**Stories of Struggle: Building a Sustainable Hawai‘i**

*What Hawai‘i’s engineers can teach the world*

Benjamin York

**Description and Scope**

As innovation continues to propel society to new heights, environmental conservation is paramount to keeping a balanced society. While activist groups champion lofty environmental goals, engineers must grapple with the tradeoffs associated with achieving such feats. This episode aims to inform listeners on the struggles tied up in environmentally friendly development while providing narratives from local professionals and community members. The content and guests were specifically chosen with the goal of encouraging young engineering professionals to embrace sustainability. However, it forgoes significant technical detail as a means of appealing to a wider audience. This episode positions itself as a call to action for environmentally conscious living.

**Acknowledgements**

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* June Nakamura (Kaula AE)
* Michele Adolpho (Koffman Engineering)
* The Hawaiian Music Perpetuation Society
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* GarageBand by Apple
* Voice Memos by Apple
* freesound

**Script (Approximate)**

*(Intro Music)*

**Ben:**

Aloha, and welcome to *Stories of Struggle*, where we explore the crises facing Hawai‘i’s people, environment, and native culture. I’m your host, Ben York, and today, we’re diving into one of Hawai‘i’s most pressing challenges: sustainable development.

In this episode, we’ll take a look at the native Hawaiian’s long-standing connection to the land, hear how one engineer has spent her career working on sustainable water solutions, and learn how another local professional balances the interaction between innovation and the environment.

As you hear the following perspectives keep your mind open to ways you can become more environmentally conscious in your day-to-day activities.

Thanks for tuning in. Let’s get this show on the road.

*(Nature/ocean sound effects)*

**Ben:**

The Hawaiian word for freshwater is wai. The Hawaiian word for wealth is Waiwai. That’s not a coincidence. Water has never been just a resource on the islands. It’s part of a broader relationship to the land. Its importance spawned an entire cultural system of responsibility, but what happens when that system is disrupted? During my time on O‘ahu, I met with cultural leaders to learn about the importance of the environment in Hawaiian culture.

*(Transition)*

**Ben:**

When I arrived at the Hawaiian Music Perpetuation Society, I was greeted by Aunties Ku’uipo, Jennine, and Tulu. HMPS is a 501(c)(3) organization “dedicated to the promotion, preservation, and perpetuation of mele Hawai‘i.” It was founded by award-winning Hawaiian music icon Ku’uipo Kumukahi and cultural leader Jennine Heleloa. As we settled in, the three began to share Hawai‘i’s uncut history. They took us on a journey through ancient Hawaiian cultural practices up to the tumultuous time of American colonization. One of the more fascinating parts was learning the ancient land practices.

Before colonization, Hawaiʻi’s land was managed through ahupuaʻa, land divisions that ran from the mountains to the sea. Each ahupuaʻa was a complete system. Freshwater from the uplands would flow down, nourishing crops and people, before meeting the ocean.

Aunty Ku’uipo highlighted the positive impact of the ahupua’a system. Aside from its low environmental impact, this system created natural labor divisions. The farmers upstream would trade with the fishermen downstream. This was more than just sustainable living; It was part of the sacred relationship to the land.

In the Hawaiian culture, it was understood that you took care of the land because the land takes care of you. This balance is embodied in the phrase *aloha a‘ina* which means, to recognize and respect the land. The arrival of American sugar interests in the 1800s put this balance to the test. Streams that once served as anchors for the community were diverted, and freshwater became a means for corporate profit.

Nearly 200 years later, Hawai‘i finds itself facing a similar predicament. Its fragile water supply and demanding development scene puts pressure on all residents to think carefully about water usage.

One woman helping tackle the pressing water crisis is June Nakamura, a wastewater treatment specialist and principal engineer at Kaula AE.

I had a chance to meet with June in her Honolulu office. We talked about her career and what cultural preservation means to her as an engineer. Her insights showed just how deeply rooted she is in preservation.

Before we got into her projects, June shared a little bit about how she ended up in the wastewater industry.

*(June Sound Byte) – early career*

**Ben:**

With her eyes set on a new career path, June became a sponge for learning about water usage and treatment solutions. She reflected on some of the common problems she encounters in her designs.

*(June Sound Byte) – common issues involving water*

**Ben:**

June’s passion for this issue speaks to recent struggles surrounding artificial wave pools in the western part of O‘ahu. Honokea Surf Village is a proposed 100-million-dollar wave pool project designed to cater to the local and tourism-based surfing communities. The project boasts advanced wave generation technology and state of the art facilities. It is even backed by Hawaiian surf legend Brian Keaulana.

At first glance, this project seems like a no brainer. It would bring the sport a publicity boost and strengthen a thriving surf community. However, the legal battles surrounding this development have been lengthy. Environmental activists and residents have called the development’s environmental impact analysis into question and shared concerns over potentially disturbing ancient Hawaiian remains. In May of 2024, the Hawai‘i Environmental Court ordered a new review on the wave pool’s environmental and cultural impact. I brought this story up during my time with June, and she shared a similar situation from a project she worked on with the Hawai‘i Parks Service.

