

‘IMI NA‘AUAO

HAWAIIAN KNOWING AND WELLBEING

Research to affirm the qualities of Hawaiian health and wellness

Produced by University of Hawai‘i - West O‘ahu
Support provided by Kamehameha Schools



Pūpūkahi i holomua.
Unite in order to progress.
(Pukui, 1983, 32)



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Research to affirm the qualities of Hawaiian health and wellness

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TABLE OF CONTENTS

CHANCELLOR'S MESSAGE

Maenette Benham, EdD

PULE WEHE: FOREWORD + ACKNOWLEDGEMENTS

INSTITUTE OF ENGAGED SCHOLARSHIP

Melissa Saul, PhD

'AUAMO KULEANA, HO'OPONO: 'IMI NA'AUAO

Manulani Aluli Meyer, EdD

UTILIZING MĀ'AWĒ PONO AS A FRAMEWORK AND METHODOLOGY FOR RESEARCH IN THE AREA OF SYSTEMS CHANGE BENEFITING THE NATIVE HAWAIIAN LĀHUI

Kū Kahakalau, PhD

'ĀINA ALOHA, HO'OLA LĀHUI: MA'O YOUTH LEADERSHIP TRAINING (YLT) RESTORING THE HEALTH & WELL-BEING OF THE LAND & PEOPLE

*Kukui Maunakea-Forth, Thomas Scheiding, PhD and
the MA'O Team*

KA'ALA & HUI KŪ LIKE KĀKOU

Kalani Young, PhD

KA'ALA FARM AND LĀHUI CONSCIOUSNESS

Masahide Kato, PhD

KAHUMANA FARM HUB, STUDENT INVOLVE- MENT AND GEO-SPATIAL UNDERSTANDING

*Christy Mello, PhD, Saleh Azizi Fardkhales and
Shea-Lah Kama*

POLICY PAPER: FARM LABOR DWELLINGS IN HAWAI'I

Saleh Azizi Fardkhales

A STORIED LANDSCAPE

*Monique Mironesco PhD, Michael Wahl and
Christy Mello, PhD*

CONSERVATION PRACTICES AND THEIR IMPACT ON HAWAIIAN WELL-BEING AMONG YOUTH

Camonia Graham-Tutt PhD and Emma Broderick

NON-TIMBER FOREST PRODUCTS OF HAWAII: HAWAIIAN KNOWING AND WELL-BEING

Katie Kamelamela

PILINA INFORMED POLICY

Lorinda Riley SJD and Kawika Riley

'IMI NA'AUAO PROJECT: ANTICIPATION AND KŪPUNA WISDOM, CONFLICT AND TEARS

Gina Carroll

PULE PANI: SUMMARY

UH West O'ahu Hale Kuahuokalā



'A'ohe pu'u ki'eki'e ke ho'ā'o 'ia e pi'i.
No cliff is so tall that it cannot be scaled.
No problem is too great when one tries hard to solve it.
(Pukui, 1983, 25)

Chancellor's Message

'IMI NA'AUAO

The genesis of this effort was born from an “I wonder” conversation between Dr. Shawn Kana'iaupuni and myself. At the time (2017) of this conversation, we were focused on systems change that would benefit our Native Hawaiian communities. So, we wondered, how do institutions like Kamehameha Schools and the University of Hawai'i engage with scholars and Native Hawaiian communities to better understand and then support deep systems change? After several discussions with the Hui Ho'opili 'Āina steering committee (represents both Kamehameha Schools and University of Hawai'i executive leadership working in partnership to strengthen our collaborative efforts), it was agreed that we would jointly support a research-based effort to understand systems change in our Native Hawaiian communities.

What would be unique about this effort was an expressed intention to ground the research process in Native Hawaiian ways of knowing and doing, to partner Native Hawaiian scholars and cultural practitioners with subject-matter scholars (who may not be Native Hawaiian), and to authentically include community participation in all aspects of the study. A request for proposals to do this work was sent to Native Hawaiian scholars across the University of Hawai'i System that asked them to propose a study that would address one or more of the following questions:

1. What is the intergenerational impact of economic self-sufficiency for middle income Native Hawaiians and the next generation?
2. What is the relationship between eco-



nomc development and Native Hawaiian well-being?

3. How do social conditions contribute or inhibit a thriving Native Hawaiian lāhui?
4. What is the role of cultural revitalization in social change for Native Hawaiians?
5. What is the impact of cultural restoration on Native Hawaiian health and wellness?

Three proposals were received and reviewed, and the collaborative research proposal, 'Imi Na'auao, from UH West O'ahu (lead collaborator, Dr. Manu Meyer) was selected. The report that follows is an exemplary accounting of, but moreso, the lessons learned about “how” to do meaningful engaged scholarship that places, at its core, cultural restoration and revitalization. And, “how” this collective effort can substantively affect changes in our social systems that benefit the health and well-being of our Native Hawaiian communities. It

is important to point out the diversity of this interdisciplinary team who represented several institutions and multiple community stakeholders, all addressing health and economic disparities in the Wai'anae region. Moreover, it is important to acknowledge their comfort zones to learn and re-learn how to connect: (a) the kanaka through exploration of health data; (b) Pae'āina through exploration of social indicators, and (c) Lāhui, through exploration of 'āina based indicators. Linking all three, team members both individually and collectively needed to dig deep and reflect on the connective mo'olelo (makawalu) that is represented in this document.

Mahalo nūnui to the scholars and community partners for your work as it not only sets our pathway forward, but also calls us to action. What we know is, 'A'ohe pu'u ki'eki'e ke ho'ā'o 'ia e pi'i. No cliff is so tall that it cannot be scaled. No problem is too great when one tries hard to solve it (Pukui 1983, 25).

E mālama pono!

Maenette K.P. Ah Nee – Benham, Chancellor
University of Hawai'i – West O'ahu

Pule Wehe:

Foreword and Acknowledgements

Mele Honouliuli

Eō Pālehua ke kuahiwi la
 Ke kuahiwi i noho i ka lani
 'O Kapolei ka pu'u la
 Ka pu'u i noho i ka 'āina
 'O Kapapaapuhi ka loko ia
 Ka loko i noho i kai
 'O Honouliuli la
 He 'āina aloha o 'Ewa
 Aloha mai e nā pua la
 Nā pua ha'aheo o ka 'āina

Pālehua is the mountain
 the mountain that dwells in the heavens
 Kapolei is the hill
 the hill that sits on the land
 Kapapaapuhi is the pond
 the pond that resides at the sea
 Here is Honouliuli
 a land of great affection in 'Ewa
 Greetings to our descendants
 the proud children of this land

Pu'u Zablan, UH West O'ahu

Welcome to a movement, and an institution that includes, honors and values our “beloved community!” There is much to articulate with this project, named 'Imi Na'auao by Kukui Maunakea-Forth. It was aptly named as it is also the first process of the Mā'awe Pono research methodology we were all tasked to learn and implement. We are on a path to “seek wisdom” - to understand and thus to properly respond to the needs and aspirations of our community.



University of Hawai'i's West O'ahu Strategic Resonance with 'Imi Na'auao

Here are the UH West O'ahu Pahuhopu (Institutional

Values) and Hopena (Strategic Outcomes). These principles and ideas were infused into the planning, execution and summation of our 'imi na'auao process. They helped infuse a Hawaiian epistemology that remains at the center of this work:

- **Waiwai:** We value abundance/wealth that develops a culture of philanthropy and sustainable use of resources through the cultivation of quality relationships, creativity, exploration, and transdisciplinary learning.
- **Kaiāulu:** We value viable, healthy communities where everyone feels included, welcomed, and respected.
- **Mālama 'Āina:** We value environmental responsibility that links our love and care of land, water, and people.
- **Hana Lawelawe:** We value conscious service to community that builds the capacity to offer one's excellence for the benefit of others and our environment.
- **Po'okela:** We value excellence in education to meet the high aspirations of students, faculty, and staff, and the needs of our community.

Sustainability/'Ōiwi Leadership/Innovation - Transdisciplinary Focus

Three hopena/strategic outcomes emerged from numerous stakeholder discussions during the development of this Strategic Action Plan. To distinguish this institution from any other, we hope to create a campus that embodies Sustainability, Aloha 'Āina, Innovation & Transformation, and 'Ōiwi Leadership.

These distinct outcomes generate a transdisciplinary focus that produces citizens who possess strong 'Ōiwi leadership skills that are grounded in the history of place and people as we build just, purposeful, caring, and celebrative communities; innovative and transformative thinkers with the ability to generate and apply knowledge to address the pressing issues of our times; and those with a commitment to Sustainability/Aloha 'Āina, who have acquired the skills to care for all that nurtures our spirit, bodies, relationships, and honua/earth.

'Imi Na'auao process

Working within an institution of higher education is both a gift and challenge with regard to embodying and practicing 'ike kupuna, and to thus help transform systems. These values and strategic outcomes gave the 'Imi Na'auao process safe haven, and guided us during times of doubt and ideologic doldrums. Because Indigenous epistemology worked to stay relevant at the heart of most of the deliverables, we remain grateful for this matrix.

Ho'omaika'i, In gratitude

We would like to thank the following individuals for their creative support, affirmation and time given to us during our two-year journey:

- All of our community members who graciously gave their time, talents and wisdom: Kukui Maunakea-Forth, Saleh Azizi, Gina Carroll, Emma Broderick, Eric Enos, Katie Kamelamela, Hiwa Maunakea-Forth, Father Phil Harmon, Alicia Higa, Camille Rockett, Christian Zuckerman, Moulika Anna Hitchens, and Kamuela Enos
- Our UHWO team of scholars, activists, staff, gardeners, students, and administrators who supported this idea: Chancellor Maenette Benham, Melissa Saul, Donna Shaver, Manu Aluli Meyer, Christy Mello, Kalani Young, Masahide Kato, Monique Mironesco, Tom Scheiding, Lorinda Riley, Michael Wahl, Camonia Graham-Tutt, Aunty Lynette Paglinawan, Indrajit Gunasekara, Tasia Yamamura, Elise Dela Cruz-Talbert, Bill Belcher, Anthony Amos, Shea-Lah Kama, Malia Mokuahi, Christian Mosteles, and Monte Keawe-Costa
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- Our unique design team for this final publication: Gina Carroll, Sharla Hanaoka, Vera Zambonelli, Donna Shaver, Christy Mello, Camonia Graham-Tutt, and Lorinda Riley
- Our Mā'awe Pono and policy consultants who helped inspire, direct and guide us: Kū Kahakalau and Kawika Riley

Institute of Engaged Scholarship

Melissa Saul, PhD, Director, UH West O'ahu

*Kuāua nui ho'i kēlā e hele mai nei.
That is a big shower coming this way.
A company of people is seen approaching.
(Pukui, 1983, 1862)*

University of Hawai'i – West O'ahu (UHWO) Institute of Engaged Scholarship (IES) serves the public good through active collaboration with community partners to address and impact key issues in our communities. IES provides institutional support and resources to support innovative growth and development of high quality applied research.

The Institute of Engaged Scholarship supports and fosters partnerships between UHWO and our communities to collaboratively develop and apply knowledge to create a more just, abundant, and equitable society. IES provides resources and support to enhance faculty scholarship and creative endeavors that are focused on solving crucial community issues and engaging students in service, research, and problem-solving. Our goals focus on promoting innovative and transformative learning experiences for students, faculty and staff through engaged scholarship opportunities.

Retreat at Kahumana Organic Farms



Haloanaka-lau-kapalili



'Auamo Kuleana, Ho'opono: 'Imi Na'auao

Manulani Aluli Meyer, Konohiki, Kūlana o Kapolei, UH West O'ahu
An Initiative of Hawaii Papa O Ke Ao

Mai kea o lālapa i ka lani. Mai ka 'ōpua lapa i Kahiki.

Reflecting on the wild clouds of heaven. Entering from the turbulent clouds on the horizon. Journeys from afar may be turbulent, but we find liberation and clarity in the experience. Pele mā, Kapua Ka'au'a

I remember when Melissa Saul asked if I was coming to a research hui looking into Hawaiian issues, funded by Kamehameha. I said no. Then she asked again and I walked with her into the room and saw friends and colleagues, all eager and available for this kaupapa. Thus it began! The following week, we met again, but this time, beloved kama'āina practitioner-scholars came along: Kukui Maunakea-Forth, Kū Kahakalau, Katie Kamelamela, Gina Carroll, Emalani Case, Summer Maunakea, and Kalani Young. We started that second meeting with E Hō Mai. Yes, what does 'cultural revitalization' mean to a people recovering from physical, environmental, social, and cultural trauma? How do we then know, articulate, and inhabit principles of healing in institutions? I recall feeling calm and grateful we were in a space that allowed us to practice radical collaboration. Friends came to help friends.

There was this one thought: What would be different about this group? What would research mean and look like if Hawaiian epistemology played a role in its design, deliberation, and process? That became my question for the group, and we each answered in our own ways. For me, personally, it became a priceless experience of creativity, joy, tension, trust, and affirmation. It put me on a journey of inward reflection

and spiritual renewal.

