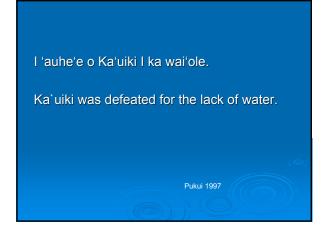


Presenter Disclosures

Kawika M K I Liu, MD, PhD, JD, FAAP Momi Fernandez, NH Practitioner

 The following personal financial relationships with commercial interests relevant to this presentation existed during the past 12 months:

"No relationships to disclose"







Learning objectives

- Demonstrate knowledge of traditional Kanaka Maoli (Native Hawaiian) knowledge and practices relating to water.
- Describe the relationship between water and Kanaka Maoli health.



Traditional conceptions of water

Kāne and Kanaloa

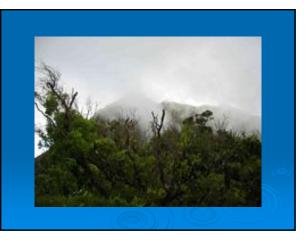
duality Kāne

Fresh water

- Tapped fresh water streams
- Forests
- Northern edge of the ecliptic
- Kanaloa
- Oceans
 - Found fresh water streams

Types of wai

- Wai external vegetation/water caught in vegetation = 5 types (wai apo, wai hua, wai puolo, wai hili and waikoolihilihi)
- Wai internal/juice/coconut water/sap/tears/amniotic fluid = 5 types (wai, waikoolihilihi and lapa wai)
- Wai atmospheric/heavy fog/mist = 1 type (uhi wai)
- Wai subterranean/cave/water oozing from precipice/deep basin water = 2 types (wai hi and moanaliha)
 Wai sufface water/spring/stream/pool/lava or water flow, etc = 13 types (puna wai, wai hu, wai kau, wai ahu, wai aka, kanawai, wai kahe, wai ko, wai lele, waiholomoku, muliwai, muliwaiopele, muliwai olena
- Wai place with water = 7 places (place names on Hawai'i Island including grain in stone) Waiapele, Waiau, Kawaihae, Wai pohaku
- Wai Who? What? Who are you? = generations of who are you? Ohana



Water and health

- > Health of animate and inanimate world intimately linked through genealogy
- > Preserving stream flows and water quality
 - Endemic and indigenous flora and fauna
 - · Traditional agriculture and aquaculture
 - Reef ecosystems
- > Water as traditional medicine

Water in lā'au lapa'au

- Cave water
- Stream/river water
- . For use as a foundation with herbs, minerals or ocean medicine
- > Morning dew from high elevations
 - · To drink with medicine or by itself
- Spring water

 - Can be from fresh water springs found offshore





Ka waiwai: water as contested terrain

- Water has been at center of political economy
 - Traditional and customary uses
 - Plantations
 - Development
- > Litigation
 - Waters are a public trust
 - Waiāhole Ditch State water resource trust
 - East Maui kalo farmers



Conclusions

- Extraordinary range of knowledge and practices relating to both wai and kai in traditional culture
- Water was, is, and will be central to health of Kānaka Maoli

Recommendations

- Integrate concepts of kapu system and mana into EA/EIS process
- Incorporate culturally appropriate health impact assessment into the EA/EIS process
- Assemble IRB for physical science and environmental projects, similar to existing health IRB

References

- Pukui MK. 'Olelo Noe'au: Hawaiian
 Proverbs and Poetical Sayings. Honolulu,
 HI: Bishop Museum Press, 1997.
- http://nhlchi.org/highlights2.htm
- Lā'au lapa'au training under Po'okela
 Papa Auwae
- > Papaku Makawalu training, Edith Kanaka'ole Foundation