



# *Changing Times & Changing Paradigms: Hawaiian Agriculture in Hawai'i*

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*When did  
Hawaiians  
become  
Hawaiians?*



*They were not Hawaiian on arrival*



*This place influenced their values*















# *They invented place names & links to the land & its resources*

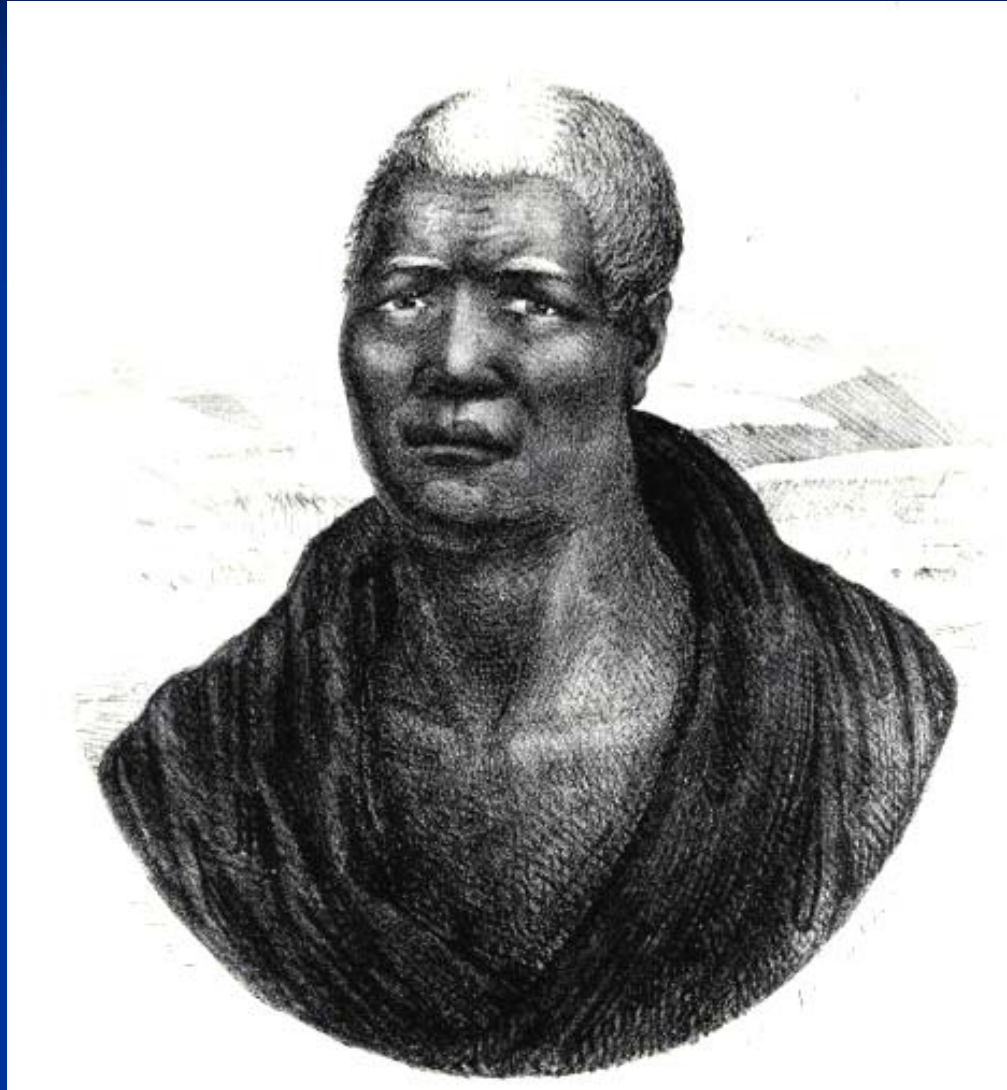


# *They adapted their behavior*

*Hojoilo: 1<sup>st</sup> Wet Season – December through April*

<u><i>Weather</i></u>	<u><i>Fishing</i></u>	<u><i>Farming</i></u>
<i>Dec./Jan. - wind &amp; rain, thunder &amp; lightning</i>	<i>Aku kapu starts Opelu kapu lifted Best for reef &amp; inshore fishing Mullet spawning Black ulua close to shore Good for weke, moi, kumu</i>	<i>Plant taro, potatoes Migrating birds fat 1<sup>st</sup> month of growing season Cultivate, mulch</i>
<i>Jan/Feb. - Alternating warm &amp; cold winds</i>		
<i>Feb/March – Sunny but showery</i>	<i>O'opu fat, deep sea fishing</i>	<i>Ground dry, taro, sugarcane, banana</i>
<i>March/April – Wet season ends</i>		<i>All things grow well</i>

# *A genealogical connection evolved*



*Kamehameha Paiʻea*

# *They left etchings on the land*











*We became Hawaiian when these changes  
made us distinct.*

*"We and the land are one and the same.*

*Under the herbs and grasses are  
the etchings of my ancestors.*

*Each that goes missing is like a knife in my culture and something I need to know about who I  
am goes missing.*

*The notion that we own land is nonsense.*

*It is we who are owned."*

*Joseph Williams, New Zealand High Court Justice*

# Relationship between Hawaiians and Ahupua'a



O ka mokupuni, oia ka mea nui e like me Hawaii, Maui a me keia pae moku apau. Ua Mahele ia i mau apana maloko o ka mokupuni o kela mau apana i mahele ia, ua kapa ia he moku oloko e like me Kona ma Hawaii a me Hana ma Maui, a me na mea like ae ma keia mau moku. A ua mahele hou ia mau apana hou ua kapa ia aku ia he okana kahi inoa he kalana kahi inoa, he poko maloko ia o ka okana.