He kumupa'a. Five quotations that inspired my involvement in 'Imi Na'auao:

- Ua 'ikea i ka maui ola. *All is known through the source of spirit.*
- Our lives are not our own. We are bound to others, past and present; and by each crime and every kindness we birth our future. Death Life Birth. Future Present Past. Love Hope Courage. Everything is connected. *Cloud Atlas, Sonmi 451 final speech*
- Food is the unifying language that cuts across age and income and culture. *Pam Warhurst, Incredible Edible Movement. Todmorden, North England. TED Talks, May 2012*
- It is quite wrong to try founding a theory on observable magnitudes alone. In reality the very opposite happens. It is the theory which decides what we can observe. *Albert Einstein*
- Ehara taku toa i te toa takitahi; engari he toa takitini. Collective effort is more significant than individual effort. *Māori*

We are living in mythic times. This 'Imi Na'auao research process began long before we here at UH West O'ahu met. As there are thousands of generative intersections

that brought this possibility into our Kapolei campus, I mihi all who put this idea forward: *To give support and trust to others so that our lāhui, our Hawaiian people/ places, could be assisted in ways they envision.* Mahalo nui for this trust. Here is the vision we all joined after that second meeting when we spoke of transformative economics, cultural research methods, and the vitality found in diverse collaborations. It was a heart-filled meeting filled with laughter, intentionality, and mangoes.

Our work became clear after that meeting. How would we articulate and centralize a kanaka way of seeing the world within a research process set-up to inadvertently collapse its distinct and specific possibilities into a standardized American approach? How could Hawaiian understanding help this group form and move forward? Two waiwai ideas bubbled up in my heart to be of service to this research team: 'auamo kuleana and

ho'opono.

'Auamo Kuleana is more than what we think it is (Please refer to below for definitions). One Hawaiian scholar-practitioner is beginning to introduce Aunty Pilahi Paki's three ways to understand Hawaiian words and ideas she is now calling 'ike pāpākolū: ho'opukakū (literal); kaona (multiple); noa huna (esoteric)¹. Because this trilogy exemplifies a holographic understanding of knowledge, and because there is a Mana Moana movement throughout Pasifika to produce, understand and practice deeper interpretations of our languages, proverbs, and stories, I decided to see what the esoteric meaning of 'auamo kuleana could mean to the practice of research within an institution of higher education.

I recall being asked by a language scholar what this phrase - 'auamo kuleana - could mean. I remember saying: *To carry your responsibility?* There was laughter

'Auamo Kuleana		
Ho'opukakū Literal meaning Empiricism Physical realm	Kaona Multiple meanings Epistemology Mental realm	Noa Huna Esoteric meanings Hermeneutics Spiritual realm
<p>To carry your responsibility</p> <ul style="list-style-type: none"> • 'auamo is a carved carrying stick • kuleana is responsibility 	<ul style="list-style-type: none"> • The purpose of your life you must develop • The skill sets you have and must put into practice • The carrying of one's responsibilities in a respectful way • To develop your excellence and unique skills 	<p>Collective transformation through individual excellence.</p> <p>au = channel amo = winking vagina</p> <ul style="list-style-type: none"> • Orgasmic pro-creative possibilities when we unite in love and truth around a shared purpose. • The implicate order that gets activated through the joyful expression of our life's purpose when it connects with others. • The excellence of a collective when individuals share and honor their differences.

¹ Pulama Collier is working on this 'Ike Pāpākolū process for her PhD: *Mō'ike Aloha*.

on the phone because that was the obvious and literal translation. “*It means something more,*” Pulama Collier told me. *Help me find the hidden meanings.* And thus it began, the noa huna process of what ideas can mean to our thinking, actions, and collective process, regardless of anything.

Words mean something and those meanings can be infused in all actions. Why wouldn't they? Her request would change my life. The surprise and genuinely hidden potential of 'auamo kuleana occurred during a five-day Food Sovereignty event with 100+ youth on Hawai'i Island. This gathering, Hoesa Ea, brought forth the miracle of what happens when people trust and affirm each others' unique skills. For 'Imi Na'auao, this esoteric meaning and function became one of two operating principles that helped define 'imi na'auao, this search for wisdom, within a mainstream university setting we would alter through our friendships. It also has become a way to actively and culturally live 'ike kupuna.



Pictured here from left to right: Manulani Aluli Meyer, Kū Kahakalau, Kukui Maunakea-Forth, and Gina Carroll

Understanding the potency of 'auamo kuleana is a journey specific to my own life. It has simplified complexity into a usable and coherent form. It teaches us that simplicity is indeed organized around purpose. Once this purpose gets articulated and there is agreement,

then *ideas* can be infused. Here is an ancient sequence that holds i'ini - animating principle - for how one gathers around a shared agreement. It is a process that encourages individual excellence through *difference*. The challenge is to be in a group that knows how they differ and what their unique strengths are. It then became our job to encourage those difference into their fullness and potential – even against many odds.

'Auamo kuleana is thus a serious commitment to trusting and linking to collective purpose – without micro-managing, doubt, prescriptive expectations, or rote good intentions. We accomplish collective resonance by knowing our unique strengths and aspirations, however opaquely articulated in a group process, and drawing that forward. It can happen through objectives, mission statements, or learning outcomes. These are textual ways of guiding necessary for institutional settings, but they have a 'shelf-life' that spoils without funding. Continuity lives elsewhere. We do it through knowing people in context. We did it first by knowing ourselves.

People laugh when 'auamo kuleana is described as procreative possibility of mutual emergence that expands through joy, trust, and aloha. The noa huna, esoteric meaning, is indeed something that links to the hidden implicate order of our lives, and there is no end to how this can be experienced. Joy begets joy begets joy! Trust begets trust begets trust! Love begets love begets love! Maybe this is the different consciousness Einstein wanted to articulate?

Kū Kahalalau called this process: “Lū'au Methodology” and made us think with the metaphor of uncle tending the imu. No-one comes up to tell him how to heat the

stones or wet the burlap bags. He might not even use burlap bags! The thought made us all laugh out loud! No-one tells aunty who makes the squid lū'au how to tenderize the he'e. Everyone has a skill, a function, an excellence born through experience, interest, skill, kuleana. How we used this understanding within research in mainstream institutions became our collective undertaking.

How 'Auamo Kuleana looked within 'Imi Na'auao

Three PI's were needed. Melissa Saul, Christy Mello, and myself held three distinct skill sets and each kept our search for wisdom moving forward. 'Imi Na'auao self-organized itself. People stepped into their excellence and did not take on something they could not do – and do well. Trust maintained this. So did fluid deadlines, a steady disposition, and encouraging e-mails.

We were serious about maintaining a climate of aloha. The luminous core of 'auamo kuleana – the idea that we connect through the joy of our differences – was central to transform one thing into another, and then another. Here is the effulgent resonance of trust. I was changed by it, challenged by it, and liberated through it.

I remember having Kū Kahakalau in my office and asking her if she could come to our second meeting. It was clear that her timing was divinely sanctioned and her presence, and the inevitable nourishment of Mā'awe Pono, became mythic in its role, function, and beauty. After all was said and done, Kū's passionate clarity at the center of 'Imi Na'auao inspired us all. Our group felt her 'ike na'au – the knowing created by deep living. You want to be around people who love our people, love our lands, and love our perfect imperfections.

Practicing the meaning of 'auamo kuleana changed my life: Trust, allow, accept, and affirm excellence. This can be found in the splendour of difference and how that difference becomes excellence by its own meaning-making.

Ho'opono: Five quotations from Kukui Maunakea-Forth

Throughout these two years, we were gifted with the clarity and vision from our beloved community. Here are five ideas from Kukui Maunakea-Forth that continue to direct us and inspire me:

- *the 'research' is actually an endeavor to 'imi na'auao, or seeking wisdom, that the knowledge is already there and we are working together to ensure it can meet its potential;*
- *the concept paper for this research project, practically and functionally, is a kahua or foundation for our present and future work together as a learning community and as a community of practice;*
- *the pedagogy is aloha, the research framework and methodology is based on mā'awe pono as shared by our 'ohana Kū-A-Kanaka for its inclusivity and as our way of engaging in the work;*
- *the goal is ho'ōla 'āina, ho'ōla lāhui, connective-collective work that yields more than just health and wellbeing for all life, it is for pono and balance to take its place to be the catalyst for systems change and transformation.*
- *the approach is multi-dimensional - the wakefulness must come through the three conscious states of kanaka, pae 'āina, and lāhui - makawalu is creating a unique collaborative energy which is necessary to changing states of being;*

Ho'opono, for the purpose of 'Imi Na'auao, is the prac-

tice of truth-telling. Kukui Maunakea-Forth wrote in this frequency, shared ideas in this way, and inspired us all with her vision for our lāhui. It was emulated by our consulatant Kū Kahakalau through her work with the research methodology: Mā'awe Pono. Ho'opono is summarized in the below 'ike pāpākolu to keep truth-speaking as the central operating principle of this 'imi na'auao. Speaking and writing in this manner created meaningful relationships and helped us speak our minds, voice our doubts, and feel safe. In this way, rela-

tionships were formed, visions were shared, and things happened. We are meant to be inspired by our friends, peers and colleagues!

Ho'opono in this process was a ritual way of speaking and writing with intentionality and careful consideration. Ideas were shared that affirmed the purpose of our sessions, and the inevitable healing of our people and places. In this way, we each practiced believing in something, connecting with those who could help us

Ho'opono		
Ho'opukakū Literal meaning Empiricism Physical realm	Kaona Multiple meanings Epistemology Mental realm	Noa Huna Esoteric meanings Hermeneutics Spiritual realm
<ul style="list-style-type: none"> • To cause goodness. • To be excellent. • To act in ways that are honorable and respectable. • To be virtuous, moral, upright. 	<ul style="list-style-type: none"> • Create goodness through goodness. • To speak truth. • To produce well-being through actions and thought. • To create prosperity • Righteousness. 	<ul style="list-style-type: none"> • The animation of action through truth + goodness. • True condition of nature. • Mutual emergence. • Hidden matrix of life that affects all of life. • Pono aku, pono mai. The simultaneity of goodness when it is shared with others.



Meeting with Ka'ala, MA'O and Kahumana @ Ka'ala Farm

do it well, and then setting forth to accomplish something.

How Ho'opono looked within 'Imi Na'auao

Ho'opono was not merely a verbal practice but a spiritual one that kept us showing up to meetings, sending in meta-memos, bringing food to share, heading out to our sessions, and trusting. We actually believed in the resonance of cacaphony and held space for different projects, different outcomes, and different methodologies.

Ho'opono, the practice of speaking truth at all times, helped make meetings interesting and brought forth visionary ideas and moments we held close to our collective heart. This practice was a way to bring out things that were sometimes hard to say, and hard to hear. And when it was not done well, people were forgiving, and lessons were collectively learned. Ho'opono is the ability to express, live, and be nourished by pono. It is a practice that this research process was ultimately shaped by.

Ha'ina mai ka puana *Thus ends my story*

This process has affirmed all that I believe in. It has helped us see and experience the power of collective effort and the purpose of knowing each other. And when those relationships turn into friendships then we are in essence 'cooking with gas' and the food served up has the promise of true nourishment.

I have also learned of my shortcomings, my glaring areas in need of improvement, and my own fledgling attempts at ho'opono. For this, I am learning to forgive myself and to get on with the work at hand, especially since these kinds of collaborations are desperately

needed. The key is that our beloved community keeps showing up, and we are able to be of service.

I have also been changed by the effulgent coherence of 'auamo kuleana. It has become a process of trust and aloha, and a way to tangibly describe the hidden matrix vital to collective emergence. At first, it did not seem possible because of the continual bureaucracy and clashing worldviews, but the excellence of each individual eventually brought forth a unique and inspiring group process that continued to direct and inspire, and for this, I am grateful.

This work continues, and the productivity of our on-going collaboration is found in our stronger relationships, our ability to call each other up, to help when it's needed, to support each other, to encourage creativity in our thinking, and to feel the future within our beloved community. We are becoming friends on this path, and we get closer to our shared purpose when aloha is the primal source of our praxis.

All this to say, you are going to so enjoy this group of people, and this gathering of ideas! They come from the center of excellence. It was a joy and honor to bear witness.

Utilizing Mā'awe Pono as a Framework and Methodology for Research in the Area of Systems Change Benefiting the Native Hawaiian Lāhui

Kū Kahakalau, PhD, Kū A Kanaka, LLC.

*'O ka pono ke hana 'ia a iho mai nā lani.
Continue to do good until the heavens come down to you.
Blessings come to those who persist in doing good.
(Pukui, 1983, 2437)*

From Fall 2017 to Spring 2019, Dr. Kū Kahakalau, lead researcher of the Kū-A-Kanaka Indigenous Research Institute, trained and supported the University of Hawai'i West O'ahu (UHWO) 'Imi Na'auao Research Project in utilizing Mā'awe Pono as their research framework and methodology to examine food security on the Wai'anae Coast. During that time, Dr. Kahakalau worked together with over a dozen UH West O'ahu researchers and community partners to develop a collaborative research design; assist in the creation of assessments, surveys, interview guides, and other data collection methods; and prepare the teams for the IRB process. Dr. Kahakalau also conducted multiple trainings on Mā'awe Pono, a uniquely Hawaiian research methodology developed by her Kū-A-Kanaka Indigenous Research Institute team. This included providing workshops, participating in planning meetings, and ZOOM sessions, along with individualized face-to-face and online support, and brainstorming and collaborating with the various research teams, as well as individual team members, as they navigated their way through the research process. In addition, Dr. Kahakalau provided consultations on Hawaiian language and usage, as well as other aspects relating to Hawaiian culture and traditional values and practices.

