

in 1991 the Territory granted land and maritime concessions on Mopelia to inhabitants of the neighbouring island of Maupiti who were keen to exploit these concessions. The Pomare Party's occupation was judged illegal by the local Appeals Court in July 1992, but no action was taken until September 1992 when members of the Pomare Party were expelled from the island.

The Minister of the Sea responsible for this affair, Edouard Fritch, argued that the Government had done everything in its power to reach a mutually agreeable solution with the Pomare Party. The Government had been willing to grant concessions to the Pomare Party if they lodged a formal application to the Mayor of Maupiti and ceased obstructing the Maupiti people's settlement of Mopelia.

The leader of the Pomare Party, Joinville Pomare, was opposed to the settlement of Mopelia for several reasons: firstly, because the Pomare family claimed to have ancestral rights to the land which the Maupiti people did not. Secondly, the Maupiti people had polluted their lagoon through water melon cultivation and associated pesticides and fertilizers, to such an extent that their lagoon was unfit for pearl farming, which they now wanted to undertake

at Mopelia (the Pomare Party was successfully cultivating pearls in the Mopelia lagoon and the Maupiti people decided to start a pearl farm at Mopelia as well).

Joinville Pomare argued that the Mopelia atoll was only 300 ha and its sensitive environment would not support the presence of 100 or more settlers from Maupiti. But one day after the removal of the Pomare Party, 100 people arrived in Mopelia from Maupiti, 87 of whom were to settle there. Members of the Pomare Party started a hunger strike in protest at their expulsion and to demand negotiations over their land claims. The demonstration captured the attention of the media and finally the two sides reached a verbal agreement that, in principle, the Pomare Party would be given a concession on Mopelia, the details of which were to be decided in further negotiations.

At the beginning of 1993, the situation was at a stalemate, but whatever the end results of the Pomare Party's land claims, until the controversial issue of indigenous land ownership is resolved, it will continue to pose problems for the Territory in terms of economic development, social cohesion and stability.

Relearning coastal resource management from ancient Hawaiians

by K. Smith and M. Pai

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Isolated in the middle of the Pacific Ocean, Hawaii was one of the last areas to be reached by 'western' explorers and the last to become a part of the United States. As such, some ancient traditions were preserved in Hawaii well into the 19th and 20th centuries, providing an opportunity to learn from a surviving indigenous culture. Ancient Hawaiians believed that because the land, sea and everything in them were created by the gods, they must be cared for. 'No one must take more than they need, and everything must be shared.'¹

'To conserve the supply of all resources was constantly in the Hawaiian mind. When plants were taken from the forest, some were always left to replenish the supply. Replanting was done without fail at the proper time as beds of taro and sweet potatoes were used. Fighting grounds were never depleted, for the fishers knew that should all the fish be taken from a special feeding spot (**ko'a**) other fish would not move in to a replenish the area... At the base of this action to conserve was the belief that the gods would have been displeased by greediness or waste.'²

Because of its importance to them, Hawaiians had many words for the land and all its formations. The word for land (**'āina**) had a much deeper meaning, derived from the word meaning 'to eat'. The words for the land zones (too numerous to mention) denote not only increasing distance from the mountain top and closeness to the sea, i.e., **mauka** ('towards the rise (mountain)') or **makai** ('towards the sea'), but also the changes in vegetation due to altitude and climate.

The largest unit of land was the island. Because they are naturally separated from one another, each of these islands could be referred to as an **'āina**, but the more common term was **mokupuni**. The lands were not divided in ancient times but as the island became crowded it was necessary to make additional subdivisions.³

These were the **moku'āina** (districts), **kalana** (similar to a **moku'āina**), **'okana** (divisions within **moku'āina** or **kalana**) and **ahupua'a**.