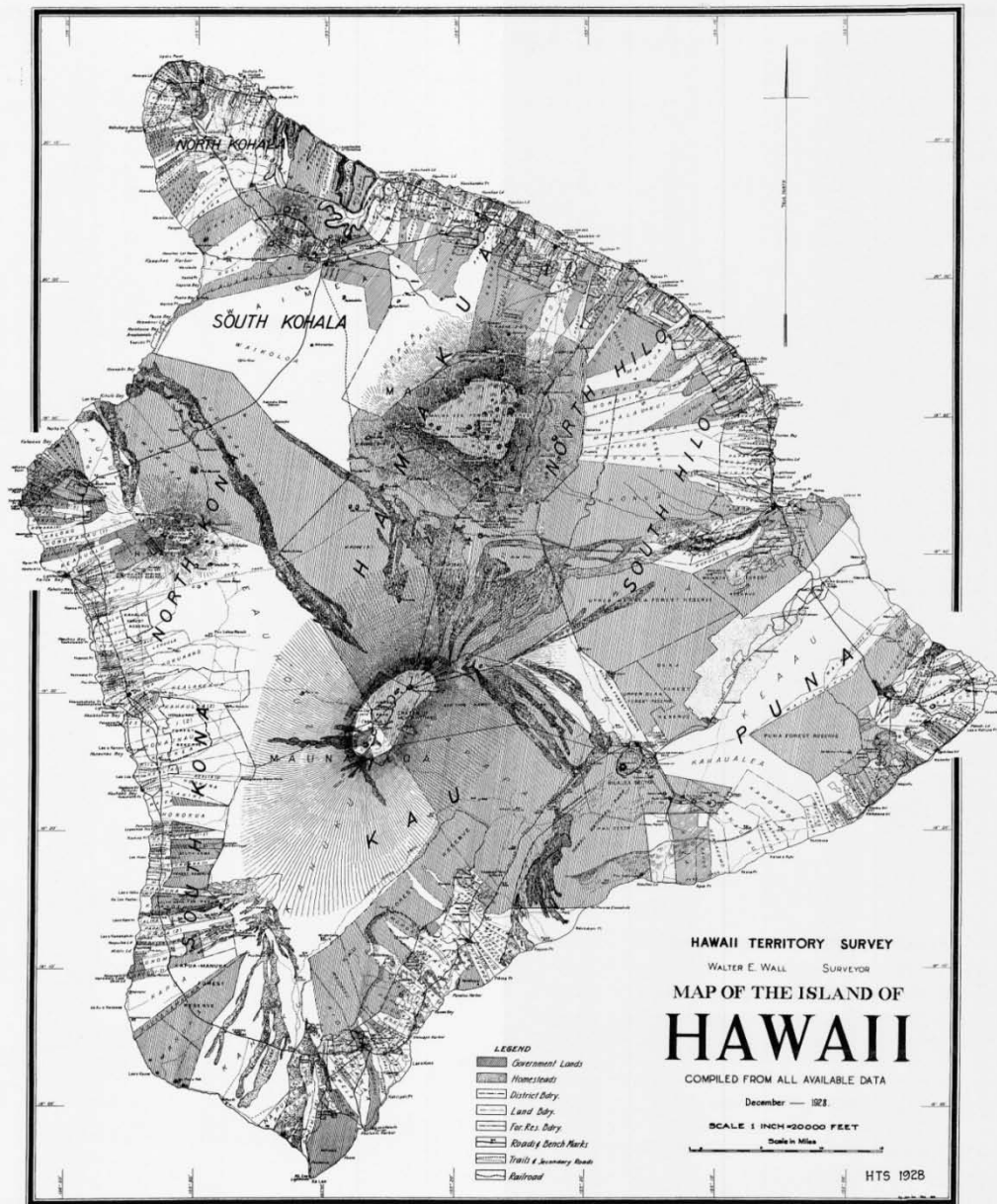
A ua mahele hou ia mau apana hou malalo iho o keia mau apana, ua kapa ia aku ia he Ahupuaa, aka malalo o ke Ahupuaa, ua kapa ia he Ili aina. A ua mahele ia malalo o ka Ili aina na moo aina a malalo o ka moo aina na pauku aina a malalo o na pauku aina na kihapai malaila i mahele ia na Koele, na hakuone, na kuakua

-- David Malo

The island (moku that is surrounded by water) is the main division, like, Hawai'i, Mäui and the rest of the island chain. (Islands) were divided up into sections inside of the island, called moku o loko, like such places as Kona on Hawai'i island, and Hana on Mäui island, and such divisions on these islands

There sections were further divided into subdivision called 'okana, or kalana; a poko is a subdivision of a 'okana. These sections were further divided into smaller divisions called Ahupua'a, and sections smaller than an Ahupua'a were called 'ili 'äina. Divisions smaller than 'ili 'äina were mo'o 'äina and paukü 'äina, and smaller than a paukü 'äina was a kihäpai, at this section the smaller divisions would be multiple Kö'ele, Hakuone, and kuakua