The UH West O'ahu 'Imi Na'auao research project was the first use of Mā'awe Pono as a research framework

and methodology by a group of researchers not directly affiliated with the Kū-A-Kanaka Indigenous Research Institute and in that capacity provided a critical opportunity to test its use as a methodology to assist research in the area of Systems Change benefiting the Native Hawaiian lāhui. This summary provides an overview of Mā'awe Pono as a distinctive Hawaiian research framework and its relevance to the UH West O'ahu 'Imi Na'auao research project.



Dr. Kū Kahakalau and Dr. Manu Aluli Meyer

Mā'awe Pono emerged gradually over the past three decades, awakened into consciousness through intense, heuristic contemplation; extensive, in-depth informal study; and meticulous, rigorous action research spearheaded by Dr. Kahakalau, and has involved thousands of Native Hawaiian co-researchers. The term Mā'awe Pono was carefully chosen, after months of prayer, reflection, ceremony and an unwavering belief that words have a powerful ability to influence and impact outcomes, as expressed in the proverb, "I ka 'ōlelo

nō ke ola, i ka ‘ōlelo nō ka make. Life indeed is in words; death indeed is in words” (Pukui, 1983, 129).

Mā‘awe in Hawaiian refers to a narrow path or trail. Pono is everything that is good and right from a Hawaiian perspective. The term mā‘awe pono according to Hawaiian scholar Mary Kawena Pukui refers to the (right) track of honor and responsibility (Pukui, Haertig, & Lee 1972, 19). This name was chosen for several reasons. For one, just like the ancient trails constructed from smooth river rocks enabled our ancestors to move across miles and miles of rough ‘a‘a lava terrain, so does Mā‘awe Pono aim to provide a path for Hawaiian researchers to find solutions to current obstacles and issues, restore justice, and bring about pono (righteousness).

For the ‘Imi Na‘auao research team, this meant that all involved in the Mā‘awe Pono research process had to purposefully choose to walk the narrow trail of honor and responsibility and ensure that all aspects of the research journey were ethical, or pono, and congruent with Hawaiian cultural values and beliefs. This is because Mā‘awe Pono holds all involved in the research process to the highest ethical standards. This concept of Mā‘awe Pono – for all involved in the research to walk in the footsteps of our Hawaiian ancestors and follow their teachings to the point where Hawaiian values and practices permeate all aspects of the research process – was the focus of the initial training provided by Dr. Kahakalau to the UH West O‘ahu research team and its community partners.

As Dr. Kahakalau explained to the ‘Imi Na‘auao team, “Mā‘awe Pono constitutes research for Hawaiians, by Hawaiians, using Hawaiian ways to advance things Ha-

waiian and to protect and perpetuate Hawaiian assets and resources, including Hawaiian land, culture, and language.” At the same time, while the research is clearly Hawaiian-focused, Dr. Kahakalau emphasized that the outcomes of such research are anticipated to benefit all of Hawai‘i. Hence the motto of Kū-A-Kanaka, which states, “When Hawaiians thrive, everyone benefits!”

Dr. Kahakalau further expounded that as a Hawaiian research methodology, Mā‘awe Pono is aligned with the philosophy of kū-a-kanaka, which can be translated as “to stand as a Hawaiian,” or “to be Hawaiian.” This means that the research is reflective of and aligned with the actions, attitudes, and lifestyles of those who identify as Hawaiian and purposefully, actively, and openly perpetuate the traditions and values of our Hawaiian ancestors in this modern age. While this population is quite diverse, basic tenets shared include a reciprocal relationship with the environment, participation in Hawaiian arts and sports, speaking or learning to speak the language, practicing Hawaiian protocol, eating from the land and the sea, perpetuating Hawaiian values and striving toward an independent Hawai‘i.

Dr. Kahakalau’s second training focused on an introduction into the philosophical and ethical foundations of Mā‘awe Pono, which are deeply rooted in a traditional Hawaiian worldview. This view is reflected in hundreds of Hawaiian proverbs (‘ōlelo no‘eau), which inform both the theoretical, as well as the practical aspects of Mā‘awe Pono. In fact, Mā‘awe Pono flows from and is rooted in the Hawaiian knowledge base of kū-a-kanaka, grounded in hundreds of Hawaiian ‘ōlelo no‘eau. These proverbs contain clear messages regarding the approach and the purpose of research — and of

life. Until the last generation of mānaleo, or native speakers of Hawaiian, passed away a few decades ago, the use of proverbs permeated Hawaiian conversations. Today researchers are fortunate to be able to consult *‘Ōlelo No‘eau—Hawaiian Proverbs and Poetical Sayings* (Pukui, 1983), an invaluable resource of almost three thousand Hawaiian proverbs, representing the collective wisdom of our ancestors, their dreams and aspirations, their values, standards, and non-negotiables. These proverbs, which are saturated with metaphorical language, convey our ancestral virtues and attitudes and constitute our behavioral guidelines, by telling us how to think, how to talk, and how to act. Mā‘awe Pono advocates that as twenty-first-century Hawaiian researchers, it is our responsibility, kuleana, to know our ancient proverbs and use them in daily conversations. We must also practice what the ‘ōlelo no‘eau teach and apply the insights provided by these proverbs to our daily lives. Mā‘awe Pono also promotes using our Hawaiian proverbs as concrete guides to navigate the research process. By integrating the very poetic, very direct and exceptionally witty and funny messages of our ancestors into our research, we assure that our methodology is and remains Hawaiian.

Dr. Kahakalau explained to the ‘Imi Na‘auao research team that using Hawaiian proverbs as guidelines for the various aspects of the research process, starts with our general attitude about learning and seeking knowledge, which is captured in the proverb, “He lawai‘a no ke kai pāpa‘u, he pōkole ke aho; he lawai‘a no ke kai hohonu, he loa ke aho. A fisherman of the shallow sea uses only a short line; a fisherman of the deep sea has a long line. A person whose knowledge is shallow does not have much, but he whose knowledge is great, does” (Pukui, 1983, 80). This proverb admonishes us to learn

all we can about our native ways and advance them into the future. It also asserts that as researchers we must become well acquainted with the phenomenon to be researched. In addition, the proverb reminds us that engaging in research increases our connection to the deep sea of knowledge of our ancestors.

Mā‘awe Pono’s commitment to take things to the highest level, grounded in the Hawaiian proverb, *Kūlia i ka nu‘u*, which means “strive to the summit,” has been a standard for Hawaiians for many generations. In fact, this quest for excellence has resulted in widely recognized Hawaiian expertise in areas as diverse as voyaging, horticulture, functional arts, *le‘ale‘a* (gaiety), extreme sports, green technology, natural resource management, and island sustainability. For 21st century Hawaiians, this ancient mandate to excel continues to fuel our work, including our research, as we strive to re-establish food sovereignty, economic sustainability, community-based resource stewardship, political independence, normalization of the Hawaiian language and Hawaiian cultural practices, and individual and collective happiness. This determination to implement positive change, no matter how large the problem, is in line with the teachings of our ancestors expressed in the proverb: “‘A‘ohe pu‘u ki‘eki‘e ke ho‘ā‘o ‘ia e pi‘i. No cliff is so tall that it cannot be scaled. No problem is too great when one tries hard to solve it” (Pukui, 1983, 25).

Mā‘awe Pono is also aligned with the Hawaiian philosophy of *makawalu*, which literally means eight eyes. The meaning of *makawalu* is explained in the proverb, “*Pe‘ape‘a maka walu*. Eight-eyed *Pe‘ape‘a*. One who is wide awake and very observant; one who is skilled. *Pe‘ape‘a* was the son of Kamehamehanui of Maui” (Pukui, 1983, 288). Mā‘awe Pono fosters this propensity

to be wide awake, very observant and skilled, and poised to see everything with eight eyes, or from multiple perspectives. This multidimensional perspective makes Mā'awe Pono exceptionally flexible and fluid and allows for the seamless ebb and flow from the past to the present to the future and back again. Another aspect of makawalu is the fact that it at once localizes and globalizes our knowledge base. While Mā'awe Pono has first and foremost a local, Hawai'i-based focus, it also provides a viable tool to investigate some of the unique issues that affect Hawaiians on the continent and abroad. This population continues to grow, as a result of an increasing number of Hawaiians suffering economic hardships in our homeland.

The third training focused on introducing the eight phases of Mā'awe Pono, which include **'Imi Na'auao**—Search for Wisdom, **Ho'oliuliu**—Preparation of Project, **Hailona**—Pilot Testing through Action Research Project, **Ho'olu'u**—Immersion, **Ho'omōhala**—Incubation, **Ha'iloa'a**—Articulation of Solution(s), **Hō'ike**—Demonstration of Knowledge and **Kūkulu Kumuhana**—Pooling of Strengths. However, since the 'Imi Na'auao research project was proposed before Dr. Kahakalau was asked to integrate Mā'awe Pono, these phases provided more of an informal guide for the researchers and the various groups of co-researchers, rather than directing the actual sequence of the research process. Dr. Kahakalau also explicated Mā'awe Pono's role as a distinctive twenty-first-century Indigenous research method incorporating a number of special qualities not necessarily unique or exclusively Indigenous, but collectively distinguishing Mā'awe Pono from other methodologies. These qualities include the relations and roles of the various participants in the research process, the purpose of the research, the methods employed, and the

impact made.

One distinguishing quality of Mā'awe Pono, emphasized by Dr. Kahakalau, concerned the intense involvement of the researcher in the research process, a feature shared with many other Indigenous methodologies. This involvement begins with the question, or the phenomenon, to be researched, which has to matter personally to the researcher. Data suggests that when the question is aligned with the researcher's personal 'i'ini, or desire, there is generally a passionate, disciplined commitment to remain with the question intensely and continuously until it is illuminated, or answered, regardless of the time involved. Mā'awe Pono asserts that as the researcher allows passion, compassion, and comprehension to mingle, the unity of intellect, emotion, and spirit, known as *lōkahi*, becomes transparent.

Explaining this intimate personal involvement of the researcher to the 'Imi Na'auao team was important because it is in such contrast to colonial, academic models, which support a separation between the researcher and the research project. In fact, positivist research methodologies purport that a rigorous scientific methodology necessitates a rational, neutral, and objective approach to the study of an object clearly positioned outside of the researcher. In other words, in such research, the researcher is expected to remain neutral and unbiased, removing his/her personal opinion from the research process. Dr. Kahakalau explained to the 'Imi Na'auao research team that for Hawaiians, this notion of neutrality is incomprehensible, because Hawaiians believe that we bring our *mana*, or personal power, to every situation and every task. This includes all of our strengths: physical, emotional, intellectual, and spiritual. It also includes our knowledge, skills, and ex-

periences; our hopes, dreams, and visions; as well as our ancestral endowments, like our mo'okū'auhau or genealogy, and the wisdom shared by our ancestors while we sleep. These cumulative experiences influence what we do as children, grandchildren, siblings, spouses, parents, grandparents, and friends. They also influence our behavior as researchers. In fact, it is this personal mana, or spiritual power, contributed by the researchers to the research process, that gives Mā'awe Pono the power to be a change agent, a beacon of hope for Hawaiian communities to solve our own problems.

According to Dr. Kahakalau, Mā'awe Pono asserts that the best way to gain expertise in any subject is to become intricately involved in the phenomenon. This participatory role of the researcher is grounded in the proverb, “Nānā ka maka, hana ka lima. Observe with the eyes; work with the hands. Just watching isn't enough. Pitch in and help” (Pukui, 1983, 247). This ancient statement validates that just observing from afar is of little value. Moreover, once the eyes observe, there is a responsibility to act by imitating what was observed or by using the information gained through observation to achieve a specific goal. Mā'awe Pono suggests that as the researcher personally encounters and interacts with the phenomenon, remaining open, receptive, and attuned to all facets of the experience, knowledge is discovered. This knowledge gradually continues to grow as a result of the researcher's direct experiences throughout the research process, explicated through multiple processes, senses, and sources. In her training, Dr. Kahakalau emphasized that since the researcher is expected to become an expert on the research topic, it is important that all who use Mā'awe Pono as a research methodology come with a solid background in things Hawaiian, including our language, cultural values, and

practices, or seek the assistance of those who do. In addition, researchers using Mā'awe Pono should know Hawaiian protocol, history, and prominent issues facing modern Hawaiians and our archipelago, or work in close collaboration with community partners who do. Since most of the UH West O'ahu researchers did not have a strong background in Hawaiian knowledge, partnering them with Hawaiian community co-researchers, as well as having Dr. Kahakalau as a Hawaiian expert on board, proved vital to the success of the 'Imi Na'auao research project.

Another distinguishing aspect of Mā'awe Pono, explicated by Dr. Kahakalau in her training, concerned the concept of time and the fact that Mā'awe Pono aligns with heuristic practices, which require the researcher to take the time to allow things to evolve, and revelations to formulate. In fact, one of the eight phases of Mā'awe Pono specifically allots time for indwelling and reflection, requiring the primary researcher to become receptive and to listen to her na'au (gut), regardless of how long this process will take. This inherent mana of patience, well known by our elders, is expressed in the saying, “E ho'omanawanui. Be patient” (Pukui & Elbert, 1971, 238). This popular saying reminds researchers to take time to reflect and allow ancestral 'ike (knowledge) and recent insight to interact and surface as new knowledge. Furthermore, Dr. Kahakalau explained that ideally rather than operating according to a calendar that focuses on the completion of deadlines, Mā'awe Pono advocates for an organic accomplishment of the task at hand, regardless of the length of time involved. In the case of the 'Imi Na'auao Research Project funded by the Kamehameha Schools which had a set deadline, Dr. Kahakalau advocated of a continuation of the research project, since it became quite clear, as the deadline

approached, that most of the research projects had just started to scratch the surface of their research.