The **ahupua'a** were the smallest major divisions, which cut the islands into a series of pie-shaped

sections oriented in a **mauka-makai** direction. The figure below shows a schematic representation of a **moku'āina** divided into ahupua'a showing the **'ili'āina** and **mo'o'āina**, which allotted land for farming, fishing, and the elaborate system of traditional dwellings to families and larger groups. The **ahupua'a** spread out at the base along the shore and were self-sufficient units, affording to the chief and people 'a fishery residence at the warm seaside, together with the products of the high lands, such as fuel, canoe timber, mountain birds, and the right way to the same, and all the varied products of the intermediate land as might be suitable to the soil and climate of the different altitudes from sea soil to mountain side or top'.⁴

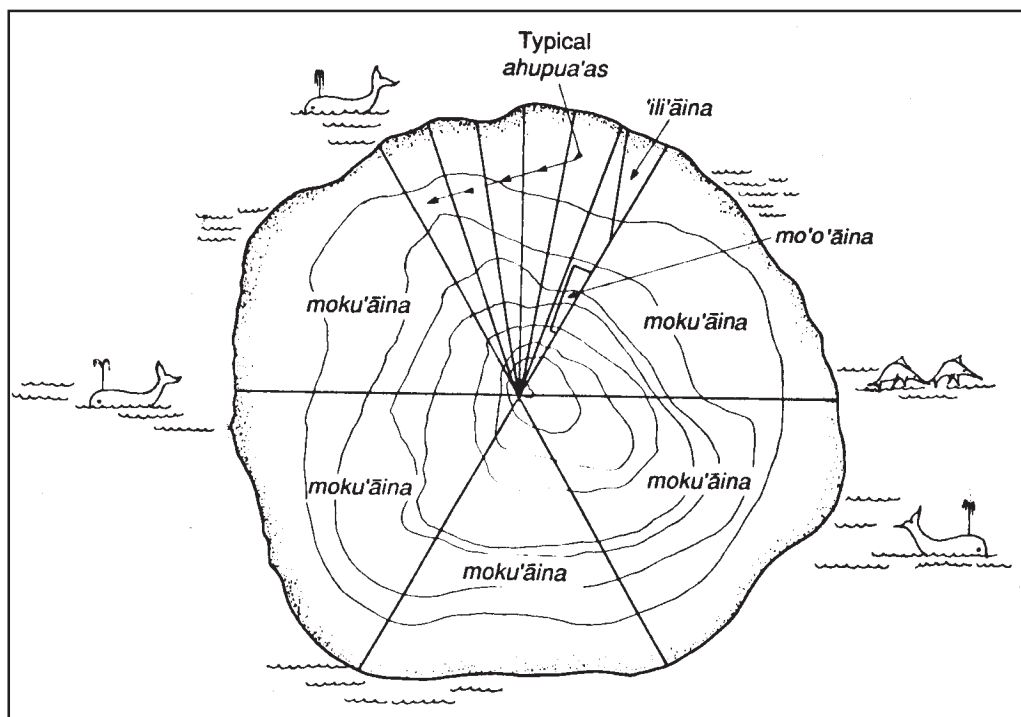
The Hawaiian philosophy and system of government promoted the fruitful and sustainable use of land and coastal areas. Under this system, the eight main Hawaiian Islands sustained a population estimated at from 250,000 to nearly one million people, depending upon the source⁵. The upper limits of ancient population estimates are comparable to the number of modern Hawaiian residents.⁶

Fishponds are a form of Hawaiian agriculture still existing today that exemplifies the balance between multiple land uses. The ponds were set off from the sea by walls of huge stones, expertly packed according to their size and shape without any form of cement.

These sturdy walls were permeable, allowing an interchange of water with the sea. Through this interchange, the balance of brackishwater in the ponds was maintained; and since water flowed around and through the walls, rather than just pounding against them, the fishponds were resistant to the destructive forces of erosion and wave action. Although they were not expressly designed for these purposes, fishponds also served as settling ponds, thereby reducing the loss of soils to the ocean and protecting the reefs from siltation. Building and maintaining fishponds was a group effort that drew the Hawaiian people together, and provided a source of food as well as a means of viewing fish up close where they could be appreciated.

