

Jehovah was deemed to be the foreign God who could save the Hawaiian people from deadly foreign diseases, such as typhoid, smallpox, measles, whooping cough, mumps, tuberculosis and venereal disease. And not long after Richards' lectures, the western style constitutions were written, but the older Ali'i Nui refused to agree to private ownership of land for another 10 years, warning that it would lead to a loss of Hawaiian sovereignty. The commoners agreed with them (Kame'elehiwa 1992).

Our ancestors knew that communal use of land to grow food meant the communal sharing of food where no one went hungry. They were worried about how the private ownership of land would affect communal food production. Why then did the Mō'i and the Ali'i Nui finally agree to private ownership of land? Foreign military pressure led them to succumb to Calvinist advice. In 1843, the French threatened an invasion of Hawai'i, and American Calvinists urged private ownership of land as the only system that the conquering army would respect. Otherwise, they would conclude that Native Hawaiians owned no land, and they could take it all with impunity. Such was the case in Australia where until recently Indigenous Aborigines had no land rights.

Also, by 1846, the American Board of Commissioners for Foreign Missions (ABCFM) in New England notified the American Calvinists that they could no longer financially support their mission in Hawai'i since it had been accomplished; 99% of Hawaiians were Christians. Thus, Calvinist missionaries had to choose between leaving Hawai'i for other non-Christian lands in need of missionary activity, or finding another occupation. Most chose to become capitalist businessmen, bankers and sugar planters, and in order to succeed in business they needed private ownership of land. Other

foreigners besides American businessmen, such as the British and French, were also petitioning for private ownership of land as a common practice in “civilized” countries.

In addition, by 1846, the Hawaiian population had dropped from 1 million in 1778 to 88,000 as a result of foreign diseases. Our Calvinist friends all agreed that the only way to save the Hawaiian people from massive depopulation was through private ownership of land. With the older dissenting Ali‘i Nui having passed away, and with the Mō‘ī and ‘Aha Ali‘i Nui desperate to find a solution to the distressed depopulation, this odd Calvinist solution led to King Kamehameha III establishing the Land Commission to Quiet Land Titles, with William Richards, a Calvinist missionary, in charge of the privatization of land (Kame‘eleihiwa 1992).

In two years, the process of the 1848 Māhele, or division of lands, was well on its way. The result was the establishment of capitalism in Hawai‘i and private ownership of lands. While Calvinist missionaries and their sons [daughters were deemed unfit for land ownership] were allowed 560 acres of land apiece, most commoners who went through the Land Commission received about 3 acres each in land awards called kuleana. By 1893, most of the lands of Hawai‘i were owned or controlled by foreigners. Some think the 1848 Māhele was a good idea because they like to own land privately (Twiggs-Smith 1998). Others think private ownership of land, especially resulting in so few Hawaiians owning land, was a terrible idea (Kame‘eleihiwa 1992, Trask 1999).

Nonetheless, the effect of private ownership of land was a decimation of the ancestral Ahupua‘a system of water and land management for efficient food production to feed the people. On every island, agribusiness, in the form of powerful sugar plantations, diverted water away from the communally farmed taro fields, through grand

aqueduct schemes taking water from one ahupua‘a to another, and having great adverse impact on Hawaiian Kalo farmers. With no water, many of the great networks of Lo‘i Kalo fields went dry and were abandoned. While sugar was the perfect crop for making money, kalo was the perfect crop for feeding people, and as the water was diverted, people went hungry. Unfortunately, foreigners who understood capitalism advised the chiefs that the money made from sugar plantations would be a great boon to the nation.

On O‘ahu the most famous case of water theft was in Wai‘āhole in Ko‘olaupoko, where the water was diverted under the mountain through a series of tunnels, to the ‘Ewa plain for the irrigation of sugar. This taking of Wai‘āhole water was strange because ‘Ewa itself was, and is still full of springs and rivers. Thus the taking of Wai‘āhole water only served to cause great misery to Hawaiians. Moreover, Hawai‘i was the only place in the world where sugar was irrigated in this manner; everywhere else they waited for rain to fall from the sky (Kelly 1989). Of course, using surface water for intensified crop production was done by the ancestors only for the production of Kalo, but Kalo fed the people, whereas sugar fed the pockets of foreign plantation owners. In 1893, with the American military overthrow of the Hawaiian Kingdom, the taking of public water for private plantations intensified, and it was not until 1973, with the landmark case of *McBride Sugar Company v Robinson*, that water was reaffirmed as a public trust rather than a privately owned commodity (Sproat 2009).