The next aspect of the training focused on Mā‘awe Pono as a participatory method of research, and the importance of the active involvement of the Wai‘anae community concerned with the issue at hand. In fact, rather than postulating the UH West O‘ahu researchers as authority figures collecting, interpreting, and presenting the findings, Dr. Kahakalau explained how Mā‘awe Pono situated the various community individuals and groups as viable co-researchers and joint contributors and investigators. She explained that community collaborators were essential to leverage insider knowledge and assure that the research actually addressed their needs and found solutions that worked for them. This process also validated the experiences of the participants, assisted in the development of critical skills, and elevated community members to expert status. Moreover, according to Dr. Kahakalau, by becoming collaborators, rather than merely subjects, the co-researchers played a crucial role, not just in the gathering, but more importantly in the interpretation of the data.

One of the primary messages of this training was that in order to assure a successful collaboration it was essential for the UH West O‘ahu researchers to cultivate strong personal relationships with their community partners, and the various research participants. According to Dr. Kahakalau, such relations are essential, because, contrary to most Western research projects, where the researcher and participants have a time-limited relationship that expires when the project is complete, the ‘Imi Na‘auao research was designed to be ongoing and therefore necessitated long-term, familial relations between the researchers and the community

participants. Moreover, data shows that personal relations with the researchers motivate co-researchers to stay with the project and finish what was started. In addition, engaging collectively in worthwhile projects has shown to result not only in internal satisfaction, but also in collective efficacy. As was evident in the final presentations, there is no doubt that strong, caring, lasting relations were developed between the UH West O‘ahu researchers and the various community participants, which directly contributed to the success of the ‘Imi Na‘auao research project.

Dr. Kahakalau also explained how to use methods of data collection, analysis, and presentation that are culturally congruent. These culturally based methods align with Hawaiian values and have been used by our ancestors for thousands of years. They are valid simply because they have withstood the test of time. Interestingly, most of these Hawaiian methods also align with methods of data collection, analysis, and presentation used by Indigenous scholars elsewhere.

One important method used by the ‘Imi Na‘auao researchers to gather data involved observation, substantiated by the proverb, “I ka nānā nō a ‘ike. By observing one learns” (Pukui, 1983, 129). This proverb clearly validates observation as a successful Hawaiian method of collecting data used by our ancestors. “Nei ka honua, he ‘ōla‘i ia. When the earth trembles, it is an earthquake. We know what it is by what it does” (Pukui, 1983, 251). This is another proverb that legitimizes observation. In fact, the use of observation as a research method dates back thousands of years, when our ancestors in central Polynesia used their observations of the patterns of migratory birds, and other phenomena, to hypothesize that there were islands to the north. This theory

prompted them to set out on a journey over thousands of miles of open ocean until they discovered the Hawaiian archipelago about two thousand years ago.

Another aspect explicated by Dr. Kahakalau was the fact that the concept of intense, keen observation of a phenomenon or problem, often over long periods of time, and by multiple experts, is an essential component of Mā'awe Pono. One of our most well-known Hawaiian proverbs states, “Nānā ka maka, ho'olohe ka pepeiao, pa'a ka waha. Observe with the eyes; listen with the ears; shut the mouth. Thus one learns” (Pukui, 1983, 248). Our ancestors even created a proverb to describe a careful observer, calling him, “Ka manu ka'upu hālō 'ale o ka moana. The ka'upu, the bird that observes the ocean” (Pukui 1983, 160). This propensity of being keen observers of our surroundings is a trademark recognized easily among Hawaiians even today. This predisposition to continuously observe one's environment provided our kūpuna with a solid knowledge of their place, as is reflected in the following proverb, “'Ōlelo ke kupa o ka 'āina ua mālie, ua au koa'e. The natives of the land declare the weather is calm when the tropic bird travels afar” (Pukui, 1983, 273). This proverb substantiates the reliability of data gained by observation and confirms that the findings of those intricately involved in the research are valid, especially when patterns clearly replicate themselves.

Another culturally congruent aspect of Mā'awe Pono introduced by Dr. Kahakalau was the fact that the researchers and the various teams of co-researchers know, adhere to, and practice Hawaiian protocol at all times. Hawaiian protocol can be defined as doing the right thing, at the right time, for the right reason. From a Hawaiian perspective then, practicing Hawaiian proto-

col is part of our effort to create and maintain a state of pono, or righteousness. Practicing Hawaiian protocol in research is necessary to assure that the interactions between people, the environment, and the spiritual world are pono (appropriate) at all times. This means that before starting any task relating to the research, the researcher(s) must connect with the spiritual world. It also means that we continuously acknowledge our ancestors and the role of spiritual guides in the research process and ask for their blessings and support as we complete the various phases of the research.

Practicing Hawaiian protocol also implies that we follow Hawaiian rules of engagement when interacting with others, including asking permission to enter someone's house, removing our footwear when entering, bringing gifts, honi (kissing) the people involved in the research, and assuring that the heads of younger persons remain below the head of older people at all times. These rules also mandate that the researchers conduct appropriate entry and exit protocol when interacting with the natural world and that there is no damage to people or the environment as a direct, or indirect result of the research.

Dr. Kahakalau also stressed the importance of finding informants with a strong background in the issue to be solved. Seeking the input of those close to a situation or problem is a well-known Hawaiian practice, described in the following proverb: “'O ka uhiwai nō kā i 'ike i ka 'ino o ka wai. Only the mist knows the storm that caused the streams to swell—only those who are close to a person/situation know the problem(s)” (Pukui 1983, 266). However, rather than using formal structured interviews to gather data from these sources of knowledge, Mā'awe Pono relies primarily on more

informal, conversational methods, what Hawaiians call “talk story.” This generally involves informants and researchers sitting together and informally discussing the research question, or aspects of the research question, in a safe, familial environment. It is this atmosphere of aloha, or love and compassion, that allows the researchers as well as the informants to share their knowledge and expertise in an open, non-threatening way.

During the last part of her training, Dr. Kahakalau emphasized that Mā‘awe Pono carries with it a clear directive to initiate social impact and bring about visible, measurable progress toward a goal. This aim is supported by the Hawaiian proverb, “He ‘ike ‘ana ‘ia i ka pono. It is recognizing the right thing. One has seen the right thing to do and has done it” (Pukui, 1983, 98). This imperative to make social impact is confirmed by Maori researcher Linda Tuhiwai Smith who writes that research that involves Native people, as individuals or as communities, should set out to make a positive difference for the one researched (Smith, 1999, 131). Dr. Kahakalau also stressed that Mā‘awe Pono by design is collaborative, emphasizing community participation, and requiring participants to have some level of investment in the study. In addition, Dr. Kahakalau explained that Mā‘awe Pono has purposefully been designed to be action-oriented, and make a difference in Hawaiian communities and bring about meaningful social change at a local level. In fact, according to Dr. Kahakalau, “the values embedded in Mā‘awe Pono are expressed in a discourse of sensitivity, respect, self-empowerment, professionalism, collaboration and shared responsibility.” Centuries of practice confirm that collective commitment, fortitude, and courage allow us to tackle even gargantuan problems and achieve success

beyond our wildest dreams. This process of pooling our strengths with others to find solutions to the issues facing our land and our people is called kūkulu kumu-hana in Hawaiian. Mā‘awe Pono relies heavily on this concept of collaboration, articulated in multiple Hawaiian proverbs, including the following call to come together to tackle a given task: “E ala! E alu! E kuilima! Up! Together! Join hands!” (Pukui, 1983, 32) and “Pūpūkahe i holomua. Unite in order to progress” (Pukui, 1983, 302). Moreover, by incorporating collective inquiry and experimentation Mā‘awe Pono wants to assure that Native communities are active participants in charting their future.

While as stated earlier, not all eight phases of Mā‘awe Pono were strictly adhered to, the ‘Imi Na‘auao research process did include a Hō‘ike, which constitutes the seventh phase of Mā‘awe Pono. As part of this Hō‘ike, which took place at UH West O‘ahu on February 20, 2019, each research team presented their findings to an authentic audience. Hō‘ike is a traditional Hawaiian form of assessment that has been used by our ancestors since the beginning of time. This performance-based assessment can take numerous forms and involve multiple audiences. In our case, it consisted of audio-visual presentations of the processed and outcomes of the various research projects and proposed solution to the issues explored to an academic audience. While these presentations were well received and extremely inspiring, they did not meet the ultimate goal of Mā‘awe Pono since the affected community, the people of Wai‘anae, should always be the first and foremost audience to be informed about the research outcomes in a form that is understandable to that community.

At the same time, during this Hō‘ike, the need to pres-

ent this research to the Wai'anae community, as well as the imperative to continue this research and complete the final phase of Mā'awe Pono called Kūkulu Kumuhana, which means the pooling of strengths for a common purpose, was repeatedly emphasized. The Kūkulu Kumuhana phase focuses specifically on growing the bigger picture and creating a comprehensive depiction of the core or dominant themes that drive our quest for systemic change. During this phase, which is usually absent in Western research paradigms, the researchers actively seek approval and buy in from the community in question, to implement the solutions presented in the Hō'ike. Once this implementation takes place, the current research cycle has officially ended and a new research cycle is about to start, which is a typical phenomenon of participatory action research. Moreover, as each cycle is a scale-up from the previous action research project, there is ongoing growth as solutions are implemented, their impact measured, and new answers pursued. To date future funding by the Kamehameha Schools to fully complete the initial Mā'awe Pono research process, as well as to continue this research until food security on the Wai'anae Coast has become a reality, is pending. However, efforts are underway to procure additional funding that would allow the continuation of this very important research initiative.

Based on feedback from 'Imi Na'auao research project participants, the use of Mā'awe Pono, a distinct and relevant cultural research methodology grounded in Native Hawaiian and Indigenous epistemology, proved to be an important success factor in our collective effort to begin important research focusing on food sovereignty on the Wai'anae Coast. Because Mā'awe Pono is logical, empirical and systematic in nature, and de-

signed to establish facts and principles from experience and deduce theory from practice, which are both trademarks of Indigenous research, it was in fact an ideal methodology not only to examine food security on the Wai'anae Coast, but to establish its potential as a research methodology in the area of Systems Change that benefits the Native Hawaiian lāhui. This is because, Mā'awe Pono was specifically created to bring about the betterment of the Hawaiian people and our environment by exploring and solving problems and issues either specific to a Hawaiian community, or something affecting most, or even all, Hawaiians. Interestingly, most phenomena that matter to Hawaiians, often also have larger social, and perhaps universal, significance. Therefore, although the context was clearly localized, there is infinite potential for much larger, even global impact, in line with the motto: think globally, act locally. In other words, while Mā'awe Pono is clearly a kōkō (Hawaiian) methodology, designed by Hawaiians, for Hawaiians, using Hawaiian methods of data gathering and analysis, the foundational concepts that ground this methodology can also be useful, not just for other Indigenous peoples, but for a non-Indigenous, global audience.

In 1824, King Liholiho, son of Kamehameha the Great, visited England, where he was complemented by the people of London for his intelligence and level of education. To this, King Liholiho replied: "Na wai hō'i ka 'ole o ke akamai, he alahēle i ma'a i ka hele 'ia e o'u mau mākua. Who would not be wise on a path walked upon by my parents and ancestors?" (Pukui, 1983, 251). This statement which validates the incredible wisdom and knowledge of our Hawaiian ancestors is still as true today as it was then. In fact, as Indigenous researchers, it is our responsibility to honor the past with confidence

in our traditional ways and reliance on the teachings of our ancestors, as we take our rightful place as contributing members of the international community of researchers, on our terms.

For more information about Mā'awe Pono, Dr. Kū Kahakalau, or Kū-A-Kanaka visit www.kuakanaka.com or email ku@kuakanaka.com.

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'Āina Aloha, Ho'ola Lāhui: MA'O Youth Leadership Training (YLT) Restoring the Health & Well-Being of the Land & People

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Thomas Scheiding, PhD, Assistant Professor, Economics, UH West O'ahu

Ho'olale i ka 'ai a ka u'i.

Show what youth can do. Let the youth show us what they can do.

(Pukui, 1983, 1093)

Our project, 'Āina Aloha, Ho'ola Lāhui: Restoring the Health & Well-Being of the Land & People is a community project that is contextualized within the larger work of Hui 'Imi Na'auao: Hawaiian Knowing and Wellbeing, a study initiated and administered by the Institute For Engaged Scholarship (IES) at the University of Hawai'i West O'ahu (UH West O'ahu). IES was established to serve "the public good through active collaboration with community partners to address and impact key issues in our communities."¹ The Hui 'Imi Na'auao Co-Principal Investigators are UH West O'ahu staff and faculty members Drs. Manulani Aluli Meyer, Melissa Saul and Christy Mello with the consultation and expertise of Dr. Kū Kahakalau of Kū-A-Kanaka. The Hui 'Imi Na'auao collaborative research project consisted of partnering UH West O'ahu faculty with projects and organizations in the community including MA'O Organic Farms, one of six of the larger project's studies. This particular study consisted of myself, Kukui Maunakea-Forth as the Executive Director of MA'O, and Dr. Thomas Scheiding, Assistant Professor of Economics at UH West O'ahu. As with the other research projects, supporting the revitalization of 'āina/lāhui—by identifying methods and ideas to improve Native Hawaiian well-being via all facets of food security and aloha 'āina practices—provided the foundation of our work.