Fishpond construction required sustained and intensive periods of labor, during which time farmers, fishers, woodsmen and others would cooperate to produce the structures that sustained an entire **ahupua'a**.

Harvesting large schools of fish was another task which required great effort and cooperation. The land agents with domain over the portion of reef directly **makai** of the **ahupua'a** directed fishing activity in this area. Fishing, like all other activities, had its strictly observed prohibitions or rules. These included rotating closed seasons and places for fishing, the reservation of certain fishes to the upper classes during all or part of the year (which had an effect comparable to that of modern quota systems), and the responsibility to lend a hand in some way when fish were abundant.



Schematic view of a moku'āina (island) subdivided into ahupua'a

Modern parallels to this ancient system are broken and irregular. Their structure can be traced to the gradual erosion and takeover of the sovereignty of the Hawaiian nation. The power of the kings and chiefs was concentrated to a single monarch whose government was overthrown. Thus, Hawaii became the land of sugar and pineapple plantations; and the *ahupua'a* system, which had survived more than sixteen centuries of Hawaiian rule disappeared into a system of private land ownership and inter-agency jurisdiction.

The reorganisation of the *ahupua'a* system marked the beginning of the decline of Hawaiian ecosystems. There was no longer a clear lineage and hierarchy of responsibility and caring for the conservation of land and water resources in a *mauka-makai* direction. Along a typical *mauka-makai* transect, ownership and jurisdiction is now interspersed between privates, City and County, State and Federal agents.

State Government is comprised of separate Offices, Departments and/or Divisions which manage Forestry and Wildlife, 'Water' Resources (water only), Aquatic Resources (living organisms, including fisheries), Land Management, Transportation, Boating, Harbors, (Native) Hawaiian Affairs, State Planning, (Human) Health, Business and Economic Development (including tourism), Agriculture, etc.

Boundaries run at all angles to the mountain, within which there are patches varying in ownership; but more often than not, jurisdiction is zoned along concentric circles which interrupt the *mauka-makai* connection.

The Cities and Counties are responsible for management of urban lands and the immediate shoreline. Within this realm, lands zoned for conservation are under State jurisdiction. State waters extend from the shoreline to within three miles of the coast, where Federal jurisdiction begins. Inland and inshore (within the bays and/or fringing reefs), and archipelago-wide pockets of Federal jurisdiction also exist. The resulting matrix of private, State, County and Federal responsibility within the *ahupua'a* defies the limitations of communication and inter-agency cooperation to maintain successful management and ecological balance. Elaborate networks of commissions, boards and committees have been established to oversee the various jurisdictions.

Although steps are being taken to remedy the present situation, Hawaii now ranks among the highest in the USA for its level of pollution, endangered species and disappearing habitats. These

problems will require a concerted and enduring effort over several decades if endemic ecosystems are to be revitalised and restored. More and more, the model for improved management is being sought in the revival of ancient traditions.

Further reading

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- ³ Kamakau, S.M. (1839). The works of the people of old (*Na Hana a ka Po'e Kahiko*). Translated by M.K. Pukui. Bernice P. Bishop Museum Spec. Publ. No 61. (1976). Bishop Museum Press, Honolulu, 170 p.
- ⁴ MacKenzie, M.K., Editor. (1991). Native Hawaiian rights handbook. Office of Hawaiian Affairs/ Native Hawaiian Legal Corp. University of Hawaii Press. Honolulu. 320 p.
- ⁵ Stannard, D.E. (1989). Before the horror: The population of Hawai'i on the eve of western contact. Social Science Research Institute, University of Hawaii Press. 149 p.
- ⁶ Department of Business and Economic Development and Tourism (DBEDT). (1990). The state of Hawai'i data book: a statistical abstract. DBEDT Research and Economic Analysis Division, Statistics Branch Publ. No. HA 4007.H356.1990. 667 p.

