

Water, Water Everywhere

M. Kelly, 6/3/93

I quote first from Archibald Menzies who landed at Waikiki from Capt. George Vancouver's ship on March 7, 1792. Menzies describes what he saw and I quote:

The verge of the shore was planted with a large grove of cocoanut palms, affording a delightful shade to the scattered habitations of the natives. Some of those near the beach were raised a few feet from the ground upon a kind of stage, so as to admit the surf to wash underneath them. We pursued a pleasing path back into the plantation, which was nearly level and very extensive, and laid out with great neatness into little fields planted with taro, yams, sweet potatoes and the cloth plant (*wauke*). These, in many cases, were divided by little banks on which grew the sugar cane and a species of *Draecena* (the *ki* or *ti* plant) without the aid of much cultivation, and the whole was watered in a most ingenious manner by dividing the general stream into little aqueducts leading in various directions so as to be able to supply the most distant fields at pleasure, and the soil seemed to repay the labor and industry of these people by the luxuriancy of its productions.

Here and there we met with ponds of considerable size, and besides being well stocked with fish, they swarmed

with water fowl of various kinds such as ducks, coots, water hens, bitterns, plovers and curlews (Menzies 1920: 23-24).

[*Hawaii Nei 128 Years Ago*, 1920 Honolulu: W. F. Wilson.]

What Menzies was observing here was a highly sophisticated system of sharing water, a primary natural resource, among the indigenous people of Hawai'i, who participated in constructing the dam, excavating the ditches and building the taro gardens.

In the 1880s much of the highly productive *`auwai* and *lo`i* system was still visible and a map by Serano Bishop showed the 6-square miles of productive *lo`i* (taro gardens) and *loko i`a* (fishponds) that Menzies described on his visit over 200 years ago.

We know that indigenous Hawaiians did not think in terms of "ownership" of the land, water, or ocean. All the resources of nature were important to the Hawaiian people. These resources functioned within their subsistence economy. They cultivated, gathered, or caught everything they needed. Their philosophy was that nature's resources created by the gods and placed at the disposal of the Hawaiian people to care for, to make the land and the sea productive and thrive with life. All the resources were to be shared with others .

Sharing was done freely, and when there was an exchange of any kind, it was an exchange of items of equal value.

[In our society, exchanges involving items of equal value are useless because they do not provide a profit. A successful business must yield a profit, that is, we must give less value than we receive.]

Emma Metcalf Nakuina was the Commissioner of Private Ways and Water Rights, District of Kona, Oahu, under the Provisional Government of the illegal Dole regime. It is her article, written for Thomas G. Thrum's Hawaiian Annual and published in 1894, she attempts to deal with some of the issues of water rights, but somewhat indirectly.

Nakuina described the dam built across the stream as "always a low loose wall of stones with a few clods here and there, high enough only to raise water sufficiently to flow into the `auwai, which should enter it at almost a level (sic). No `auwai was permitted to take more water than continued to flow in the stream below the dam. It was generally less, for there were those living makai, or below the same stream, and drawing water from it, whose rights had to be regarded."

Nakuina continued: "The general distribution of the quantity of water each independent land was entitled to was in proportion to the quota of hands furnished by each land, but subjected to regulations as to distance from source of supply. This quantity was regulated by the time each had in the water rotation or division, when such land would take all, or almost all the water of the 'auwai for the period of time allotted to it. This time varied in the cases of *mo'o'aina*, *ku*, *'ili*, or *ahupua'a* from a few hours, half a day, a day, night, or both, to two or

three days. The divisions of the day were regulated by the sun, the night by the stars."

Further, Nakuina explained that "The *konohiki* of each independent land subdivided his water time among the holders of *mo`o`aina* (now *kuleana*) on his *ahupua`a*, *`ili*, or *ku* " (*`ili-ku-pono*).

"The *konohiki* of the land controlling the most water rights in a given *'auwai* was invariably its *luna*. He controlled and gave the proportion of water to each *mo`o`aina*, or single holding of the common people cultivating on that land."