All of the Hui 'Imi Na'auao partners co-designed and collaborated their research projects along one or more of the following questions:

1. What is the intergenerational impact of economic self-sufficiency for Native Hawaiians and the next generation?
2. What is the relationship between economic development and Native Hawaiian well-being?
3. How do social conditions contribute or inhibit a thriving Native Hawaiian lāhui?
4. What is the impact of cultural restoration and revitalization on Native Hawaiian health and wellness?

With ongoing support from our Hui 'Imi Na'auao Co-Principal Investigators and the entire Hui 'Imi Na'auao co-researcher team, our research project integrated question one on the intergenerational impact of economic self-sufficiency and question three on social conditions and a thriving lāhui into its design. Research was centered around activities at MA'O Organic Farms, which is a native Hawaiian social enterprise based in Lualualei Valley in the Wai'anae moku of Hawai'i.² In particular, we focused on the activities of the MA'O Youth Leadership Training (YLT) program, which immerses youth in the values and practice of aloha 'āina (love for the land) and 'āina aloha (land loves us). We

¹ Institute For Engaged Scholarship, UH West O'ahu, <https://westoahu.hawaii.edu/engagedscholarship/>

² See detailed description following report.

examined and sought to understand how these youth experiences contribute to health and wellness through revitalization of 'āina (land) and lāhui (people). The purpose of our research study was to identify the ways in which the youth in the MA'O Youth Leadership Training program perpetuate aloha 'āina while increasing community food security. With the use of surveys and a focus group, we documented the specific ways in which this program simultaneously perpetuates cultural tra-

ditions and 'āina based practices while cultivating, producing and distributing pono, healthy, safe, and nutritious food for our communities. Capturing and quantifying these experiences at the farm has contributed to our systematization of the regular collection of data in the future for improving our program, increasing the number of YLT college graduates, and obtaining funding support.

MA'O Organic Farms: A Context of Aloha 'Āina, 'Āina Aloha



The MA'O Community Food Security Initiative was developed to create a sustainable and resilient community food system to fight hunger, improve nutrition, strengthen local organic agriculture, and empower local families to move towards self-sufficiency. MA'O Organic Farms is a culturally-rooted, community-based organic farming social enterprise that merges comprehensive leadership training programs for local at-risk youth with real-world entrepreneurship. Its mission is to create rich, rooted, and relevant educational and entrepreneurial opportunities for youth (and their families) that restores Wai'anae (and its surrounding communities) as a self-determining and self-sufficient region that honors native Hawaiian values and traditions. The mission and aligned activities also entail producing

adequate amounts of healthy food for the people, creating pono (just) social and economic opportunity, and stewarding 'āina (land), wai (water) and other natural resources sustainably.

The experience for many youth and families on the Wai'anae coast is one of intergenerational poverty. This is so far from the ancestral legacy of native Hawaiians, of kanaka maoli, living self-sufficiently within their ahupua'a, their ecosystem for 2,000 years prior to western contact. Economic self-sufficiency in pre-contact Wai'anae can be understood as the 'ohana acting as the GDP, the gross domestic product, for the Hawaiian people; by living in concert within their watersheds, the ecosystem could provide all of the needs for the entire

family. During the period of ali'i (chiefly) rule, there were structures in place to cultivate, manage, and distribute resources for the common good. If the land, water and other natural resources were not healthy and the people not fit, fed and prosperous then the ali'i was not a good ruler and was held accountable. The 'ohana (families) within a community is the social and economic foundation of a community. If those families are financially poor, negative social outcomes are likely, and thus, the social and economic mobility is hampered.

MA'O Organic Farms was established with a recognition that the region's land and youth are important assets. Consequently, educational and entrepreneurial opportunities were created around these assets to address the root causes of the region's cultural, social, economic, and environmental poverty. The Youth Leadership Training (YLT) program consists of recent high school graduates, whom in conjunction with the staff at MA'O Organic Farms, develop a comprehensive educational 'auwai or pathway. These interns are also a part of a cohort system where they are empowered to work collaboratively toward concurrent college and career success. They engage in the daily operations of the social enterprise while attending college full time, pursuing their Baccalaureate degree at either the University of Hawai'i Mānoa or UH West O'ahu, or their Associate degree at Leeward Community College.

After more than thirteen years of running the program, MA'O has assisted over 350 youth in attending college with over 40 percent of them graduating with degrees with little to no debt. The youth interns have contributed to producing 4,000 pounds of organic, sustainably raised fruits and vegetables at approximately \$13,000 in

sales per week. Beyond these measurements of success, there has been anecdotal evidence that YLT program participants are strengthened by becoming closer to their culture, community, and the 'āina.

Therefore, our specific study, within the larger 'Imi Na'auao collective, measured the extent to which the youth themselves, and by extension their family and social networks, are accruing greater health, now and intergenerationally through their involvement in the YLT program. Health being physical (human capital), cultural-social-emotional (social capital), and economic mobility-security (financial capital).

Our project began with the hypothesis that an 'āina-based organization like MA'O Organic Farms can engage participants in such a way that native Hawaiian well-being is increased and social capital and networks are strengthened through the promotion, production, and selling of culturally relevant crops and plants for food, medicinal, and other traditional uses. With this general hypothesis, the study addressed two of the larger project's research questions: "What is the intergenerational impact of economic self-sufficiency for Native Hawaiians and the next generation?" and "What is the impact of cultural restoration and revitalization on Native Hawaiian health and wellness?"

Research Study Methodology & Framework: Mā'awe Pono

'Imi Na'auao, as an interdisciplinary hui or team of UH West O'ahu faculty and community experts guided by the tenets of Mā'awe Pono, gave opportunity to create culturally grounded and communally-rooted co-research teams that were deployed around the research questions. In our MA'O research proposal, we intention-

³ Kahakalau, Kū, 2018. Mā'awe Pono Treading on the Trail of Honor and Responsibility. *In The Past before Us: Mo'okū'auhau as Methodology*, edited by Nālani Wilson-Hokowhitu. University of Hawai'i Press.

ally structured the study in a way that honored the specificity, the mo'okū'auhau and mo'olelo of MA'O, of a community-led, 'āina based organization. MA'O is a grassroots, mission-driven initiative that was created by the community and for the community to address the cultural, social, educational, economic, and/or environmental needs and concerns of the Wai'anae moku.

Mā'awe Pono is an indigenous research and methodology framework developed and shared by Dr. Kū Kahakalau of Kū-A-Kanaka, a native Hawaiian social enterprise which believes in “education for Hawaiians, by Hawaiians, using Hawaiian ways of teaching, learning and assessment.” Instructed and guided by the Mā'awe Pono philosophy and research methodology through seminars, workshops and personal consultations with Dr. Kū Kahakalau, we found Mā'awe Pono to be an appropriate framework from which we could collaboratively design, implement, analyze and then, articulate the research itself.

This report reflects our understanding and practice of Mā'awe Pono as we engaged in this endeavor of 'imi na'auao. In our quest for wisdom, we applied Mā'awe Pono methodology phases including ho'oliuliu (preparation), hailona (pilot testing), ho'olu'u (immersion) and ho'omohala (incubation) to our process. The research process itself utilized tools, practices and resources that are mea ma'a mau, that are familiar, to both the academy as well as to our community such as 'ohana talk story (creating focus groups to share their mana'o), 'imi i ke kumu (researching for data), and nānā i ke kumu (observing the source through surveys). In the respectful sharing and exchange of ideas, we have been able to ha'iloa'a, to create and nurture even greater collective-connective solutions that will increase the

cultural, social, economic, environmental, emotional, and spiritual health and well-being of the 'āina (that which nourishes) and the lāhui (our people). Finally, in the ho'ike and kūkulu kumuhana phases of Mā'awe Pono, we are in the process of reflecting, demonstrating and pooling the collective 'ike and wisdom gained so that we can be of even greater service to the future health and well being of current and future generations.

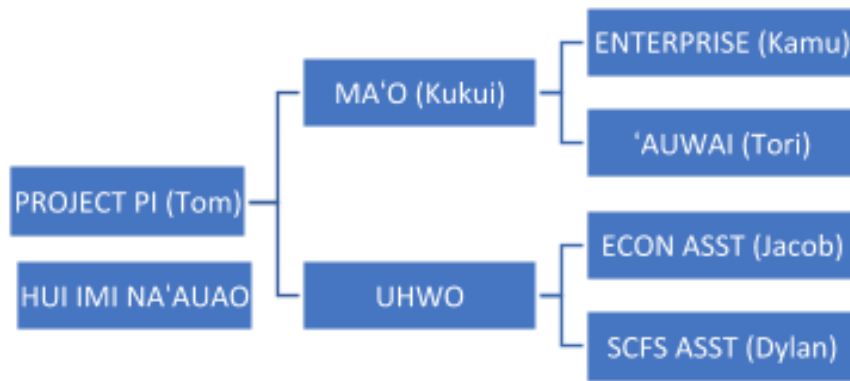
MA'O Research Study: Ho'olu'u, Hailona, Ha'iloa'a, and Hō'ike, and Ho'omohala

We identified our research team consisting of the UH West O'ahu engaged scholars team, MA'O staff and youth, and other community members. We worked together to strengthen our pilina (working collaboration) with one another through formal and informal meetings, talk story, and noho or community visitations.

To document the experiences of youth participating in the YLT program, we hosted one focus group of seven YLT participants and distributed a survey to 42 of the current YLT participants.

Ho'olu'u - To Immerse, Immersion in Research and Hailona - To Test, Conducting the Action of the Research Project:

The first major challenge of our research project was the development of the survey tool. After a series of conversations based on previous collected data (completed worksheets, college transcripts and grade reports, financial data, and the email addresses of the alumni), there was a search for existing surveys that could be used to collect information about the ways in which MA'O builds a connection between the 'ōpio, their families, the 'āina (land), and their culture. We reviewed survey materials created by the Kamehameha Schools Strategic Planning and Imple-



mentation Group, used for assessing school programs. We initially began to customize this survey to adapt it to our study. However, we soon realized that this particular survey tool did not adequately measure native Hawaiian culture for capturing the experiences and needs of MA'O in terms of how it is expressed in the lives of our interns through values and how they are put into practice. We ultimately developed questions to measure the ways in which the MA'O Organic Farms social enterprise structure supports youth interns with increasing their agency for contributing to their own success as they matriculate along this culturally and communally relevant educational 'auwai or pathway. Within the 'auwai, interns are being empowered to persist and attain college and career success, leading to many positive impacts in their life and the lives of their friends, family and the community.

An in-depth conversation among our team about the survey revealed there were some questions that could be used (demographic and financial), though other questions were too specific or inappropriate. We decided to design an entirely new survey in order to: 1) document participants' characteristics and needs; 2) determine the ways in which the internship experience has changed their personal goals and relationships; and 3)

contribute to the larger project's profile of the Wai'anae region for data on demographics, income, economic opportunity and obstacles, health status, and food insecurity. Most importantly, we needed a survey designed in a way that was reflective of what youth were experiencing in the program.

In order to design more relevant survey questions, we hosted one focus group of seven current youth interns which was aligned to our existing practice of 'ohana dialogue, in which an issue/topic is identified for mana'o (input, discussion) in a family-style talk story space convened for those impacted. The MA'O leadership team, including the MA'O Social Enterprise Director (Kamuela Enos) and Youth Empowerment Specialist (Tori-Lyn Smith), developed five appropriate focus group questions regarding why interns participate in the program, their experience, how it has impacted their lives, and future plans. An undergraduate assistant, Jacob Wright; assisted Dr. Scheiding with facilitating the focus group and later collecting surveys and inputting data. Qualtrics was used to analyze survey data, and transcripts of the focus groups were coded for variables and their attributes within larger patterns.

The YLT interns shared astute, deeply reflective, dis-

cerning and critical responses during their focus group session which was extremely helpful in informing the survey tool. We asked those same youth participants to complete a draft survey that we had created but was now fortified with the mana'ō of the youth. The survey ultimately developed into a tool of thirty questions distributed to 42 of the current YLT participants. It measured: 1) demographic information; 2) youth leadership and empowerment; 3) enterprise and entrepreneurship; 4) connection to family and community; 5) 'aina and cultural sustainability; and 6) the value of YLT, now and in the future.

Ha'iloa'a - To Answer A Problem, Articulation of a

Solution: Findings demonstrated what we already knew anecdotally, the fact that MA'O Organic Farms has developed a comprehensive edu-preneurial 'auwai (a seamless pathway for youth to navigate a college to career pathway) in which youth from the community are on-boarded within a cohort system for two years are empowered for college and career success, leading to multiple positive impacts in their life and the lives of their friends, family, and the community. We developed research to capture data to analyze the particularities of this process to apply towards future purposes such as program improvements, increased college graduation rates, and future funding opportunities.

Social Capital. The study demonstrated that youth accrue social capital (non-financial resources) as participants of the YLT. They develop relationships in functioning social groups (like their peers) and strengthen interpersonal relationships. They also come to share a sense of identity to place, an understanding of our mission, as well as values and norms such as trust, cooperation, and reciprocity.