Fishponds on O‘ahu also suffered from private ownership of land, and especially from the actions of American capitalist businessmen who came into political control after the 1893 overthrow and the 1900 illegal annexation of the Kingdom of Hawai‘i as a territory of America (UN Treaty Study 1998). Ben Dillingham, and American founder of

the O‘ahu Railway and Land Company, seems to have made it his life passion to build his railroad on stilts through the fishponds along the south shore of O‘ahu, filling them in whenever possible along the way. His dredging of the Ala Wai canal in Waikīkī and the forced filling of Lo‘i Kalo and fishponds in that area created an ecological disaster for the Hawaiian people who ate from those lands and ponds. Since Native Hawaiian landowners could not afford to pay for the dredge being required to fill in their Lo‘i Kalo and fishponds, their lands were confiscated and sold at auction to rich foreigners (Nakamura 1979). Subsequently, after the lands were filled in with Dillingham’s dredge, Lorrin Thurston, grandson of one of the first Calvinist missionaries to Hawai‘i, and architect of the 1893 overthrow, became the father of Hawai‘i tourism, inviting the world to come to Waikīkī to enjoy the white sandy beaches and the aloha spirit. This change meant not too much aloha for Hawaiians but lots of money for Calvinist descendants.

Thus, while in 1890 there were 114 fishponds on O‘ahu, by 1950, most of the 79 fishponds on the south shore Moku districts of Kona and ‘Ewa on O‘ahu, or 1,690 acres, were filled in and were no longer used for the efficient production of fish protein. Still, even with the Lo‘i Kalo system in disarray and many of the fishponds destroyed, there was land to grow food, and people ate what they had. And if they were Hawaiian, they even managed to feed the strangers that walked by the house, as the ancestors had taught them to do with, “Hui, hele mai ‘ai!”

1959 Statehood and Life on O‘ahu in the 1960’s: Personal Reflections on Food Security

In 1961, when I was an 8-year-old child, my family moved to Kahana Valley, in the Moku of Ko‘olauloa, on the windward side of O‘ahu. We had been living in

Chinatown in urban Honolulu, and my mother, Kathryne Leilani Lee McMahan, wanted to move us out to a healthier environment in the country, where we could escape car exhaust and eat from the land. She was also looking for cheaper rent, and no matter how poor we were, she would never consider applying for welfare. She thought that people who did so were out of their minds. Mom worked as a hairdresser, and my stepfather was a sometimes carpenter; later I would learn that we were “working class,” but at the time I just thought we were the “working poor.” By the time I was 8 years old, we had moved 9 times, always looking for cheaper rent. We found the cheapest rent possible in Kahana, where we lived for 5 years.

The house we rented in Kahana was really a shack, little more than a chicken coop, although there were more rats in the house than chickens, with an outside toilet and an outside shower shed. We never had hot water, but we learned to take cold showers in the heat of the day when cold water was a relief. In Hawaiian custom, one bathes every day without fail, and no matter what the water temperature. Usually we had electricity, but we were always prepared with kerosene lanterns for those times for when some fool hit a telephone pole and the electricity failed. The rent was \$20 a month, whereas a “normal” three bedroom house outside of the valley rented for \$150, so Mom was quite happy with the rent for our shack. Later she would tear out the rats nests, paint and wall paper the house, and make it our home.

She was also happy because we were out of the city and we had enough land to raise food; she never wanted to spend a penny at a grocery store. She felt a sense of security in growing her own food. We had a small yard but we raised pigs, chickens, turkeys, ducks and rabbits. We also had a couple of cows staked in an open field down

the road. When the fisherman would lay net in Kahana bay to catch akule, they would send fish to all of the houses in the valley, so we often had fresh fish to eat. Our other protein came from our back yard. As I recall we didn't raise many vegetables, because we didn't have enough yard to do so, but we did grow string beans and snow peas along the fence, and we had a clump of banana trees next to the pigpen. Most vegetables could be bought for very little from local farmers, or one could barter duck and chicken eggs instead of using money. We rarely ate lettuce or salads, but we ate a lot of taro leaf, sweet potato, tomatoes and various Chinese cabbages that were locally grown. Mom regularly sent my younger brother and I to pick breadfruit, mountain apple, mangoes, avocados and guavas that grew wild in the upper part of the valley. She often made guava jam, especially to give away at Christmas time.