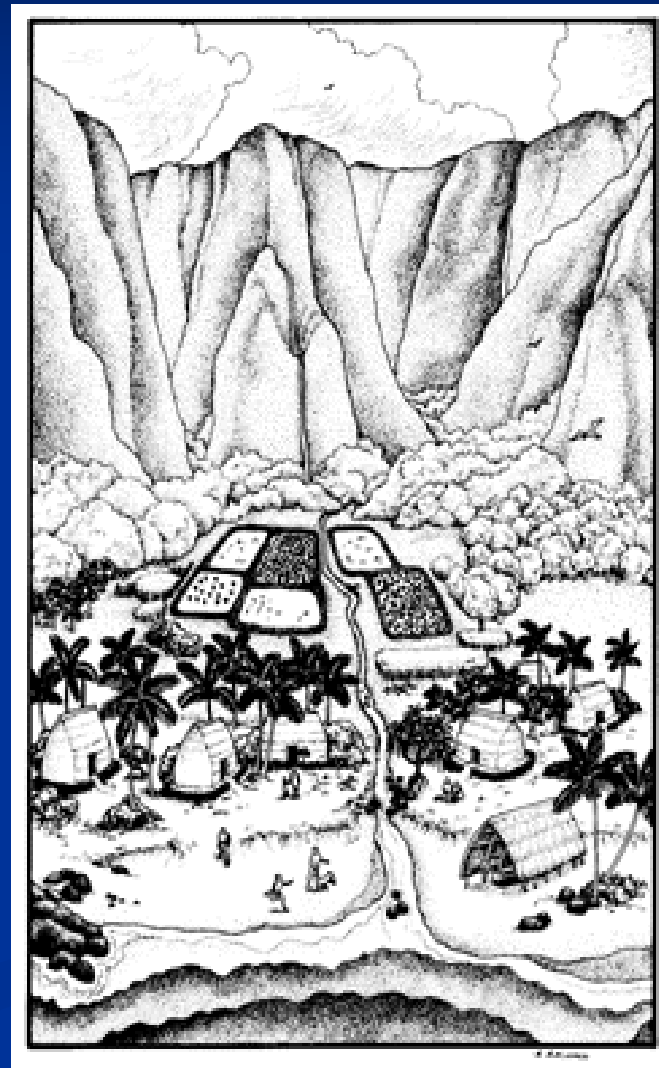


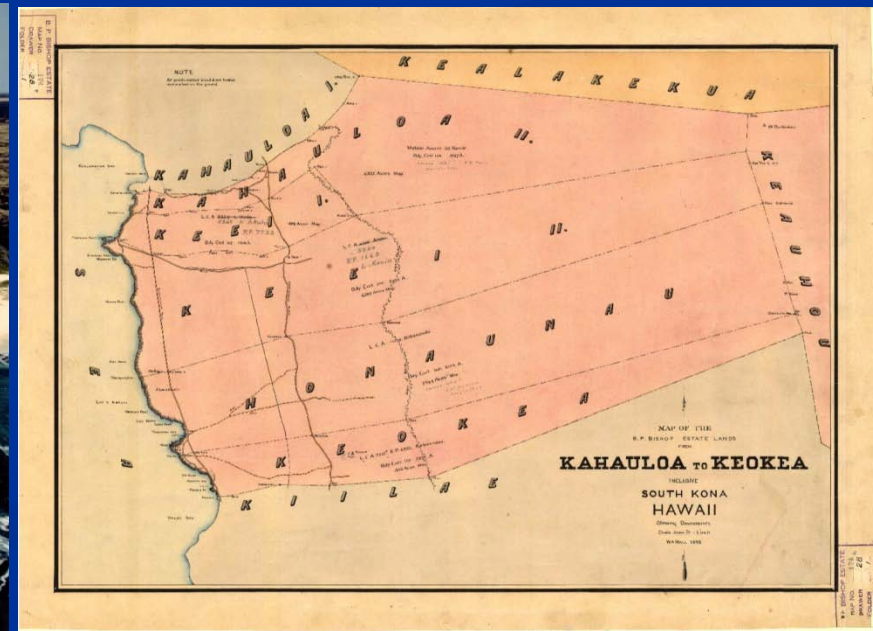
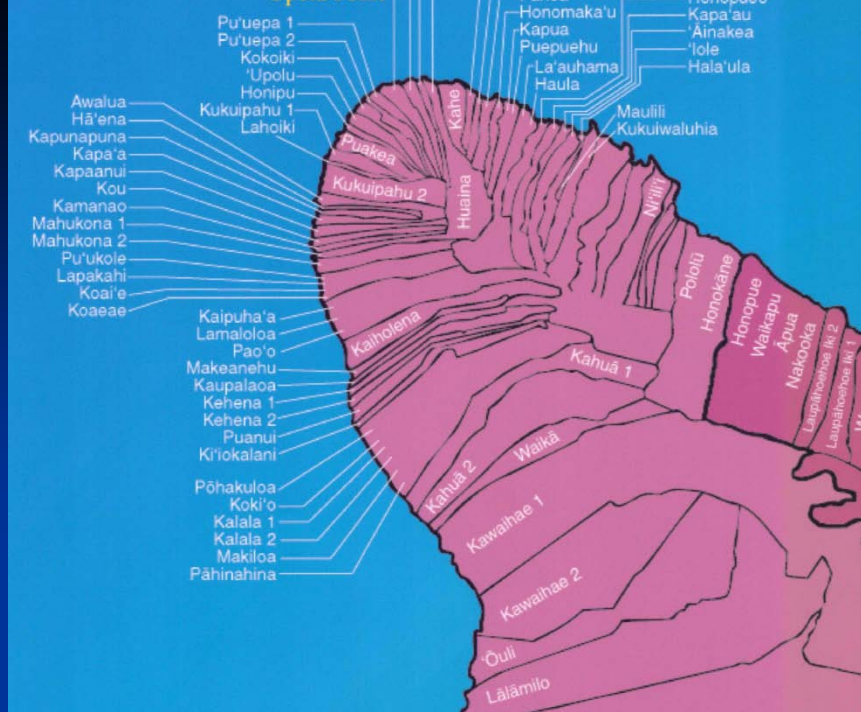


