

II.4) FROM A TRADITIONAL TO MODERN MANAGEMENT IN FAKARAVA (THORAX L)

FAKARAVA, A PROTECTED ATOLL

Fakarava is part of the Tuamotu Archipelago in French Polynesia, which is the second largest atoll in this geographical area. The atoll includes a lagoon that is 60 kilometres long and 25 kilometres wide. The crown reef stands in the perimeter, but only the north-east and the south-east part is emerged. The rest of the periphery is only a slightly immersed coral plate, leaving the ocean in contact with the lagoon by many *hoa*¹. The atoll consists of two passes². The first one, Garuae, in the northwest, is located relatively close to the main village Rotoava. The Tumakohua pass, in the south, is much smaller, and is located near the old village of Tetamanu, that housed the atoll's first inhabitants. Inhabited by about 600 people in 2007, the atoll is considered by the Polynesians as an authentic and natural destination, which is representative of the traditional *paumotu*³ culture. Spared from mass tourism, the local population managed to preserve the environment by using it in a sustainable and conscientious way. As a logical consequence of this exemplary behaviour, international consecration followed, in particular when the atoll was declared as a *biosphere reserve* by UNESCO in November 2006. Thus, management and exploitation of natural heritage today is governed by official institutions, which work closely with the population. The main economic activities on the atoll are tourism (particularly tourism related to scuba diving), pearl culture, *coprah*⁴, and in a lesser extent, fishing (which remains a means of auto-subsistence rooted in the local micro-economy). The atoll was recently placed on the map due to the construction of an airport and a new port. This destination attracts an increasingly high number of tourists, hence providing new opportunities for residents, but also new issues related to exploitation of the lagoon. The anthropogenic pressure on the ecosystem is growing and management models set up by UNESCO, but also by the PGEM (government-lead *management plan for the maritime space*), are applied to optimise the operation and natural resource management by involving the population in the decision-making process and by raising the awareness of the environmental problematic in its modern and western conceptions. The remaining question is whether these models are really adapted to the local culture and way of life on an atoll or not? That is why a study of traditional farms and the representation of nature by the *Paumotu* seemed inexorable to us. It is important to understand how life on an atoll can impact the social, economic and environmental development. The insularity phenomenon is very strong in Polynesia and reached its

climax on Tuamotu Archipelago. Indeed, in this area, the landmass to sea surface ratio tends to inverse. It should be noted that the island, in its geographical isolation, is the theatre of life events and adaptation not only for humans, but also animals and plants. It is also important to highlight one aspect of the island, its limited space, which we have to take into consideration. Resources are therefore directly involved, to the same extent as demography or opportunities for travel are. All these constraints are causing complex social systems and insular cultural specificities imposed by the phenomenon of isolation inherently associated with life on the island. Consequentially, the limitation of resources inevitably leads to social adjustments and cultural issues, such as specific forms of *rahui* that we shall subsequently discuss. An atoll is an extremely fragile and precarious ecosystem. Unlike the high islands, which have plane lands and mountains, the central lagoon offers limited survival conditions. The ocean's dominance is even stronger as it imposes itself from both the periphery and from the centre of the lagoon, which communicates with the ocean through passes and channels, hence providing the lagoon with water, its flora and fauna. Human life is only possible on the *motu*⁵ placed on annular reefs, which are surrounded by water. In general, insecure living conditions had led the Polynesians to consider the atolls as steps on their migration routes or as refuges for the high island inhabitants. According to P. Bachimon, "with atolls, we are at the limit of the concept of island, as differentiation from the ocean environment is slim. There cannot be insular *oceanicity* more powerful than on an atoll" (Bachimon 1990: 29). Here, the notion of insularity is inevitably replaced by an even stronger term, named *absolute oceanicity* used by Bachimon. From a biological point of view, we must stress the great biodiversity of an atoll, which plays the role of an oasis in the middle of the ocean. If terrestrial biodiversity is relatively poor, we should recognise that marine biodiversity is on the contrary extremely rich.

The lagoon's ecosystem is prolific and therefore provides islanders with plentiful resources. Whether using its coral, shells (for food consumption or handcraft use), crustaceans or even many species of fish, the *Paumotu* knew the full use of marine resources and thus their whole culture is oriented towards the use of these marine resources.