We bought cheap white rice in big bags from the local store; no one had heard of brown rice then. We loved to eat poi, but only bought it when it was on sale, or at Hawaiian parties. Already people were not growing taro in the Lo'i Kalo anymore, although Kahana once had many acres of Lo'i Kalo and an extensive 'auwai [water canal] system, that could still be seen even when overgrown by California grass. I am not sure when those Lo'i Kalo were abandoned, but it may have been when the last Konohiki of Kahana, Sam Pua Ha'aeo, died in the 1950s. Without a Konohiki to manage the flow of water, and to organize monthly volunteer labor to clean the 'auwai and plant and harvest the Lo'i, it is likely the fields went into disuse.

Eventually my mother cajoled her younger brother, my Uncle Paul Lee, who was a plumber, to dig a cesspool in the back yard, and install an inside toilet. That made us one of the first houses in the valley to have one! We were very popular, as people would

come over to use the toilet, and usually bring some kind of food over as ho'okupu, or gift offering, to the house. In traditional Hawaiian custom, one never went to anyone's house for any reason without bringing ho'okupu as a sign of respect for the house. I remember times when my mother refused to go to a party, or to even visit someone else's house, if we had no ho'okupu to give. Thus the fruit that we kids gathered from the upper valley was important and made us feel very useful.

After Mom had the inside toilet installed, she had my stepfather, James McMahan, build an extra room onto the house that she made into a beauty shop. Then she became the hairdresser lady of Kahana Valley and did not have to drive all of the way to Kāne'ohe to work in the beauty shops there; no need to waste money on gasoline. My job was to heat up hot water on the stove for her to use in washing the customer's hair. Often times people paid in food, instead of in cash, which was quite acceptable to Mom.

Most people did not have much money in the country, and would rather barter food that they had grown for services that they needed. Life seemed pretty good with Mom working at home, and there for us when we walked the three miles from school to home every day. There were no buses and all the kids walked; why would anyone waste gasoline on picking up kids when the school was so close? We walked everywhere, and when we got bored in Kahana we would walk to Sacred Falls in Kaluanui, two Ahupua'a away, for a swim, which was about five miles one way. We thought it was a great adventure.

The only reason that we left Kahana Valley was because the state took it over in 1966, confiscating the land from the Bishop Estate, the Mary Foster Estate, and a few kuleana [native tenant] landowners. Declaring that they intended to make a State park for

all the residents of O'ahu to enjoy, they put Kahana Valley residents, who were 99% Hawaiian, on a month to month lease, so that we could be evicted at any time upon short notice.

My mother refused to live under such conditions, and since she had saved enough money to buy her own beauty shop in Kailua, we moved there. Kailua was already urbanized, so there was no chance to raise animals or barter food. Now everything was paid for with money. That meant that Mom worked 6 days a week in her beauty shop, and I was her cheap labor helper [free] everyday after school and on weekends. Paradise had ended.

In 1959, the population of the Hawaiian Islands was 350,000. As O'ahu became more urbanized, beginning with the 1959 statehood and the influx of foreign investment, there was less land for the working poor to grow their own food and to live upon. Rents rose steadily so that by 1968 we were paying \$300 a month for a three-bedroom house, and we were buying all of our food. Then in the 1980s, Japanese Yakuza money came to Hawai'i and Japanese nationals started buying houses and land for exorbitant amounts so that they could launder their money (Kaplan and Duto 2012). Houses that used to cost \$90,000 were now bought for \$250,000. Not only did the Japanese Yakuza then have \$250,000 worth of legitimate property, the taxable land value of all the houses in the area went up, and local people could sell their houses for those same high rates. Rental rates shot up as well so that by 1989, a three-bedroom house cost \$1500 a month in rent.