"The quantity of water awarded to each *mo`o`aina* was according to the amount of work expended on the *'auwai* and *mano* (dam) by the occupant of that *mo`o`aina*, or by his family..."

The philosophy of the Hawaiians allowed that all the natural resources were placed on earth, or in the ocean for the use of the indigenous people of the land, all of them, and that they should take care of these resources, make them fruitful, productive, and to pass them down to the next generation in full productivity.

Thus, the Hawaiians, themselves, developed their own rules and regulations governing the sharing of water resources among all who needed water. The Hawaiian word, *kanawai*, referring to the laws developed by Hawaiians to govern the sharing of water resources is translated today to mean law, in the sense of a modern legal system.

By using the fish in the ponds to supply some of the needs of the foreign ships for fresh food, he could trade for western goods that appealed to him. The really large fishponds were therefore very lucrative as a source of fish for trading for foreign goods.

In Hawaiian times commoners, as well as chiefs, enjoyed the fruits of their labors. But in post-European times, with the introduction of the market economy, the rights of commoners were rapidly taken away, appropriated by the chiefs under pressure of foreign practices, and the Hawaiian people subjected to increasing exploitation from their own leaders. As the Hawaiian historian David Malo expressed it:

...from Liholiho's time to the present, the chiefs seem to have left caring for the people. Their attention has been turned more to themselves and their own aggrandizement and they do not seek the welfare of the people...and therefore they (the people) are more oppressed at the present time than they ever were in ancient times (Malo 1939:125).

The Fate of the Hawaiian Fishponds

In 1931 archaeologist Gilbert McAllister collected information on 97 ponds on the Island of O'ahu. Many of those ponds no longer existed at that time (McAllister 1933:38). In Kane'ohe Bay, from Kualoa to Mokapu, McAllister found evidence of 23 fishponds, but only a few of them were being worked.

Today on O'ahu there are only 28 sites that can still be recognized as having once been fishponds (only 11 in Kane'ohe Bay), and perhaps one, or at the most two of them are still productive. When one considers that for the whole island of O'ahu there were approximately 100 fishponds in 1900, about 70 left in 1930, and only 28 remain today, these last few become important.

Hawaiian fish farming was compatible with and helped support the Hawaiian subsistence economy and traditional cultural life style. Their fish farming technology was under-mined mainly because of the private profit seeking of competitive sectors within the new market system, which was foreign and antagonistic to the Hawaiian subsistence economy. Over the years since 1893, many fishponds have been filled in. The fast land thus created was taken over for industrial use, or subdivided and sold for house lots. Other fishponds have been abandoned, filled in with silt, debris and mangrove, and allowed to fall into disrepair. Such is the condition of many Hawaiian walled fishponds today.

Other things have also prevented the Hawaiian fishpond from being made productive again. The drilling of many wells in historic times has acted to prevent the fresh water from seeping out along the coastline in some areas. Thus, where this condition occurs, fresh water does not enter the salt water ponds and it does not create the brackish water environment that is so important for growing of the type of algae on which mullet and *awa* feed.

Within the last fifty years or so, several exotic fish have been introduced into Hawaiian waters. Some are omnivores, that is, they will compete with the herbivores for the same food, as well as consume the young of any fish, including the the young of the herbivores, mullet and *awa*. One of these exotics is the talapia, which is able to live in both fresh water and salt water, and of course anything in between. Talapia are everywhere and they multiply with great rapidity. The talapia is one example. Since its introduction, there has been a sharp reduction in the mullet and *awa* population. This condition is clearly recognized by

fishermen who walk the southern coast of O'ahu with their nets, looking for mullet.

Another exotic introduced in recent times is known as the "rubbish mullet" that grows to only about 6 inches length. It competes with the regular mullet and awa for the same food. At maturity, this "rubbish mullet" barely supplies its consumer with one mouth full of food.

