnohistorical sources. The slopes represent from 20 to 70%, with some fallen rocks areas, and the coastal area is narrow. The settlement pattern of Mata’i’rea is a unique case: this refuge area was protected by a defensive wall of 1.5 km long. The three main archaeological areas are located on the mountain side, with a high concentration of house sites and different types of marae. The area was used between 1300 and 1800 A.D (14C) [18]. The economy was based on both dry horticulture, with dry horticultural systems associated to houses and isolated in the Western part, and marine resources, with a unique system of fishponds (‘aua i’a) in the Fauna nui lake facing Mata’i’rea. The hypothesis that Mata’i’rea was « abandoned » well before the arrival of the Europeans, matches with the oral traditions mentioning that the political center was transferred to Tefareri’i at some point.

Valley of Tara’e, Tefareri’i

The preliminary survey of this valley [19] recorded many habitation and horticultural sites on alluvial flat and slopes 20 to 70% steep. The valley have been identified as the most intensive horticultural area around the island. The high horticultural potential and the « recent » status of political center after Maeva was fought by some Tamatoa from Raiatea.

2.2. Raiatea

![Image of Raiatea](image)

2.2.1. Opoa valley

At the 18th century, the island was divided into nine districts withing two geographic areas: East and West coasts. The district of Opoa-te-iva, in the South-East, was the most powerful chiefdom, centered on the marae Taputapuatea. According to genealogical records [5, 20], the emergence of this chiefdom occurred during the 16th or 17th century. Then, the Tamatoa expanded religious influence in the Windward islands. The environmental advantages of the geographic area of Opoa can be linked to the origin of this powerful chiefdom. 4.5 km long, Opoa is one of the largest valley of the island. Located windward, it benefits of an important rainfall. At the entrance of the valley, is a large alluvial plain with swampy areas [21]. The valley opens on a large bay with lagoon, and the soils suitable for agricultural purposes are still in use today.

In 1995, 112 archaeological structures were recorded in the interior of the valley, with 5 agricultural systems, for a total of 3,39 hectares of irrigated terraces, associated with household units and marae. Edwards concluded that the valley was not completely settled, as some suitable inland areas have not been settled [22].

2.2.2. Faaroa valley

In addition to those lands, the neighboring valley of Faaroa shows similar geographical features such as a swampy area of 32.96 hectares within the alluvial plain. An archaeological inventory carried out in the early 1990’s showed that 82% out of 588 recorded horticultural terraces are irrigated structures spread upon 60% of the arable surface (10 Ha) of the alluvial plain [23].

Conclusion

In Tahiti and Mo’orea, the global settlement pattern shows a continuous and intensive human occupation from coastal areas to the central mountains, as a potential indicator of demographic pressure. The archaeological data from Papara and Apo’ota’ata tend to validate the following, well-known ethnohistorical model: the elite was living in the coastal area while lower social classes settled inland. Household, marae and agriculture sites are often linked to each other. The irrigated systems were limited by the topography in the inland areas while irrigation was practiced in coastal swampy areas that are mostly destroyed today by modern development (cf. historical accounts). Both in Tahiti and Mo’orea, a link can be clearly established between suitable ecological zones and political and religious domination of the chiefdoms.

In the Leeward islands, the case of Ra’iatea tends to emphasize the same tendency of a link between ecology and political leadership, with the emergence and later domination of the Tamatoa chiefdom in Opoa (16th-17th centuries according to oral traditions), occupying a favorable ecological zone, near the largest arable lands of the island. In the valleys of Opoa and Fa’aroa, the extensive horticultural systems and irrigation are close to the international marae of Taputapuatea, which may have been built between 1200 and 1700 A.D according to various genealogical sources. In Huahine, the special case of Mata’i’rea Hill showed a main political center dominating the entire island, with an economy based on dry horticulture and intensive exploitation of marine resources in the Fauna nui lake. Late prehistoric displacement of political center towards Huahine iti (Tefareri’i), occurred in the most extensive wet horticultural systems of the island, thus emphasizing a link between exploitation of natural resources and political power. Further archaeological research is needed to explore such parallels to better understanding the emergence of chiefdoms in the Society Islands.
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<th>location</th>
<th>oral traditions</th>
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<tr>
<td>Tahiti</td>
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<tr>
<td>Papeno'o</td>
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<td>Opunohu</td>
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<td>end of 7th (lower valley ?)</td>
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<td></td>
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<td>13th (horticultural systems)</td>
<td>Leposfsky 1994</td>
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<td>mid-17th and mid-18th (Marama clan rules, division of the valley in 2 areas)</td>
<td>mid-15-mid-17th (Tupaururu area)</td>
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<td>Fa'aroa</td>
<td>13th (horticultural systems)</td>
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Table synthesizing the chronological data available for the four islands and their main chiefdoms.
REFERENCES