Of course today in 2013 that rental amount has doubled to \$3,000 per month for the same rental. But salaries have not risen at the same rate. That is why we have so many homeless today; people can't afford the rent. When I was a child, no one was homeless.

Perhaps one lived in a shack, but I never knew or saw anyone who was homeless. And, when one is living on the beach or on sidewalks it is very hard to grow your own food, especially when the state bulldozes your tents every few months to “clean up” public spaces for the tourists.

AVA Konohiki Project: Ancestral Wisdom, Food Security and Food Sustainability today – Hawaiian Style

For me personally, the problem came into focus four years ago when someone stole a bunch of bananas from my front yard that were just about ready to come ripe. My then 89 year old mother had warned me not to plant bananas in the front yard lest someone steal them, and I had replied, “Mom, no one is going to steal bananas!” Since one can’t sell bananas for drugs, I thought they would be perfectly safe. Imagine my surprise when they were stolen in the middle of the day while I was at work! I was wrong and mom was right. I was angry and wanted to ferret out who would do such a thing! Was it the neighbors? Was it the yardmen? Who could it be?

As I thought about my stolen bananas I realized that whom ever had stolen them was hungry. Why else steal bananas? Then I thought, if people are so hungry that they would stoop to stealing bananas, then perhaps we should plant a lot more bananas and feed the people. That is what the ancestors would do before any of us thought about money.

What were the best way to plant bananas and other food crops to feed the people? What grows best in Hawai‘i? How did the ancestors feed the people? I thought perhaps that an investigation of ancestral ideas might prove a useful place to start.

Hence, for 3 years, from 2010-2013, I ran a federal grant funded by the Administration for Native Americans [ANA], called Kamakakūoka‘aina: Ancestral Knowledge and Food Sustainability. This grant became known as AVA Konohiki, and you can see all the results of the good work of my student team has accomplished on the website they designed called AVAKonohiki.org.

AVA stands for Ancestral Visions of ‘Āina, or land, which is actually a translation of Kamakakūoka‘āina. Konohiki is a Hawaiian word usually translated as “land managers.” Konohiki is really two words, kono means to request, and hiki means it can be done. So Konohiki refers to a facilitator for efficient production of food.

Over the course of the grant we have learned that in traditional times Konohiki were actually water managers, not land managers as they are usually defined, and Konohiki excelled in this profession perhaps more than any other people in the Pacific. Efficient water management is the absolute key to a diet for a small island and for increased food production on small plots of land.

Our AVA Konohiki grant wanted to investigate how land and water resources were managed before contact with the west, and how might we use those methods today. We also wanted to train our Hawaiian Studies students in the ancestral practices and knowledge that would allow them to become modern day Konohiki. We firmly believe that the research should benefit the Hawaiian community and be shared with all. Hence the website AVAKonohiki.org.

Our research focused on O‘ahu, not only because it is the small island upon which we live, but because it is the most urbanized of all the Hawaiian islands and has the

highest density of populations, about 900,000 out of 1.3 million statewide. Was there enough land and water on O‘ahu to feed 900,000 people?

We began by looking at the 1848 Māhele, an event that caused the lands of Hawai‘i to go from communal management to private ownership. As described above, culturally this event was a disaster for Hawaiians, but historically it was the very first time that 252 Konohiki who were Ali‘i of different ranks sat down to write the names of all of the lands that they managed on paper. Before then, their knowledge was passed down orally from one generation to the next. The 1848 Konohiki records are amazing in the vast knowledge that was recorded. Now we know that there were 1600 Ahupua‘a (Beamer 2016) across the 8 islands of the Hawaiian archipelago, and that those 252 Konohiki knew the water properties and food potential for the 1600 Ahupua‘a all in their heads. I can’t even name all of the 1600 Ahupua‘a, and I have been studying various aspects of Hawaiian land issues for the past 30 years.

As we began harvesting Kingdom land documents and posting them on the web, we compared the O‘ahu we saw in 1848 with the O‘ahu of 2010. We saw that from 1848 to 1959, there were drastic changes from Lo‘i Kalo to vast sugar plantations, but most food consumed was still grown in Hawai‘i. The increase in population that followed the 1959 Statehood Act was accompanied by a commensurate urbanization. As we saw in Figure 2 on page 4, after the 1848 privatization of land, Waikīkī was transformed from an intricate network of wet land Lo‘i Kalo, inland fishponds, and efficient food procuring land, into a sea of concrete and high rises in 2010.