The topic of this study is to analyse the practice of *rahui* throughout the pre-colonial, colonial and modern times, in order to describe the various adjustments to which this practice was subject, particularly in the case of the atolls of the Tuamotu Archipelago and in Fakarava. First off, the study should concretely define the concept as proposed by the Polynesians. Generally, the aim of *rahui* is a conscious management of resources, marine and terrestrial, marked by sacredness and *tapu*⁶, imposed by community leaders. The *rahui* therefore possesses a religious and sacred dimension prohibiting the exploitation of some resources or a specific area. A *rahui* could then have several functions: it could serve as a means to impose a leader's authority: the more a *rahui* was important (in its duration or in the size level of the considered area), the higher the power of the leader was. The *rahui* could have the function of maintaining a certain amount of resources in anticipation of a ceremony, or could simply be declared to prevent a possible famine. In any events, as the practice of *rahui* referred to the concepts of *tapu*, sacredness then took an important place. Anyone who did not respect this sacredness could be punished by the gods in different ways (misfortune, curses on his family ... etc).

Pre-colonial times

Since immemorial times, people have been able to use resources available to them. It should be noted that on the atoll's surface, soils in low evolution states did not allow crop exploitation on a large scale. The population had to rely on culture pits (trenches filled with organic waste) to grow rare fruit trees. Through these pits, it was possible for the inhabitants to grow certain species and thus support the atoll's extreme weather and hydro-geological conditions. Indeed, the cumulative impact of a flooded basement in a brackish water lens and salty winds did not allow the same intensive cultivation of edible species, as it was possible, for instance, on high islands. Hence, the main food resources, with the exception of some pig farms, originated from the sea, and more generally from the lagoon. It is one of the main differences to be emphasised between the high island inhabitants, who practiced the *rahui* on the field, as well as on the lagoon land space, and the *Paumotu*, who owed their salvation to the exploitation of marine resources only. In addition, the nomadic lifestyles naturally lead to the rotation of exploited areas. Due to the broad space available, and the lagoon's high biodiversity, the *rahui* at pre-colonial times was more a way for community leaders to demonstrate their power, than to express an ecological conscience: *rahui* were laid on areas or species to ensure the abundance of

resources for ceremonies. As the small populations did not produce any particularly strong pressure on the ecosystem, the *rahui* was more a means for the leader to enforce and remind everyone of the prevailing social and religious rules. The planning and provision of a quantity of resources for the ceremony was the leading reason of the concept of *tapu*. There were no ecological dimensions in this practice, but an important religious one, that anchored in daily life the tahitian cosmogony and served the social cohesion around common beliefs among the population. Their daily life was governed by rules referring to *tapu* and other religious bans: for examples building of a boat or going fishing, and would have been implemented carefully to ensure success and security to its interpreters. In this context, the *rahui* was a practice that fit in the system of local beliefs and logically applied in reference to divinities and to all the standards these beliefs were required to meet. Furthermore, the *rahui* had sacred and religious dimensions: the *tapu*, which constituted its essence and provided the *rahui* with a real legitimacy, went far beyond simple management of available resources.

Colonial period

During the colonial period, when French settlers imposed their view of the world and prohibited the tahitian culture in the late 19th century (1870), the practice of *rahui* took a new dimension. Catholic missionaries ordered a new way of operating for all the atolls: intensive coconut cultivation to produce *coprah*. Thus, atolls, which were particularly well suited to this use, were rapidly covered by coconuts on most of their exploitable land surfaces. With evangelisation, loss of cultural references, and the decline of local beliefs, the religious connotations of *rahui* progressively lost their importance and were replaced by new meanings for the *paumotu* people. These new meanings were more related to the economy. The practice was executed according to economic imperatives, relating to the production of *coprah*. Inherently, the practice was diverted from its original use to meet the new polynesian economic guidelines: economy and profits which have become the main concerns. Despite a nomadic lifestyle in Fakarava, the presence of a main village located on the road of the boats responsible for harvesting *coprah* bags remained essential (for instance, the village of Rotoava in the North, located closer to the great pass). The prevailing system no longer corresponded to traditional values, but to realities of a booming market. The spatial organisation evolved to suit the exploitation of *coprah* and the atoll was divided into three main zones, the fourth zone was located on the neighbouring atoll, Toau. Areas were designated based on the superficies of their coconut groves. The entire village