"(...) it also kind of opens me up more, because other people out there try to make me see that it's okay to try and trust again. Because when I was in high school I took a break for my son and a lot of my friends kind of left me and so I ended up losing a lot of people. So when I came here I kind of wasn't very trusting with people. I wouldn't really talk too much. But then people around me started to make me feel like I should try to trust again. It helped me understand the presence of the community and understanding the presence of relationships with people like friendships. And it helped me understand the importance of connecting back to the 'aina, and how it can really change your perspective on your life in general."

Social capital includes cultural resources available through relationships of people with the 'āina as well as relationships of people with institutions.

Social capital is accrued by the individual intern, though the social network also benefits and expands out to the intern's family, peer group/cohort, mentors, neighborhoods, and their community. The demonstration of social capital carries weight and is influential in that it is carried by the person that travels to/from/between school, work, home, and in the community seamlessly. The youth themselves are that agent of change.

By far, it seems that 'ohana or family social capital is the most influential factor in shaping a young person's path of economic mobility. When 'ohana influence interacts with and then is reinforced by other factors that influence mobility, such as educational opportunities, social capacity is impacted. When young people enter the YLT, they already come with a set of knowledge and

skills that is a result of their family relationships.

For any youth that enters our program, the first source of social capital is the family. The quality of the relationships between parents and their children, the shared values and attitudes of family members, and the non-material types of investment that parents make in their children are examples of social capital within the family. Importantly, family social capital often enables a child to access other resources that are available within and outside the family.

After over thirteen years of running the YLT program, we know that nearly 90 percent of incoming YLT students are the first in their families to go to college. From the demographic information/data obtained in the survey, in addition to knowing that parent post-secondary attainment is low, we also see that the household incomes are low. If an intern comes from a single-parent family, there are a number of important outcomes associated with their upward economic mobility later in life. These outcomes include academic achievement, whether secondary and postsecondary educational attainment, employment, and occupational status.

Human Capital. Similar to social capital, human capital operates intergenerationally as well and includes both education and health characteristics. Human health encompasses the physical, mental, emotional, and spiritual capacity of the YLT interns (and the cohort of YLT interns). It includes the resource of knowledge, habits, social and personality attributes, including creativity, that provides a resource in the ability for YLT to produce that economic value. MA'O's premise is that the YLT and the 'auwai programming is the bridge that connects those humans to 'āina as part of a broader

cultural revitalization movement here in Wai'ānae (and beyond). The data so far demonstrates how 'āina-based practices, environmental stewardship, and access to local food are essential for restoring native Hawaiian health and wellness.

Although the survey focused on the individual intern's perceptions of health and well-being, it factored in youth physical health data and responses to health and well-being in which there is a relationship with both financial and social capital. Social capital protective factors overlap with health as an expression of human capital — the 'auwai can play a role in disrupting generational poverty.

In particular, parental education strongly affects the likelihood their children will graduate from college. The great key to today's economy is a college degree, and youth are more likely to have a college degree if their parents graduated from college. As discussed below, education's significant influence on earnings is likely driving most of the connection between parents' educational attainment and their children's educational attainment.

In the survey, the data pointed out that 60 percent of our interns/students are obese and 20 percent are overweight with only 20 percent at a normal weight. Individual intern's general health status, access to health insurance, health justice and equity is important, particularly for the interns who are of native Hawaiian descent. Preventable diseases like diabetes is prevalent and have become chronic issues amongst the Wai'ānae community, almost to epidemic proportions. With the addition of a separate but related health study taking place at MA'O, entitled Maui Ola, we are seeing first-

hand that youth in our program are encountering similar trans-generational, negative health effects.

Obesity has been shown to lead to a series of health problems, primarily diabetes and hypertension, which may influence earnings by decreasing workplace productivity. Obesity in childhood can lead to lower academic performance, which may intensify the impact of poor health on economic (and thus social) mobility. The continued increase in the prevalence of obesity, particularly among our keiki, our youth, is expected to result in significantly higher health expenditures, which could offset any wage gains, or increased mortality, which effectively reduces lifetime earnings.

In terms of health outcomes, physical, mental and emotional health is both influenced and affected by economic mobility. Poor health affects/impacts youth attitudes and agency toward health. There is a pre-genetic endowment from parent to child, from generation to generation causing long term social-economic determinants of youth health and well-being. And, as MA'O knows so well, social and cultural influences play a major role in whether or not we will be able to change that generational, genetic predisposition of youth, families and lāhui toward greater health and well-being.

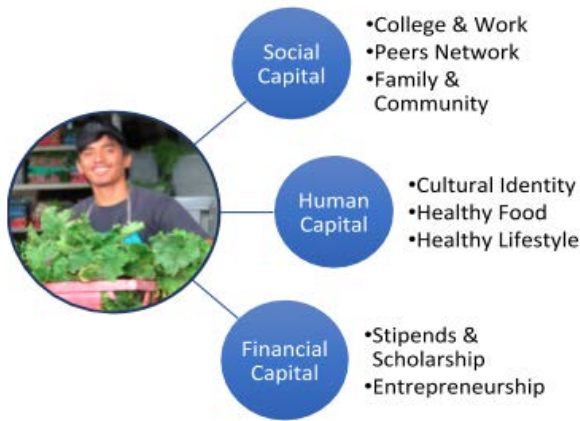
“Yeah I say so for me means a lot to my family because health wise I wasn't healthy and neither was my family. Like this past year, I do change that because my mom caught cancer and my dad has diabetes. For that I had to use MA'O as a way to help them eat healthy. Like my dad I usually make kale smoothies like this past year he lost over like 40 pounds. I was happy to put him on a healthy path make him live longer especially for my mom. She does a lot for the house and it was just her diet that's what the doctor

was saying that because the cancer and I had to cook and feed her and all that and I tried. I like to use the soursop roots over there because if you smash the insides it helps with get rid of cancer and that's what we use as medicine. I used healthier stuff more ingredients from MA'O since being in the program.”

Financial Capital. Financial capital is any economic resource measured in terms of financial value and is utilized by the Wai'anae Community Re-Development Corporation (WCRC) and MA'O Organic Farms to operate its business activity (related within its social educational mission) of producing certified organic fruits and vegetables and the provision of various edu-preneurial and ecosystem services related to agriculture and farming.

While it was previously known only anecdotally, research identified specific ways in which the youth benefit from social, financial and human capital as a result of their participation and how aspects of these type of capital are related. The survey, in particular, revealed that nearly all (85 percent) of YLT participants gained more knowledge about agriculture (how to market and sell products, the production process, and the operation of agricultural equipment), nearly all (80 percent) of YLT participants enhanced their ability to apply knowledge and skills, nearly all (91 percent) of YLT participants increased their critical thinking, problem solving, and teamwork skills, and nearly all (94 percent) of YLT participants captured an enhanced ability to assess risk, manage results, and learn from outcomes. And besides changing the person's knowledge and skills, the survey revealed that the vast majority of YLT participants (82 percent) increased their knowledge and connection to the 'āina. Additionally, nearly as

many YLT participants (76 percent) increased their awareness, knowledge, and understanding of Hawaiian culture. These survey results represent the beginning of a data collection process that MA'O Organic Farms will undertake for subsequent cohorts of participants and allow the organization to track the impact the organization is having.



Hō'ike- To Make Known, Display, Tell, Exhibit, Inform, Report, Explain: On February 20, Hui 'Imi Na'auao hosted a presentation of the community and individual projects at the University of Hawai'i West O'ahu in which we shared the above findings.

Ho'omohala- To Evolve, Unfold and Develop: At the conclusion of the hō'ike, the presentation to the beloved community, our project team identified next steps. We intend to engage in a deeper analysis of how the youth are impacted by the YLT program by restructuring some of the questions, adding a financial profile for each participant, and deploying pre and post surveys to determine the degree of change and when it occurred as a result of the program. We also intend to deploy the survey to both earlier cohorts and alumni to track current and longitudinal careers, family structure,

financial security, and connection to 'Āina and Wai.

Concluding Remarks

Kūkulu Kumuhana- Pooling of Strengths: 'Āina-based land practices are imperative for supporting healthy land ('āina) and people (lāhui) in order to bring about long-term systemic change via food sovereignty, which ultimately reduces the impact of climate change and provides income and cultural restoration opportunities for individuals, families and the community-at-large. The study's analysis provided several key insights into how and why the YLT program is such an important intervention for youth to be successful and thrive despite the socio-economic disparities so often experienced by Wai'anae youth and their families.

Immersed in the YLT program, the study shows that the youth are catalysts to breaking intergenerational social and economic poverty through the pursuit of college degrees and production of organic produce in an emerging green agricultural sector. Together with the social and human capital they are accruing, they are demonstrating the desire and ability to also be financially capable and self-sufficient. The utilization and maximization of their stipends and tuition scholarship as investments into their financial future is also an outcome of their participation in the YLT. Future surveys and studies will assist us in learning more about their financial attitudes and behaviors.

As an organization, MA'O is demonstrating at a community level how the social enterprise model can build wealth locally by investing in human capital that includes locally generated employment for regional youth and community members, investment in green collar, community owned economic development ven-

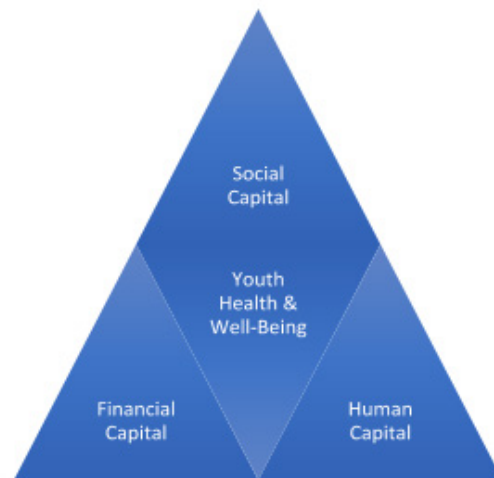
tures like organic farming, as well as through financial literacy and education opportunities. Directly, and indirectly, investment in human capital ultimately benefits the community as a whole, for which economic mobility and advancement must drastically improve if we are to disrupt the generational poverty so embedded in Wai'anae.

MA'O Organic Farms investments in local ownership of land as well as homes and businesses offers our community real opportunity to enrich the human, social, and economic fabric of the community, particularly in communities where native Hawaiians are significantly impacted. To overcome the income gap is to address the racial inequity legacy as a colonized peoples. Thus, educational attainment, particularly a post-secondary degree coupled with good old fashioned entrepreneurship can have huge consequence for youth on the Wai'anae coast.

By addressing the larger Hui 'Imi Na'auao research questions, “What is the intergenerational impact of economic self-sufficiency for native Hawaiians and the next generation?” and “What is the impact of cultural restoration and revitalization on native Hawaiian health and wellness?”, we began deepening our understanding of how MA'O can contribute to the larger aspirations of economic self-sufficiency, cultural restoration, and revitalization of our health and well-being. This can be done despite the grim reality and context of continued dispossession, colonization and oppression of native Hawaiian foundations, frameworks, and processes.

As a result of this project, our vision of Kukulū Kumuhana—the pooling of strengths, inclusive of our physical, cultural, intellectual, emotional, and spiritual strengths

—positions the health and well-being of our youth (and our 'ohana, our community) at the center of our work and can only be achievable by our pono investment in just, sustainable and resilient social, human, and financial capacity building.



As illustrated in the above graphic, social capital, human capital and financial capital are essential for the ability of youth to escape generational poverty. Social mobility is closely tied to economic mobility for the YLT interns and their 'ohana (families). This study has really helped us to strengthen the articulation and matriculation of YLT through each of the programs. In order for us to measure how much an intern's experience strengthens these metrics over time, we will have to administer these tools on a consistent basis throughout the two year period of the program and beyond. The development of the survey device represents an output of this project that will provide the seeds for lasting change at MA'O Organic Farms. The results from surveys distributed to subsequent YLT cohorts can inform the priorities of the organization, the nature of the outreach the farm has with participants and the surrounding community, and the building of relationships with MA'O Organic

Farms, local organizations, and educational institutions. So far, we have been able to integrate the focus group and survey tool seamlessly into our program. However, we still have to work with the University and Dr. Scheiding to sustain our partnership so that we can have the analytical capability as well as the policy capacity so that we are able to create systemic changes through this project.

By documenting how the YLT program strengthens the potential of a YLT intern to climb the socio-economic ladder over a generation, we can relate this experience to more sustainable funding of programs and to educate policy makers to assist marginalized communities like Wai'anae. Going forward, we want to capture longitudinal information of our interns/graduates as their income changes over his or her lifetime. In other words, we want to measure their economic mobility by measuring their past, current, and future income compared with earlier points in his or her life. It is our hope that the aggregate information and its analysis will yield important recommendations and actions for systemic impact. Finally, ecosystem level changes will be needed if we are to invest in these culturally rooted and 'āina-based interventions to building the health and well-being of youth, family and community. Inspired by our work in Hui 'Imi Na'auao, a draft document of policy considerations supporting the emergence of a Sustainable Community Food System, is included in this summary of our research study experience.

We believe that 'Āina Aloha and Hō'ola Lāhui are inextricably linked, and when we immerse our youth in sustainable, organic food production that promotes ecological diversity, balance and resilience, there is a trans-generational transmission of knowledge and

practice of how to produce food in a pono, just and sustainable manner. This, in turn, contributes to sustainable careers and livelihoods and promotes equity, justice, health and well-being for our 'āina and people.