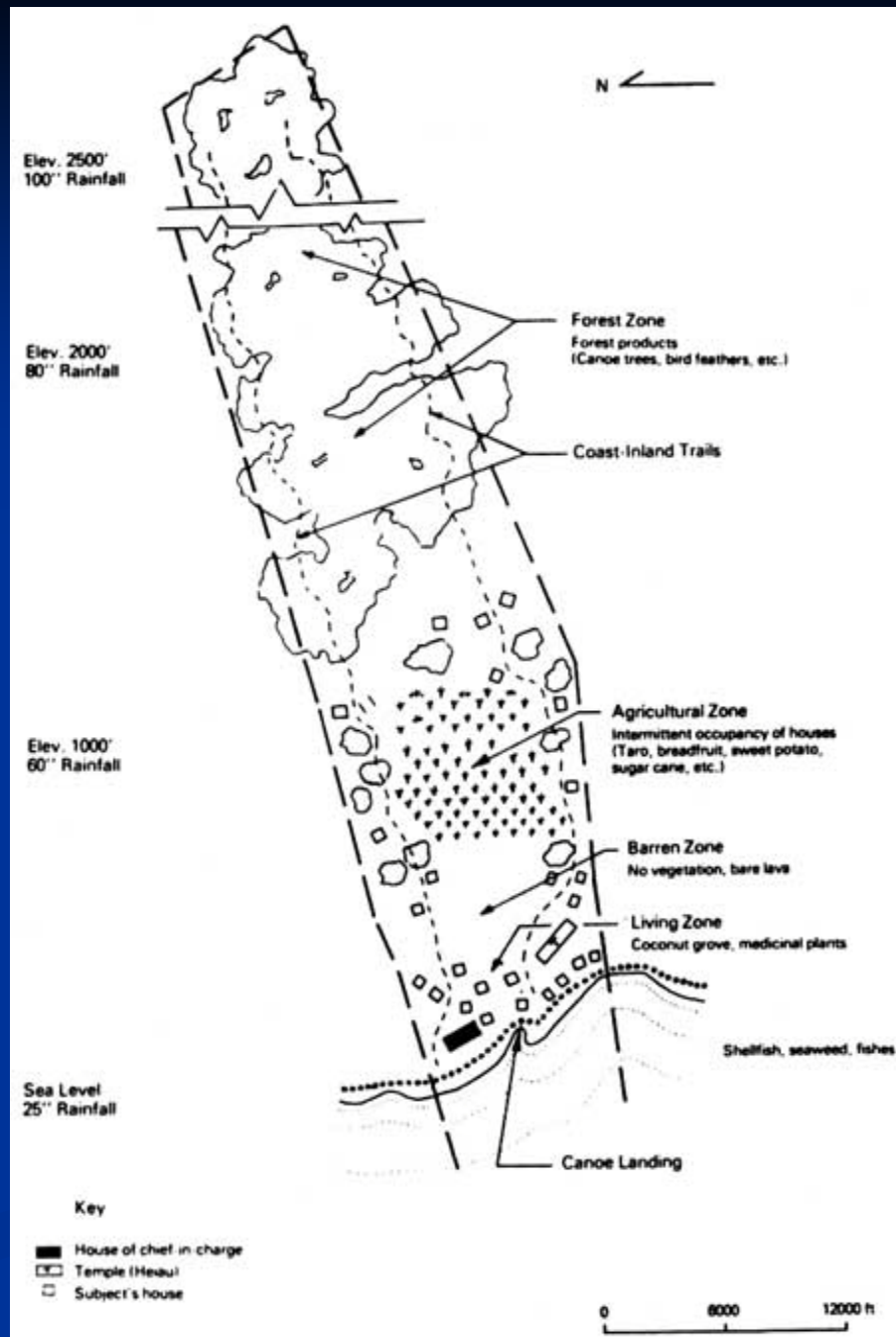
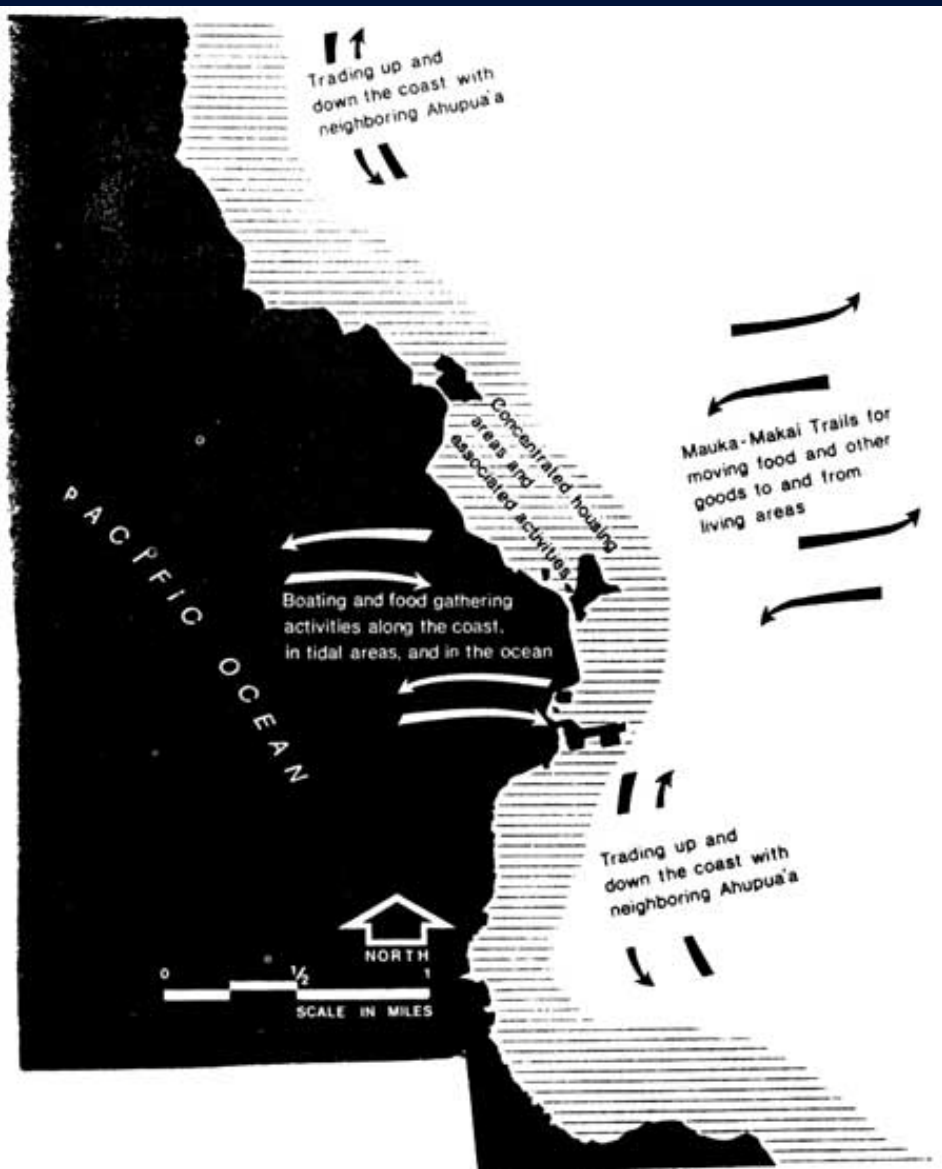
# Windward -- Koolau