Of course, there are other reasons for the reduction in the supply of Hawaiian mullet: coastal dredging that creates a milky murk that occludes the water and prevents the sunshine from reaching the coral. The coral dies, the *limu* dies and the fish go away to better pastures, or they die.

Another problem is the filling in of the shallow, shoreline areas that provided protected nurseries for the very young fish-- shallow areas that ~~the~~ large carnivores could not reach. With extensive areas of the old reefs now dredged to considerable depths, the large carnivores are able to approach closer to the shoreline than previously. Many of the shallows along the shorelines have also been filled ^{and a wall built at} to the edge of the deep water, often to make land for industrial use. Today, the young fish have no safe place to go where they can feed and grow up to be adult mullet and awa. ^{The remains of provide} Ke'ehi Lagoon ^{is} a good example of a destroyed nursery for young mullet and awa.

The Hawaiian fishponds from Pearl Harbor (Pu'uloa) to Koko Head were replenished season after season with mullet that ran in large schools along the southern coastline of O'ahu during the winter months. Large schools are no longer seen along this coastline. So, even if there were any fishponds left, ^{along this coast} which there are not, there would be no way to stock them with mullet.

Another destroyer of juvenile fish and their feeding grounds are water and land erosion from surrounding agricultural and industrial uses that introduce pesticides, herbicides, fungicides and fertilizers into the soil. These toxic materials eventually find their way to the ocean, and also into ponds where ^{they} ~~any~~ remain.

On Moloka'i with the introduction of exotic animal species overgrazing has contributed to soil erosion that has damaged fishponds. Eroded soil in fishponds encourages the exotic mangrove, the roots of which contribute to the destruction of the fishpond walls. Mangrove is extremely difficult to remove from the fishponds and to continue to keep ^{billings} ~~out of~~ the ponds, as the seedlings float in from wherever they are along the coast, ^{establishing new plants wherever they can.}

Along with the introduction of private ownership of land that was introduced in the mid-19th century by ^{colonizers} ~~foreigners~~, the destruction of the Hawaiian fishpond, as a productive source of food for Hawaiians, must be seen as part of the colonizer's effort to destroy the food supply of the indigenous Hawaiian people, and force them into submission. Anxious to gain control of large acreages of land for commercial plantations and also for the Hawaiians to serve as cheap labor and enhance the profits of their plantations, the ^{colonizers} ~~foreigners~~ developed the private-ownership land laws, the Mahele and the Kuleana Act, and supplemented these with Land Tax Laws and the Adverse Possession of Land Laws all of which systematically reduced the resources available to Hawaiians. Filling in the fishponds and allowing them to become useless as ^{a source} ~~sources~~ of food further reduced the resources available to Hawaiian people.

As a result of these introduced land laws, at least 70% of the Hawaiian people end up without any land at the time when it was

important for each adult male to receive land on which he could live and land that he could cultivate and feed himself and his family. I view the systematic destruction of the productivity of the Hawaiian fishponds as the destruction of the traditional source of protein of the Hawaiian people and therefore an act of genocide for which we will one day have to answer.

REFERENCES CITED

- Kamakau, Samuel M.
1961 ***Ruling Chiefs of Hawai'i***. Honolulu: Kamehameha Schools Press.
- 1976 ***The Works of the People of Old, Na Hana a ka Po'e Kahiko***. Translated from the Newspaper ***Ke Au 'Oko'a*** by Mary Kawena Pukui; arranged and edited by Dorothy B. Barrere. Bernice P. Bishop Museum Special Publication 61. Honolulu: Bishop Museum Press.
- Malo, David
1839 "Causes for the Decrease of Population in the Islands." ***The Hawaiian Spectator*** 2, No. 2:125-130. Translated with comments by Lorin Andrews. Honolulu: April 1839.
- 1951 ***Hawaiian Antiquities (Mo'olelo Hawai'i)***. Special Publication 2, Second Edition. Honolulu: Bishop Museum Press.