*(June Sound Byte) – introduce the project*

**Ben:**

June knows here history. She knew she was in for a difficult conversation.

*(June Sound Byte) – the problem-solving process*

**Ben:**

After ten years of hard work, June finally had a working solution

*(June Sound Byte) – solution to issue*

**Ben:**

June’s career has been closely tied to Hawai‘i’s culture and environment. However, sustainability and cultural preservation aren’t immediately associated with every engineering discipline. After I wrapped up with June, she introduced me to one of her close friends, Michele Adolpho. Michele is a principal electrical engineer at Coffman Engineers. She shared insights on the roles she sees sustainable engineering and cultural sensitivity playing in the electrical projects she works on. Her thoughts echoed June’s commitment to preservation.

*(Michele Sound Byte)*

**Ben:**

She was kind enough to share some of her recent work and the variables she considered in her design.

*(Michele Sound Byte)*

**Ben:**

Michele is right, there typically isn’t much electrical infrastructure to preserve. However, she is conscious of the impact her work has on communities and the environment. She spoke on the importance of green energy solutions.

*(Michele Sound Byte)*

**Ben:**

As we step into the future, we cannot forget our past. Saving a seat for cultural tradition at the decision table can raise the ceiling our designs. The leaders at HMPS know that, and people like June and Michele work tirelessly tailoring solutions to a laundry list of concerns. We only have one Earth, so it’s our job to put our best effort into sustainable development. Let’s take a moment to reflect on these stories and our shared responsibility to our home.

If any part of this episode motivated you to rethink your relationship with the environment, I challenge you to take action. Get online and research the environmental issues facing your community. Stay informed on state and local government policies affecting your city. The task may seem tall, but it’s only the tallest from the ground floor.

I’m Ben York, and this has been *Stories of Struggle*. Mahalo for listening, and a hui hou aloha

*(Closing Music)*

**Summary of External Sources and Research**

**Online Research:**

In the spirit of relating June’s career experience to the broader water crisis. I did research on the Honokea Surf Village project. I have attached links to the news articles. I also read parts of the court order handed to the developers. (See the pdf document in my folder). Sections B and D were most useful for my understanding.

* https://www.kitv.com/news/opponents-of-honokea-west-surf-village-celebrate-a-legal-win/article\_f46173a8-1e15-11ef-b40e-8be923bef3bd.html
* https://www.surfer.com/news/proposed-oahu-wavepool-backlash
* https://www.hawaiipublicradio.org/local-news/2023-05-31/pay-per-wave-native-hawaiians-divided-over-artificial-surf-lagoon-in-the-birthplace-of-surfing
* https://www.sfgate.com/hawaii/article/wai-kai-wave-pool-protests-17538932.php
* https://www.theinertia.com/surf/brian-keaulana-backed-wave-pool-needs-new-environmental-review-says-hawaii-judge/

**Personal Interviews:**

I conducted interviews with the following engineers after the group tour of I‘olani Palace:

June Nakamura – Principal Engineer, Kaula AE

* June is wastewater engineer with a distinguished career. She has designed solutions on O‘ahu. During the interview she drew on her personal experience, technical expertise, and field knowledge to shed light on her role in environmental and cultural preservation.

Michele Adolpho – Principal Engineer, Coffman Engineering

* Michele is an electrical engineer. She has an extensive background in lighting solutions. She highlighted the importance of sustainability in engineering work.

Both women are licensed professional engineers and obtained degrees from the University of Hawai‘i at Manoa. (Informed consent forms are available in my folder)

**Group Activities:**

Hawaiian Music Perpetuation Society:

The time we spent with HMPS opened my eyes to the environment’s cultural significance. It allowed me to weave the cultural history into the larger struggle of sustainable design. Ku’uipo Kumukahi, Jeanine Heleloa, and Tulutulu Mana shared invaluable historical information. Parts of this conversation appear in the episode, and serve as background information on sustainable living.

* https://www.hmpshawaii.com/

Waimea Valley Service Project:

During this hike, I spoke with Jonah about the positive and negative externalities of green energy. He agreed that these solutions are pivotal to developing a robust economy but expressed caution towards their environmental impact. Specifically, he noted the relationship between bird death and wind farm development. Although I do not mention this conversation directly, it was pivotal in tying Michele’s point of view into the narrative.

**Sound Effects:**

The following sound effects appear in my podcast episode:

* Strong Waves Song.mp3 by zajichavez -- https://freesound.org/s/634767/ -- License: Creative Commons 0
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* scrapyard claw crane.wav by BeeProductive -- https://freesound.org/s/429988/ -- License: Creative Commons 0
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