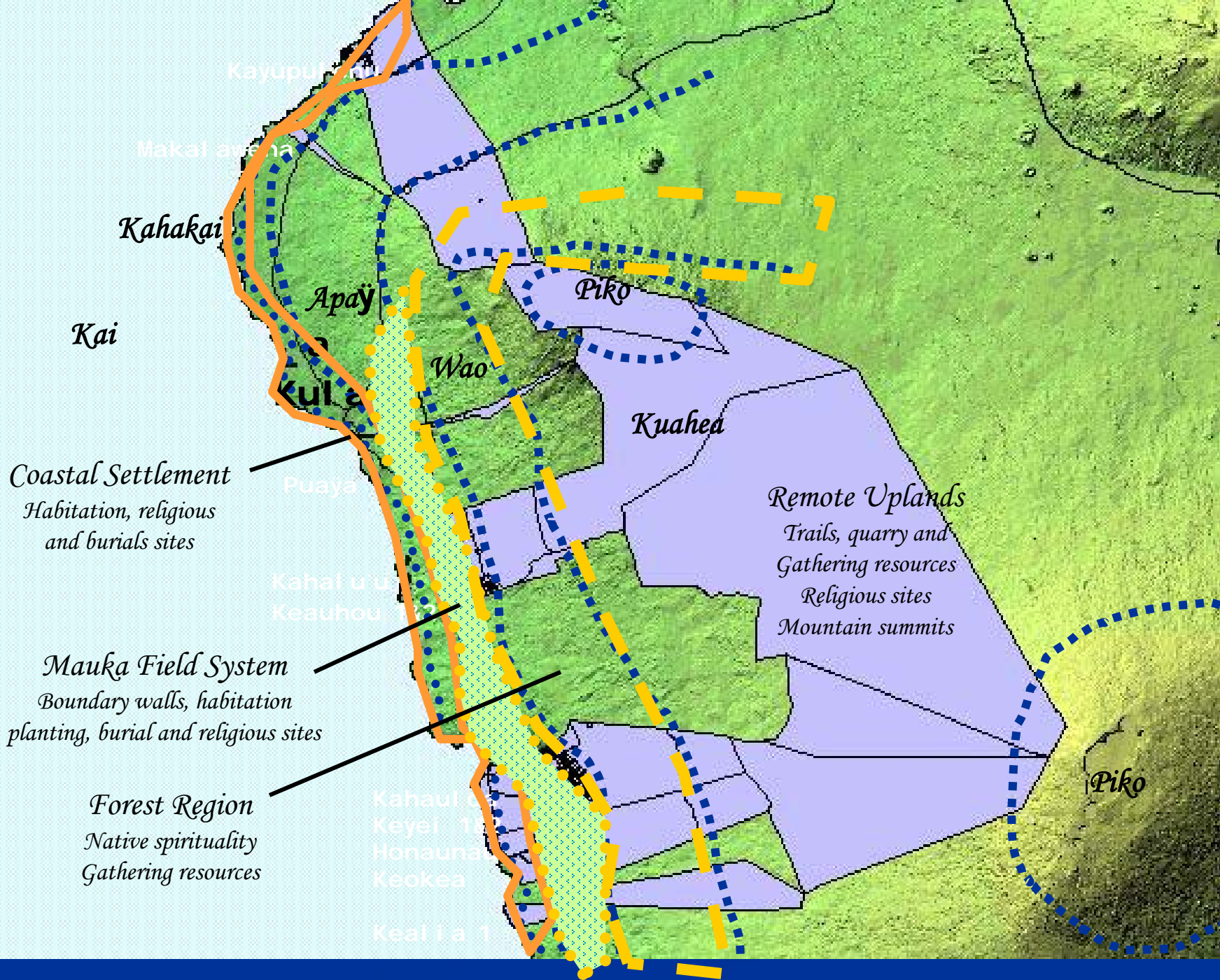


Photograph courtesy of Bruce Lum, Kamehameha Schools









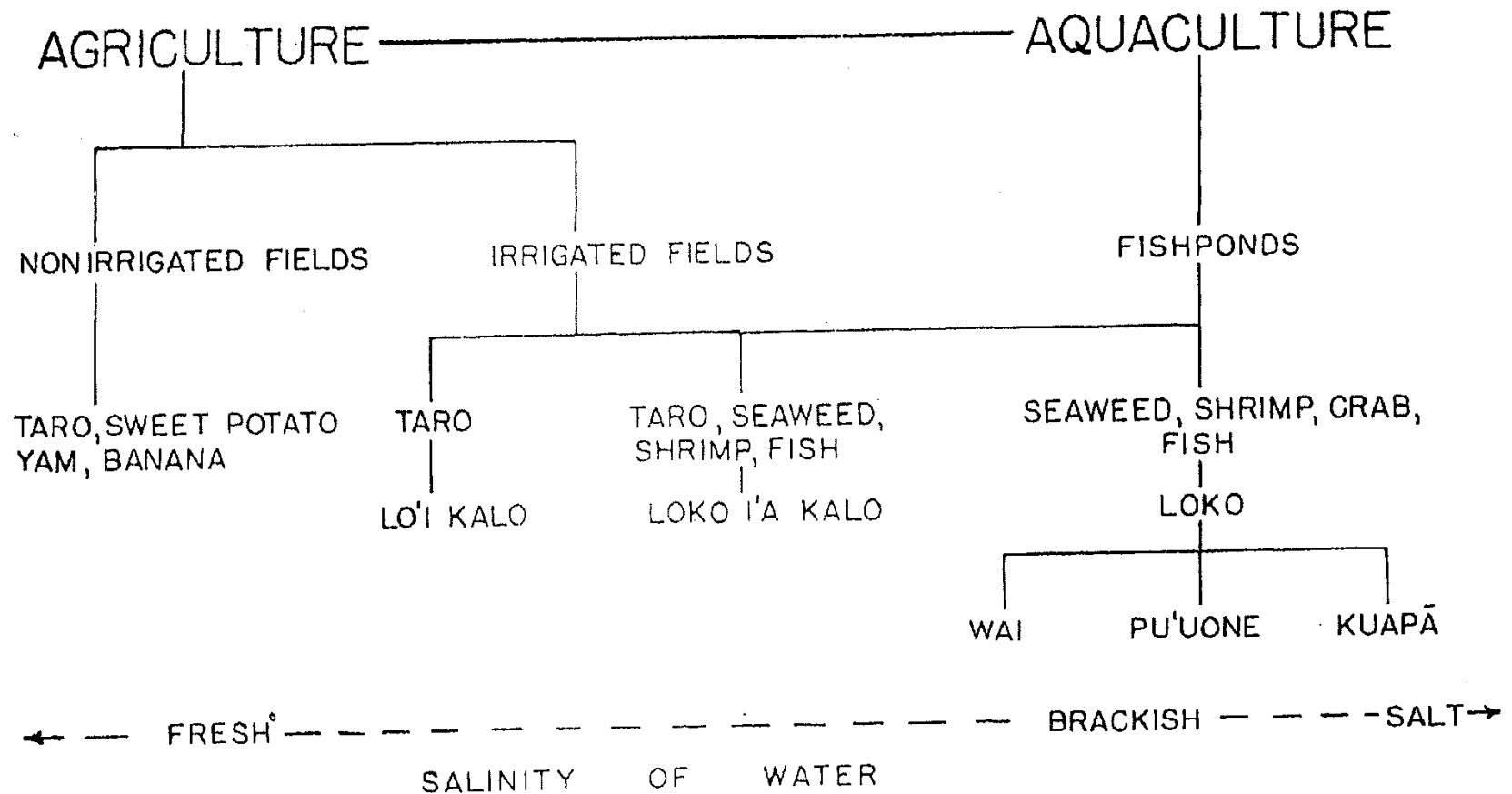
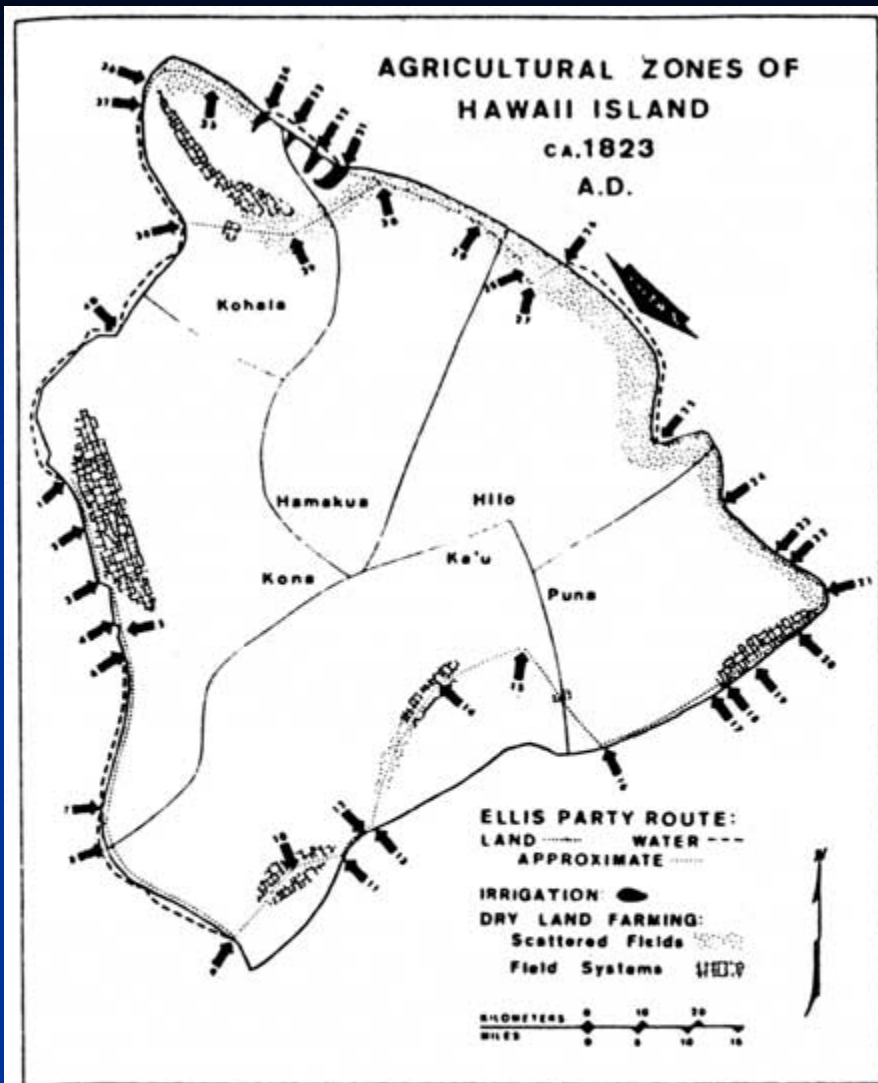