population was moving from one zone to the other every three months. The production of *coprah* was delivered to the schooners that regularly connected Papeete. This system allowed time for the recovery of coconut plantations. At each new displacement, the population was temporarily relocated in so-called *fare rahui*⁷, which were temporary homes. It appears that, despite an atoll's land division between four main extended families, the *rahui* were not, at least initially, performed in a competitive way, as everyone was involved throughout the year with the exploitation of various areas considered as part of the community belongings. Thereafter, the importance of economical profit overtook the sense of community cohesion and every family individually started to run their own areas. The rotation was still synchronously running, as travel is an important part of *paumotu* social life. The lagoon's exploitation was performed in parallel with the exploitation of the coconut trees so that the anthropogenic pressure on the lagoon's ecosystem was never too high. With the new compulsory school attendance, part of the population was forced to stay in the main village. It is possible to date the last official *rahui* that took place in Fakarava, in July 1975, which was then the last great movement towards a *rahui* area. Therefore, women, who made crafts while caring for children attending school, remained in the village, while men and teenagers went on less remote coconut tree fields. The lengths of stay became increasingly shorter, but the social dimension remained of a certain importance. Differentiation between life in the village and return to the sector was essential. If the village lifestyle was increasingly westernised, the return to the sector was seen as a return to traditional *ma'ohi* lifestyle. The links to the family group and to the ancestral land narrow, and a lifestyle, that could be considered an indicator of poverty in the context of the village, proved to be regarded as traditional and claimed as such in the sector. Currently, returns to the sector are still sporadically practiced in a limited family context but the lengths of stay usually do not exceed two weeks.

Institutional re-appropriation

Recently, the *rahui* concept has taken a new direction: ecological, this time. Indeed, since the atoll was declared as a *biosphere reserve* by UNESCO, in December 2006, new priorities are on the agenda. Therefore, environmental management is now an important consideration in the development of the atoll. Local and international institutions have proposed implemented management models to ensure the sustainability of the ecosystem's biodiversity. We can count three major management models,

each set up by a different entity, which prove complementary. The first was proposed by the MAB (Man and Biosphere program, from UNESCO) on all Fakarava territory, which divides the atoll into three zones, a central area, a buffer zone and a transition area. This model is considered as a sensitising tool aimed at the population and the tourists. It identifies important areas of biodiversity and biological heritage. The second model, the General Territorial Plan (PGA) applies to the land and edicts laws concerning emerged land management. The third model, is the one that interests us in this study, it is the PGEM or *management plan for the maritime space*, that was validated in 2007. This model is the regulatory and legislative tool for the entire marine part of the atoll, from the lagoon to the outside slopes. In the last two cases, management models have been developed by institutions: the Urban Department for the PGA and the Fishery service in collaboration with IFRECOR for PGEM. Every area defined by the various models is part of every model simultaneously, but the PGA and also the PGEM are legislative tools and are therefore defined by the code of the organisation of French Polynesia. The general goal of PGEM is to ensure management of maritime space, both in terms of exploitation of natural resources and to the regulation of related human activities. This includes rational utilisation and valorisation of resources and space, management of conflicts of use, control of degradation and pollution of the marine environment and finally protection of marine ecosystems and endangered species. The PGEM is thus a document for space management that defines the terms of use, management, backup and recovery of the lagoon. The delineation of zoning has been made with a strongly participatory approach from the part of the population that was actively included in the decision making process. Each activity sector was consulted to reflect the opinion of each party and the cultural aspect has taken a prominent place in the set up process of the structure. The space is divided into several zones, which define the procedures and rules for any activity. There are four areas on the lagoon: an activity area, a protected tourist area, a protected natural area and, of particular interest to our study, a *rahui* area. This last area is a marine area subject to active management intervention to ensure the maintenance of habitats and to meet the requirements of specific species. The main objectives are to provide the communities living near the area the opportunity to maintain a sustainable lifestyle and to focus on research and monitor environmental management alongside ancestral practices.