MA'O Organic Farms as a Social Enterprise-A Platform and Vehicle for Financial Sustainability.

MA'O is an acronym meaning Mala (garden), 'Ai (food) 'Opio (youth), or youth food garden. Embedded within the federally recognized, nonprofit parent, the Wai'anae Community Re-Development Corporation (WCRC), MA'O leverages the rich, food producing traditions of the region, concurrently with the development of youth who were not achieving their academic potential. Today, MA'O Organic Farms is a thriving 280-acre certified organic farm and currently employs seven full-time farmers, four of which are Apprentice Co-Managers, as well as thirty-eight part-time farming internships through our YLT. Managed by the youth, the main farm produces two out of the three tons of fresh, local organic vegetables and fruits with a market value value of \$13,000 weekly. These farm products are sold to Hawai'i's top restaurants, natural food stores, at two farmer's markets, and through CSA subscription boxes.

In the eighteen years since its founding, MA'O Organic Farms has become a local and national model of a comprehensive effort to revive community food systems from an urban-rural perspective. A community food system is composed of a production-oriented enterprise that creates living-wage jobs and careers in sustainable agriculture, provides locally grown organic produce to the community, and serves as a tool to address youth retention and matriculation in higher education. The focus on the business aspects of the farm enterprise reinforces the traditional knowledge and practice of our agrarian past and makes it relevant and applicable in a 21st century context. At MA'O Organic Farm's initial twenty-three acre site at Pūhāwai, we have literally restored the culture of agriculture and revived a broken lineage between farming knowledge and practice. Overall, MA'O Organic Farms has co-produced food system opportunities in community institutions, the for profit sector and the sector as a whole, locally and nationally.

Based on a ten-year strategic plan called Mā'ona, MA'O Organic Farms recently acquired twenty-one acres and 236-acres of additional land for farming in the valley of Lualualei. MA'O Farms at Palikea will be the site of expanded farming and educational programming as well as a potential ag cluster housing project. In terms of farm sales, we are projecting to exponentially increase our production output by a factor of ten by the year 2027 and create organizational sustainability as 90 percent of the farm's revenue is directed to support the farm's operations. This important financial goal critically depends on the 'auwai, specifically the number of YLT internships to increase by a factor of four. Together with our edu-preneurial partners at Leeward Community College, the UH at Mānoa, UH West O'ahu, and Kamehameha Schools - Wai'anae Region, regional high schools, and other nonprofit community organizations, MA'O is leading a community-wide effort aimed at expanding upon the success of MA'O's farm-to-college program to address systemic challenges to our food security, environmental and ecological challenges to our sustainability as well as the retention and matriculation of youth through our post-secondary education pathway and into sustainable careers in their community. We are currently on a fifty-million dollar campaign for this ten-year buildout and MA'O Organic Farms will leverage its stellar reputation, its proven financial model, its successful impacts for pono food and empowered leaders to take the social enterprise to the next level.

MA'O Mā'ona 10-Year Strategic Plan Presentation

MA'O MĀ'ONA

CULTIVATING A PEOPLE AND PLACE OF PLENTY



Mā'ona. Satisfied after eating, full, satisfying; to have eaten, to eat one's fill

He lau mā'ona. a leaf that gives plenty to eat

Plenty. Lawa pono, nui, lako



INTRODUCTION

THE WORK AHEAD

MA'O Organic Farms was founded in 2001 on the premise that educated, culturally-rooted youth leaders are foundational to revitalizing our beloved community. We chose to ground the cultivation of our youth and land in the context of abundance and plenty by establishing a native-Hawaiian social enterprise in Wai'anae that includes a college degree seeking program and a thriving organic farm enterprise.

Over the past 17 years, we have seen land and youth flourish as we intentionally shifted to define our community not by our deficits, but by our capacity.

Today, we have a tremendous opportunity to scale the farm and our program ten-fold. Equipped with a robust and aligned strategic plan, we now seek catalytic partners to work shoulder-to-shoulder in the restoration of our land and people.

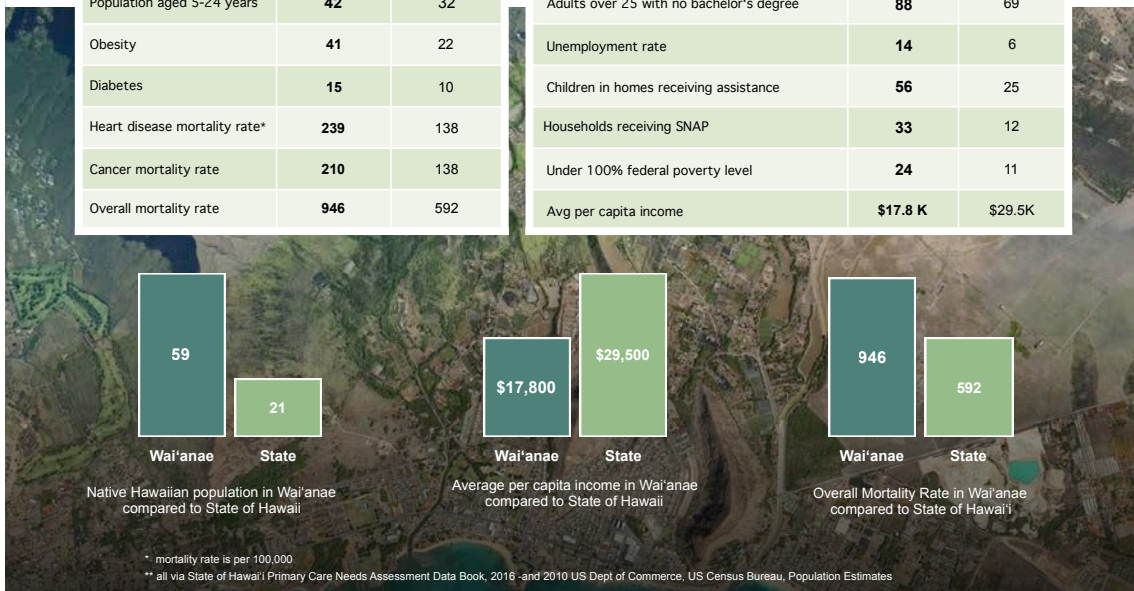
WAI'ANAЕ DEMOGRAPHIC DISPARITIES

REGIONAL & POPULATION HEALTH DISPARITIES

IN PERCENT %	WAI'ANAЕ	STATE
Native Hawaiian population	59	21
Population aged 5-24 years	42	32
Obesity	41	22
Diabetes	15	10
Heart disease mortality rate*	239	138
Cancer mortality rate	210	138
Overall mortality rate	946	592

SOCIAL-ECONOMIC & EDUCATIONAL DISPARITIES

IN PERCENT %	WAI'ANAЕ	STATE
Adults with no high school diploma	16	11
Adults over 25 with no bachelor's degree	88	69
Unemployment rate	14	6
Children in homes receiving assistance	56	25
Households receiving SNAP	33	12
Under 100% federal poverty level	24	11
Avg per capita income	\$17.8 K	\$29.5K



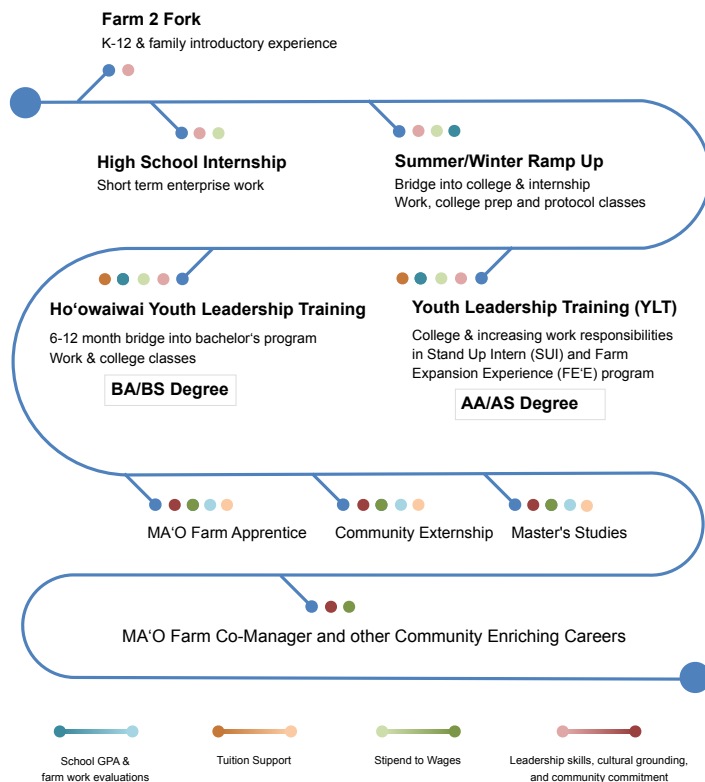
MA'O EDUCATIONAL 'AUWAI

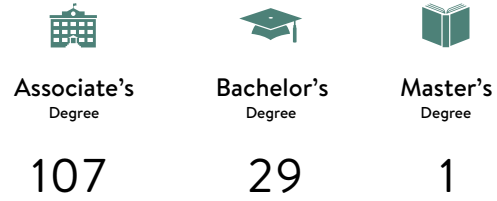
An 'auwai is literally an open channel of water that connects a river to a taro patch or fishpond.

As the water flows through these food systems it gains nutrients and ends up being a critical component to the biological health of the estuary.

We use the term to show that an intern can gain knowledge (and nutrients) by navigating through the education/work system, and can positively impact themselves, their families, and their entire community.

At MA'O the 'auwai includes all youth engaged in work and learning on the farm in a given year.





Degrees attained by MA'O interns during and after their participation in the Youth Leadership Training (YLT) program.

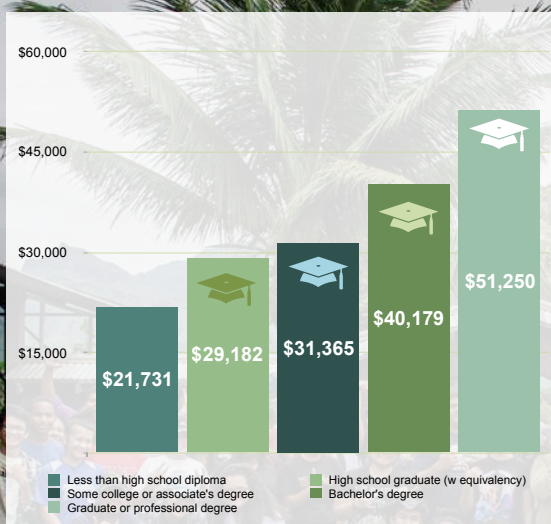
MA'O INTERN COLLEGE DEGREE ATTAINMENT

YOUTH OUTCOMES

38% of MA'O interns have achieved their Associate's degree, in an average of 5.3 semesters, while 10% of MA'O interns have gone on to achieve their Bachelor's degree.

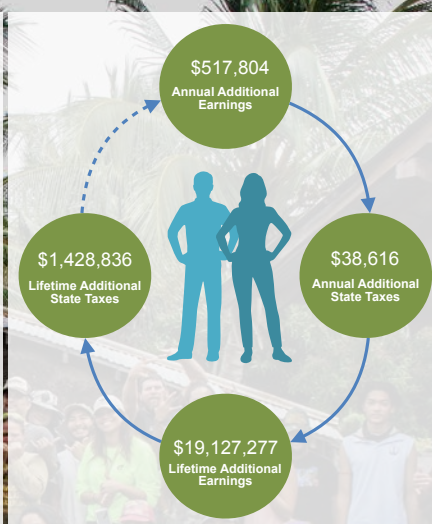
LEEWARD POPULATION OVER 25

ACTUAL MEDIAN EARNINGS BY EDUCATIONAL ATTAINMENT

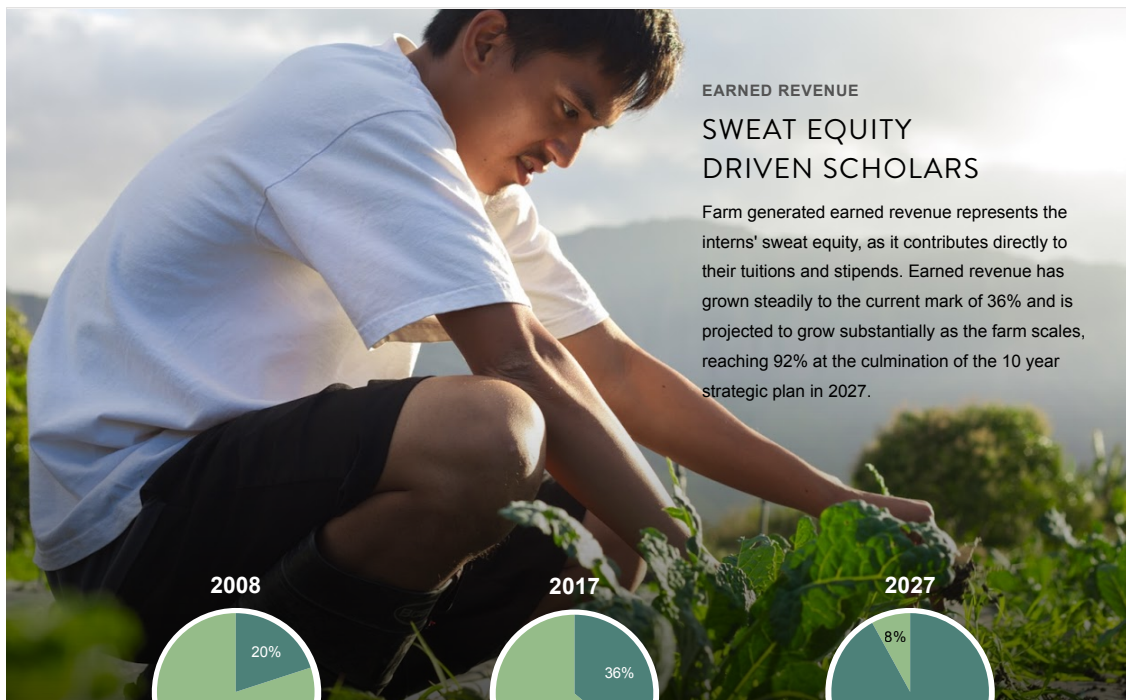


MA'O GRADUATES 2001 - 2018

WAGE & TAX INCREASES OF MA'O GRADUATES



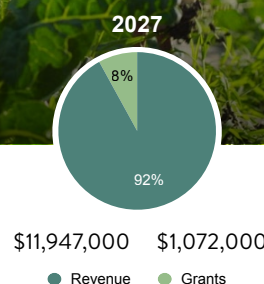
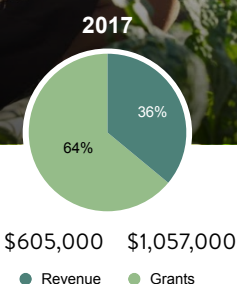
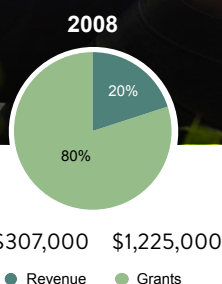
Data from US Census Bureau 2012-2016 American Community Survey 5-Year Estimates and 2010 US Census