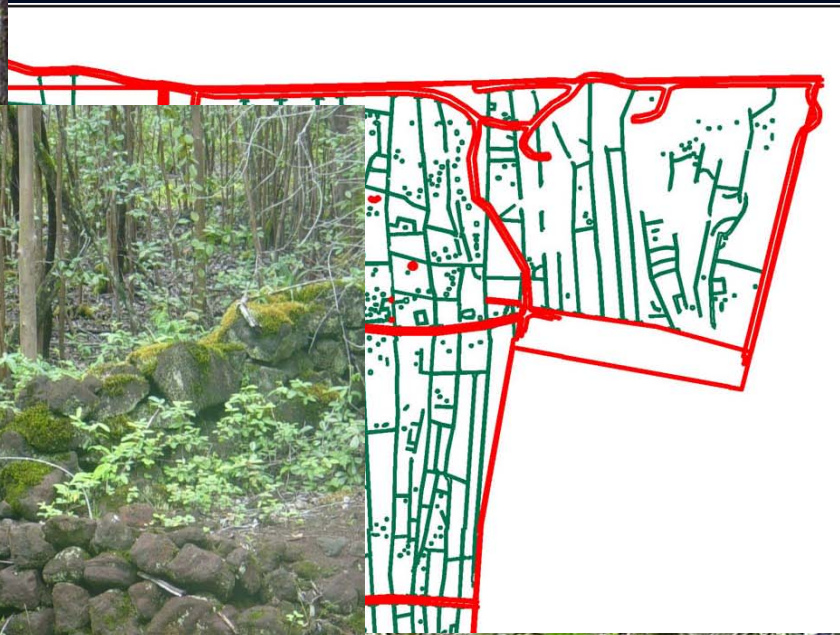
Fig. 1. Agriculture to aquaculture schematic of relationships without regard to chronology. The products of both systems are shown as a function of emphasis, with agriculture and aquaculture as extreme ends of resource management.



1. Kailua; 2. Keauhou; 3. Kaawaloa; 4. Honaunau; 5. Keokea; 6. Kalaheiki; 7. Kapua;  
 8. Kaulanamauna; 9. Kailikii; 10. Waiohinu; 11. Honuapo; 12. Hilea; 13. Punaluu;  
 14. Kapapala; 15. Kilauea Volcano; 16. Kealakomo; 17. Kalapana; 18. Kaimu;  
 19. Kamaili; 20. Keahialaka; 21. Kapoho; 22. Kahuwai; 23. Honolulu; 24. Keanu;  
 25. Waiakea (present city of Hilo); 26. Laupahoehoe; 27. Humuula; 28. Kaula Valley;  
 29. Manienie; 30. Kapulena; 31. Waipio Valley; 32. Waimanu Valley; 33. Honokane Valley;  
 34. Polulu Valley; 35. Halawa; 36. Awalua; 37. Mahukona; 38. Kawaihae; 39. Waimea  
 (also called Kamuela) 40. Kiholo.