As the price of land rose and house lots shrank, people living in urban Honolulu came to depend on food from the supermarkets. Because of government subsidies to

American farmers, it was increasingly cheaper for those supermarkets to buy food from the North American continent than it was to buy food grown locally. As the cost of land rose with the ever-increasing real estate market, small truck farms, dairies and egg farms found it too expensive to make the bottom line in Hawai‘i and they went bankrupt.

With the American military being a superpower in the world, and with much of its gaze faced towards Asia and the Middle East, Hawai‘i has become important as an American military installation. Thus 25% of the island of O‘ahu is controlled by the American military, further increasing the scarcity of land for affordable housing, and especially for food production (Conrow 2012). My students asked, now that 95% of our food is imported from the continent, how shall we become food sufficient on O‘ahu?

In Fall 2012, our AVA Konohiki class went to visit farmers on O‘ahu to ask them, is O‘ahu still an ‘āina momona, a land fat with food? If not, is there still enough land on O‘ahu to grow food to feed 900,000 O‘ahu residents? Is there enough water left to do so? Do we have enough people who know how to grow food? Do we have a Hui of people who can make O‘ahu an ‘āina momona once more? We began in Ko‘olaupoko, with a visit to evangelical farmers like Paul Reppun and his 10 acre family farm in Waiahole, and with Kanekoa Schultz who leads Kako‘o ‘Ōiwi, a non-profit dedicated to restoring 100 acres of Lo‘i Kalo in Hoi, He‘e‘ia. We visited Kapalikū Schirman and Rick Barboza, former graduates of Kamakakūokalani Center for Hawaiian Studies (KCHS) of Papahana o Kuaola Hui Ku Maoli Ola who are working to restore 12 acres of the Waipao watershed, an ‘ili in He‘e‘ia, including extensive Lo‘i Kalo. Then we went makai to visit Hi‘ilei Kawelo, executive director of Paepae o He‘e‘ia that is restoring the 88 acres He‘e‘ia fishpond owned by Kamehameha Schools.

Then we went with Kanoa O'Connor, currently a KCHS MA student, to the Moku of Kona to visit Puni Freitas and Doug Hamasaki of Ho'oulu 'Āina and Kokua Kalihi Valley, where Kanoa works. They have leased 100 acres in Kalihi uka to farm forests, Hawaiian medicinal plants and food in a communal manner. All those who come to work get to harvest food, and they give classes on how to restore your soil for efficient planting of crops.

Later we ventured out to 'Ewa and Wai'anae. In 'Ewa, we visited David Sumida of Sumida watercress farms right below Pearlridge shopping center. He has 10 acres of land that he leases from Kamehameha Schools with 100 beds of watercress. We learned that each bed of watercress has to have its own fresh water spring in order to grow, as watercress grows on the top of the water, not in the soil. That means that there are 100 springs in the 10 acres of the Sumida watercress farm! And Mr. Sumida showed us a spring on land at the next lot at the back of this property that is gushing with so much water that it just runs off into a nearby culvert and out to the sea. That water is not being used food production at all.

Again in 'Ewa, we visited Andre Perez, a current KCHS MA student, at his farm in Wai'awa, dedicated to making food for the people. He showed us the fishponds of Waipi'o that have been poisoned by the military, but where the spring water is still gushing up out of the land. It seems as though there is ample water in 'Ewa but there is a lack of water management practices for the goal of efficient food production to feed the people.

Going around the island in a clockwise direction as the ancestors taught us to do, we next went to Wai'anae, to visit Kukui Maunakea-Forth, and Kamuela Enos, a past

KCHS graduate, and their amazing Ma‘o Farm that grows 7 acres of lettuces and other high-end vegetables to make \$600,000 per year, spent on sending young Hawaiians to university. They have the students work on the farm, and train them to harvest, box and market the lettuce, as well as take relevant classes at Leeward Community College, UH West O‘ahu and UH Mānoa. They are currently expanding to another 10 acres.