The *rahui* area is located northwest of the atoll spanning about a quarter of the lagoon. It is split in two zones, and each zone is open alternately every two years. When a *rahui* is promulgated in one zone by the Standing Committee (composed mainly of inhabitants of the atoll), fishing (fish only) is totally prohibited in the whole zone. Simultaneously, fishing is allowed in the second zone. There is a second type of *rahui* that concerns particular species. All species of lobster and the coconut crabs (*kaveu*) are protected in the whole atoll, divided also into two parts by a northern-southern border and open alternately every two years. There is therefore a land *rahui* that completes the marine *rahui*. The application of these *rahui* focuses on the conservation and preservation of the environment on the one hand, and cultural practices inherent to the operation of this ecosystem on the other hand. The development of PGEM is custom-made, taking into account the richness and diversity of lagoons, but especially the needs of the population. It is then possible to enumerate several dimensions of *rahui* practice as it is formulated by institutions: an ecological dimension is aimed at the conservation of biological heritage. This ecological dimension is directly linked to the new issues of touristic development, and inherently economic development of the atoll. A strong ethical vision permeates the whole system, as it conciliates economic and social development of the population while preserving the environment at the base of the perpetuation of local and cultural traditions.

There is another type of *rahui*, imposed by the Fisheries service, that applies to the whole country and that concerns only certain species. The system has two operating periods during the year: a period during which the *rahui* regulates the fishing activities and imposes a minimum size for species in order to allow them to reproduce at least once during their lives. And a period of *tapu*, which totally prohibits exploitation, trade and consumption of targeted species. There is, in this system, an important contradiction concerning the sense of the word *rahui*: the PGEM enforces total prohibition of the use of resources on demarcated areas whereas the Fisheries service uses the word *rahui* for a period of legal and regulated operation, in parallel with a complete ban on operation during the *tapu* phase. Therefore, the vagueness in the terms used and the overlay of local and national models makes it so complex, that the population does not seem to appreciate it. The re-appropriation of the term and concept of *rahui* by governmental institutions demonstrates their determination to integrate, respect and value traditions and local cultural practices. But it appears that, due to a lack of information and communication from the part of the government, the majority of the population prefers to dismiss the model rather than to try to understand it. It might be too easy to say that the term *rahui* loses some of

its meaning, when used by governmental institutions, but it is undeniable that the re-appropriation of the concept as it appears actually must be adjusted and maybe simplified to fully convince the local population who refuses to assimilate it. During my fieldwork, I realised that the population was very poorly informed on this topic and that the PGEM was primarily understood as a ban. Indeed, most fishermen saw the *rahui* only as a means for the government and institutions to control their activities and therefore to reduce their freedom of action. It is however clearly not the purpose of PGEM, which only aims to manage and organise the harmonious ecological development of the lagoon by enforcing these new rules. During our discussions with the different parties, we saw that many inhabitants did not know of its existence, or if they knew it, they were not aware of the existence of regulated areas. Lagoon users, because of their lack of information on this topic, prefer then to ignore the rules and continue to fish as they have always done. There is no real control possible because of the vastness of the lagoon and hence the difficulty of managing such a surface. Self-control, yet advocated by the authorities, does not appear to be a common activity, because in such a small population, family and friendly links cancel its efficiency.

The *rahui* within PGEM raise issues, as it refers to a practice that makes no more sense to people who are supposed to implement and respect it, because respecting something in which they don't believe anymore is simply not possible. This is certainly the main issue of PGEM and of its *rahui* areas: the *Paumotu* do not believe anymore in the sacredness of the practice and the lagoon.

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Endnotes

- 1 : slightly underwater channel between the lagoon and the ocean during high tide
- 2 : deep and wide opening of the reef, where exchanges between the lagoon and the ocean are most important
- 3 : inhabitants of the Tuamotu Archipelago
- 4 : dried coconut flesh
- 5 : group of islets forming a ring-shaped atoll
- 6 : sacred prohibition
- 7 : provisional house build in *rahui* area