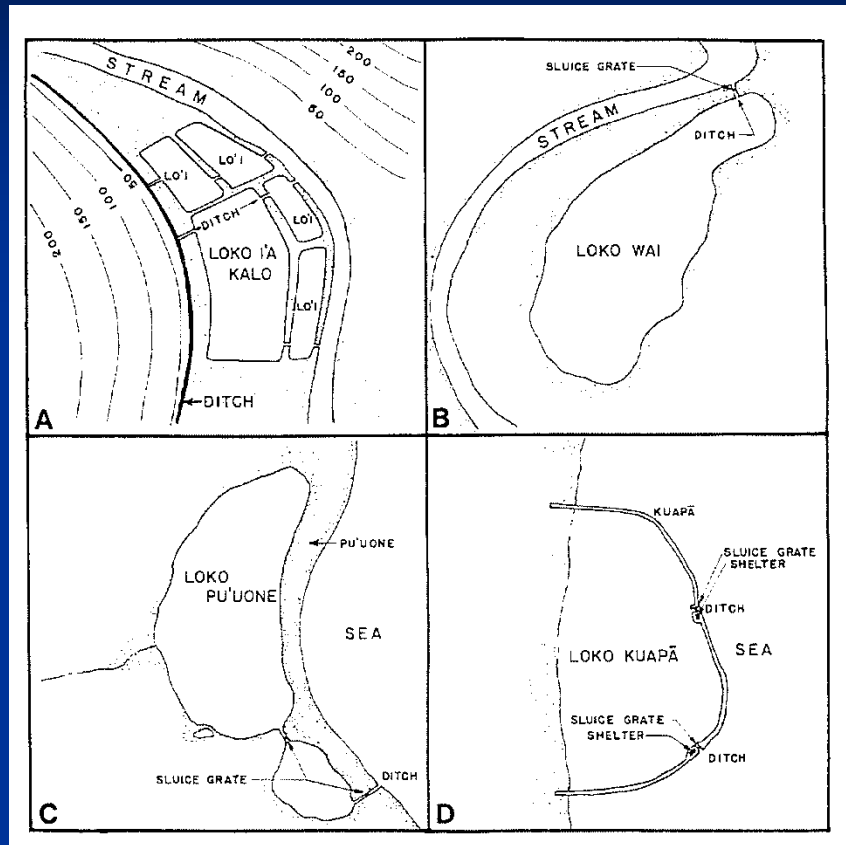
# Kohala field system











Kikuchi, 1976

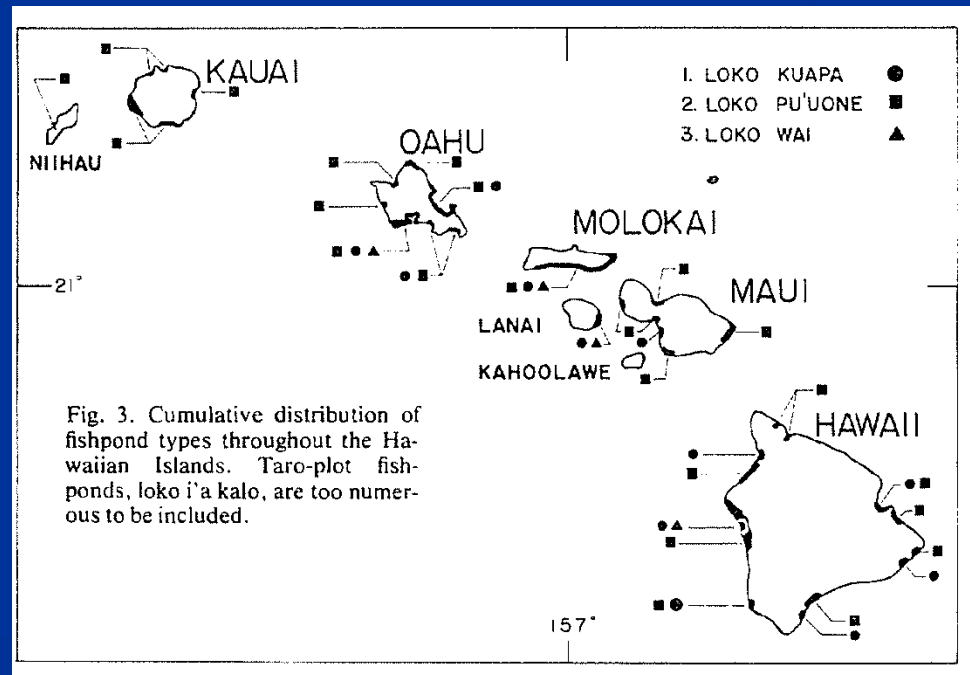


Fig. 3. Cumulative distribution of fishpond types throughout the Hawaiian Islands. Taro-plot fishponds, loko i'a kalo, are too numerous to be included.

“Ua nui ma uka, ulu ae a nui ke kohu”  
-- Niihau kupuna



*Photograph courtesy of Bruce Lum, Kamehameha Schools*

## Terrestrial & Marine Connection

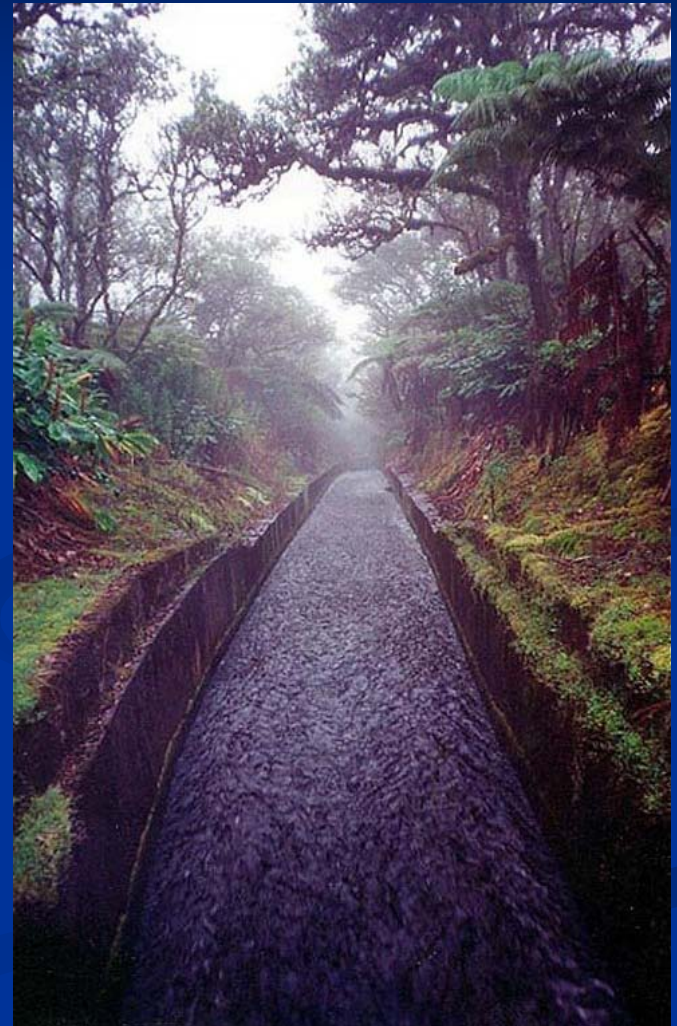
# Pre-contact

- Native vegetation
- Extensive lo'i and auwai systems
- Extensive mala
- Many loko i'a
- Little to no pollutants