On the north shore of Waialua district we visited the 10 acres Loko Eo fishpond owned by Kamehameha Schools as well as the Kūpopolo Heiau, soon to be restored in partnership with UH Mānoa Archaeology department. We learned of how Kamehameha wants to have the whole eastern section of the Moku of Waialua be put into food production to feed the people.

For Hawaiians, the growing of food and the feeding of people is another way of walking in the footsteps of the ancestors, and that makes us happy. But that ancestral idea has caught on among non-Hawaiians as well. There seems today to be a synergy of great ideas about food sustainability for O‘ahu and for Hawai‘i, and we see farmer’s markets popping up in every neighborhood. People want to eat good food, grown organically, and preferably non-GMO.

What I don’t see happening too much yet is a discussion of how Hawaiian ancestral management of water led to an extremely efficient production of food, and the feeding of a large population comparable to our numbers today (Kame‘eleihiwa 1992). As meteorologists increase their warnings about the effects of global warming in Hawai‘i, and as we experience years of drought, Hawaiians are worried about how we mālama wai, or care for and preserve fresh water, especially in our aquifers on O‘ahu where we have

so many people living. How can we all become more conscious of ancestral wisdom and teaching? My students have recommended the following ideas.

AVA Konohiki Recommendations from Ancestral Wisdom for Current Food

Production Schemes

1. Have everyone eat from their own Ahupua‘a, and grow all of their food needs from their own Ahupua‘a. If everyone would look toward the mountain area of each Ahupua‘a, they would find ample land for the growing of food, and they would be more careful about using pesticides and other toxins on the land. This Hawaiian custom of eating only from the Ahupua‘a in which one lives, began around 1480 AD under the direction of the Ali‘I Nui Mā‘ilikūkahi, as the population was increasing, and they needed to be more prudent about using land for growing food.
2. Hui, hele mai ‘ai: be generous in your sharing food with your neighbors, so that no one goes hungry, don’t sell food for profit. Plant a surplus to just feed people. This ancient Hawaiian custom is based on the idea that plants are happy to be eaten by who are generous, and that happy plants grow more abundantly to feed people.
3. ‘Ai ka mea loa‘a: Eat what there is and grow what we can eat. The traditional Hawaiian ancestral diet was healthy in the extreme. We could not do better. Hawaiian elders believed in eating what was provided, and not to be hard to please. The idea that we should desire food that can only come from 2500 miles away is nonsensical.
4. Kanu ka mea‘ai Hawai‘i: Plant the food that traditionally grows easily in Hawai‘i, as well as other healthy vegetables. Remove all GMO food from Hawai‘i. The food that the ancestors grew traditionally actually represented various Akua, Gods or Elements, that gave us knowledge along with health, in a manner similar to the Catholic Communion where people eat the body of Christ to be one with him, and to learn to behave like him with compassion.

5. Kanu ka lā‘au Lapa‘au Hawai‘i: Plant Hawaiian medicinal plants that traditionally grew in Hawai‘i, so that we are no longer dependant on foreign medicines. Many Hawaiian medicinal plants are not found anywhere else in the world, and we should cherish them. Hawaiians believe that the plants of the earth, tended with aloha, are much better healers of our bodies than synthetic drugs. Moreover, if we don’t continue to use Hawaiian medicinal plants, their use will be forgotten, instead of shared with the world.
6. Fishpond miracles: Restore remaining fishponds for efficient protein production, and clean the uplands above them of any chemicals. Since traditional Hawaiian fishponds were one of the most efficient means of producing protein, while living in harmony with the land, we should continue those practices forever.
7. Make recharge of the aquifer a priority of every Ahupua‘a. Remove the concrete culverts from O‘ahu streams so that they can recharge the aquifer. Use the uplands of every valley for Lo‘i Kalo, which will increase recharge of the aquifer. The more we can spread the water over the land, the more we will increase water filtration into the aquifer. That is the beauty of the Lo‘i Kalo and fishpond networks.
8. Check out the latest in Ancestral Wisdom tips at AVAkonohiki.org for how to live in a Hawaiian manner in Hawai‘i.

In this way, we the people who live on O‘ahu can learn from the ancestors how to make O‘ahu an ‘Āina Momona once more. I often say that the island of O‘ahu is like a beautiful woman wearing the wrong clothes; lets dress her up!

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