# The last 150-200 years

- Deforestation for coal, plantations, sandalwood
- Construction of massive ditch systems that greatly changed the water landscape
- Abandonment of fishponds
- Significant loss in traditional agriculture and water diversions
- The advent of well drilling and groundwater extraction
- Pollution of water sources; primarily via agriculture



# A time of change...

- Plantations largely gone
- Ditch systems out of use in many areas
- Groundwater heavily in use
- Native forests largely gone and abundant alien vegetation
- Many coastal areas heavily developed
- Pollution more tied to urbanization



# *Two crises, one solution: reconnect with our land*

*Crisis of Well-being:  
Link environment to cultural  
identity*

*Crisis of Sustainability:  
Link cultural values to  
environment*

*`Āina Mole:  
Reconnect our taproot  
People of place caring for place*

*Ho`oulu Lāhui/Ho`ola Kākou `Āina:  
Transform well-being & environment  
Thriving people in thriving habitat*

*Produce food, fuel & fiber  
on our ʻĀina Momona*



*Foster sustainable ecosystem services on our  
Āina Waiwai*



# *Promote Hawaiian World View & Integrated Use*



# Perpetuate the relationship with aina



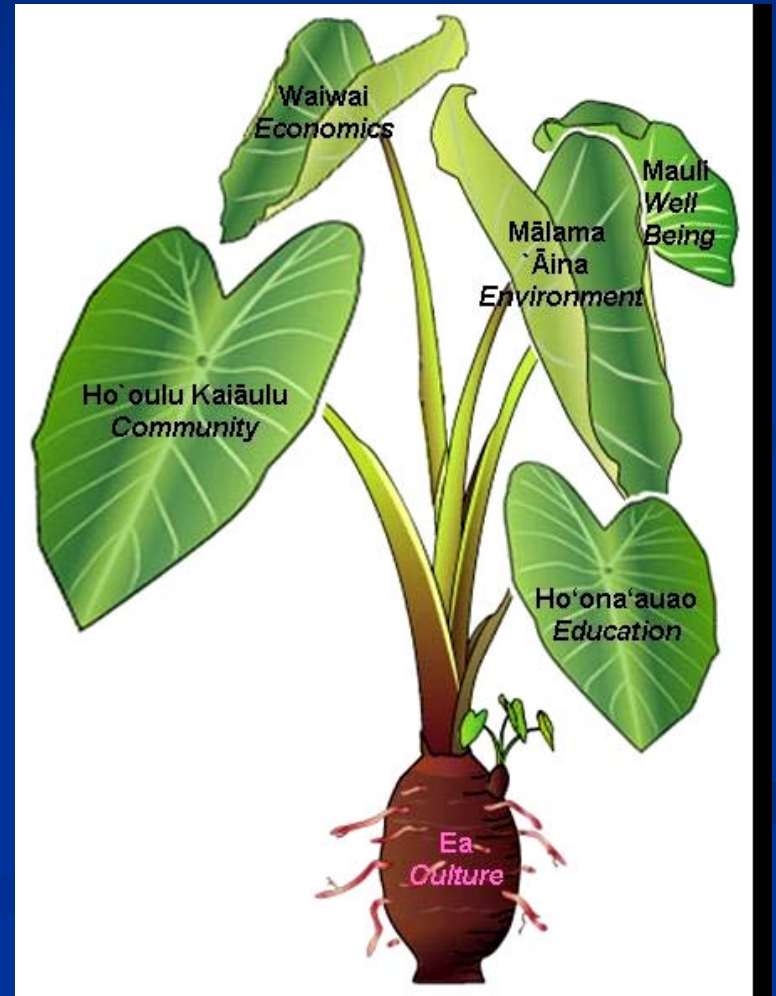
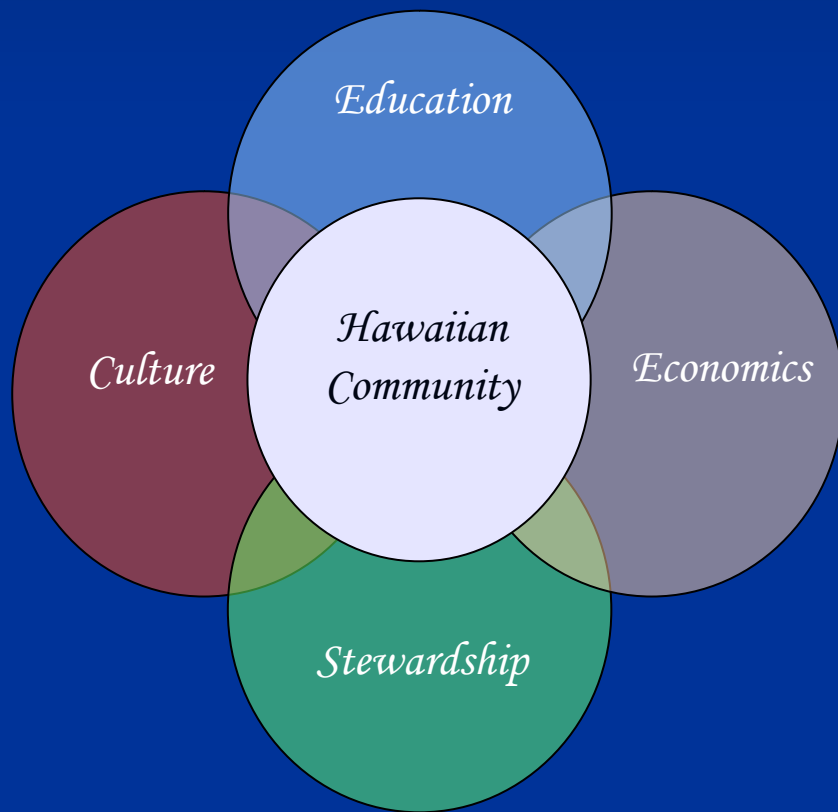
WAIPA MASTER SITE PLAN  
JUNE 2004  
PREPARED FOR: WAIPA FOUNDATION  
PREPARED BY: TOWNSCAPE, INC.




It is about values



# *Leadership challenge: honor the Hawaiian worldview*





**Mōhala ka wai i ka maka o ka  
pua.**

*Unfolded by the water are the faces of  
the flowers.*