EARNED REVENUE

SWEAT EQUITY
DRIVEN SCHOLARS

Farm generated earned revenue represents the interns' sweat equity, as it contributes directly to their tuitions and stipends. Earned revenue has grown steadily to the current mark of 36% and is projected to grow substantially as the farm scales, reaching 92% at the culmination of the 10 year strategic plan in 2027.



HEALTH OUTCOMES

MAULI OLA STUDY

INVESTIGATING THE GUT MICRO-BIOME IN SOCIAL NETWORKS

- Addressing increased prevalence of chronic diseases among Hawai'i's unique populations, including Native Hawaiians and Pacific Islanders.
- Examining how social and economic networks influence individuals' choices and behaviors, leading to (un)healthy lifestyles.
- Exploring how MA'O, a community program not specifically designed around health, impacts the health of individuals, especially in the reduction of obesity and other cardiometabolic disorders.



120

Participants in first study cohort, interns in MA'O Youth Leadership Training (YLT) program and members of their social networks. Future study cohorts include additional interns and expanded social networks.



70%

Study cohort of Native Hawaiian ancestry



26

Median age of study cohort

50%

Of study cohort reduced their lifetime risk of contracting T2 diabetes; measured after one year participation in the MA'O YLT internship program.

\$11K

Reduced annual health care costs associated with diabetes alone, per individual who avoids contracting T2 diabetes.



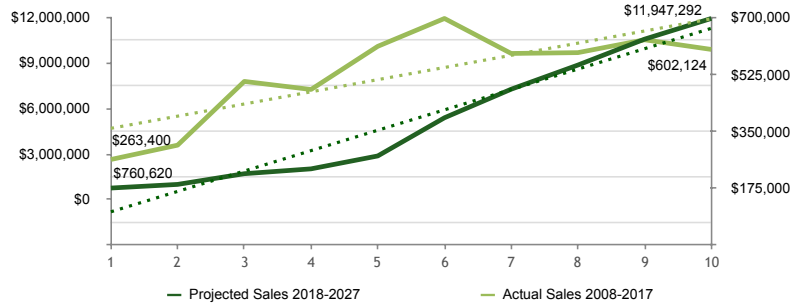
FOOD OUTCOMES

GROWING ORGANIC PRODUCE SALES

MA'O sold **\$5,447,603** worth of organic produce between 2002-2017. The rate of sales growth over the past ten years gives context for and builds confidence in the projections for sales growth in the 10 year strategic plan. As MA'O's co-producers attest, Hawai'i faces a shortage of supply, not demand, for local organic produce.

PROJECTED SALES 2018-2027

ACTUAL SALES 2008-2017



MARKET OPPORTUNITY

Hawai'i market demand for local produce continues to far outstrip supply.

Local organic production lags far behind the growth of the national organic market.

70%
Hawai'i vegetable sales from imported sources, 2013

\$106MM
Estimated imported vegetable sales in Hawai'i, 2017

3.7%
Average annual growth of HI organic farm sales, 2008-2016

15.4%
Average annual growth of US organic farm sales, 2008-2016

Data from USDA NASS and Loke and Leung *Agricultural and Food Economics* 2013, 1:10

LEVERAGING INVESTMENT

OPERATIONS & PROGRAMMING

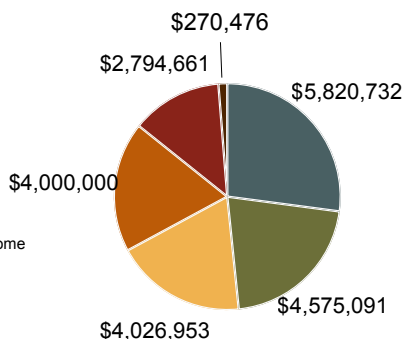
MA'O has a history of leveraging investment in the Leeward community by local and national philanthropic organizations and individual donors, as well as State and Federal government.

Through the scaling projected over the next ten years, MA'O will strategically evolve toward organizational stability and sustainability via strong growth of the earned revenue percent of our operating budget.

REVENUE SOURCES
2008-2017

73% GRANTS
27% EARNED REVENUE

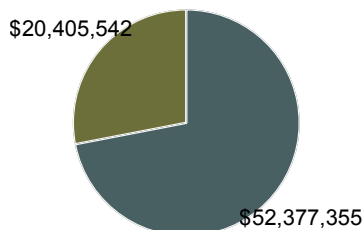
- Farms Sales & Other Earned Income
- Government Grants
- Trusts & Foundations
- Kellogg Foundation
- Kamehameha Schools
- Contributions & Donations



PROJECTED
REVENUE SOURCES
2018-2027

28% GRANTS
72% EARNED REVENUE

- Farms Sales & Other Earned Income
- Grants & Donations

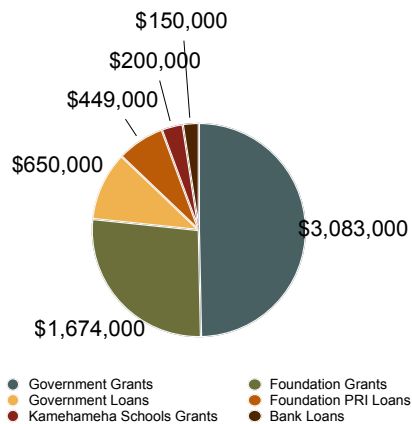


LEVERAGING INVESTMENT

CAPITAL EXPENDITURES

MA'O's diverse partners have also been instrumental to the organization's capital expenditures: land acquisition and facility development. These investments are catalytic, as land is the driver of the farm's success and therefore our powerful youth and food outcomes.

MA'O CAPITAL SOURCES 2008-2018



10 YEAR STRATEGIC PLAN

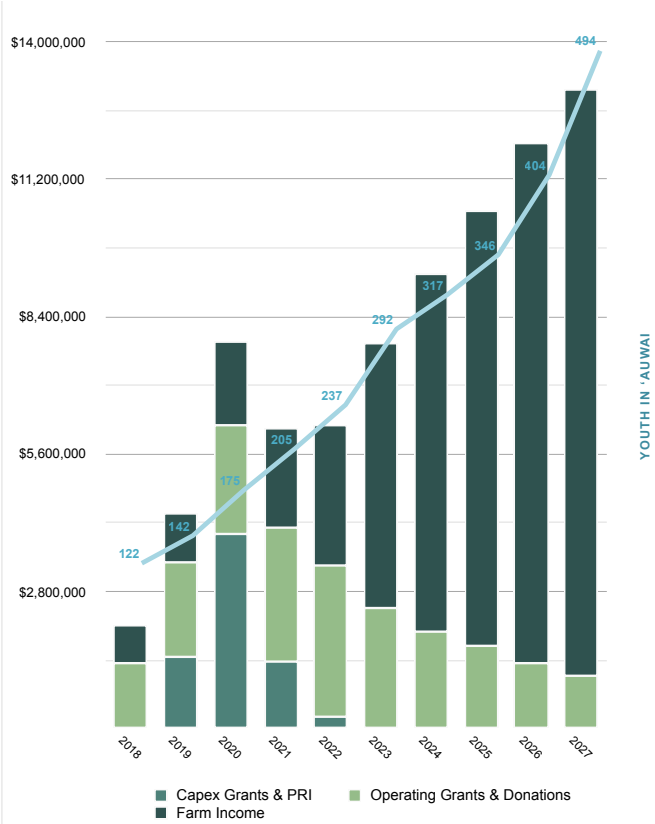
GROWING ORGANIZATIONAL STABILITY & IMPACT

MA'O's 10 year strategic plan is grounded in a commitment to build on our strong foundation of generating positive youth and food outcomes in order to cultivate a people and a place of plenty. In scaling the farm, not only do we grow more leaders and more food, we also ensure MA'O's organizational stability.



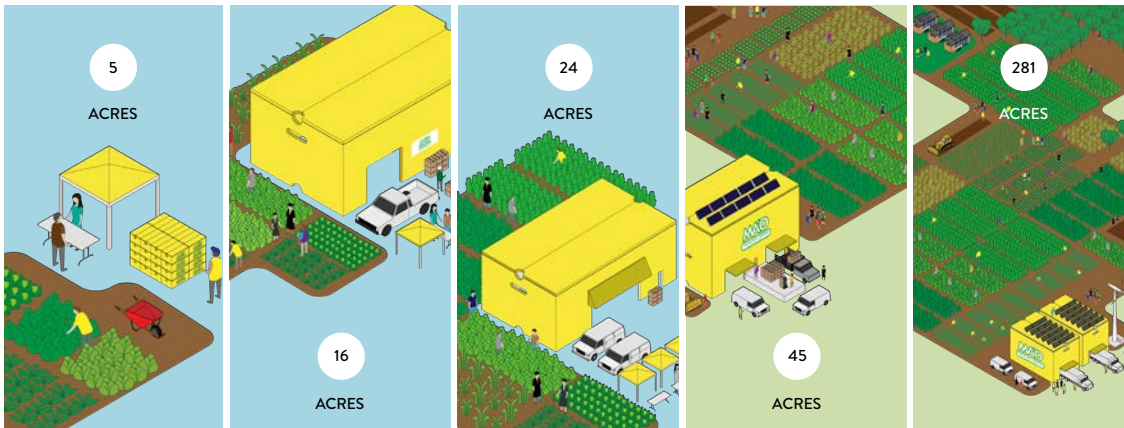
YOUTH IN 'AUWAI

The 'auwai includes all youth engaged in work and learning At MA'O in a given year, from Farm 2 Fork through the Ho'owaiwai Youth Leadership Training Program.



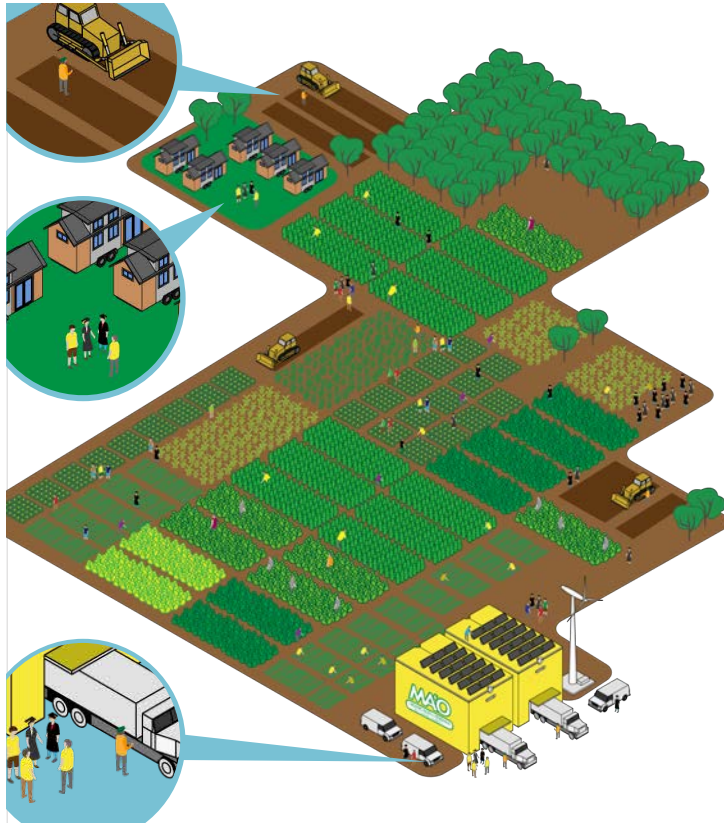
SCALE : OUTCOMES

THE CATALYTIC ROLE OF LAND ACQUISITION

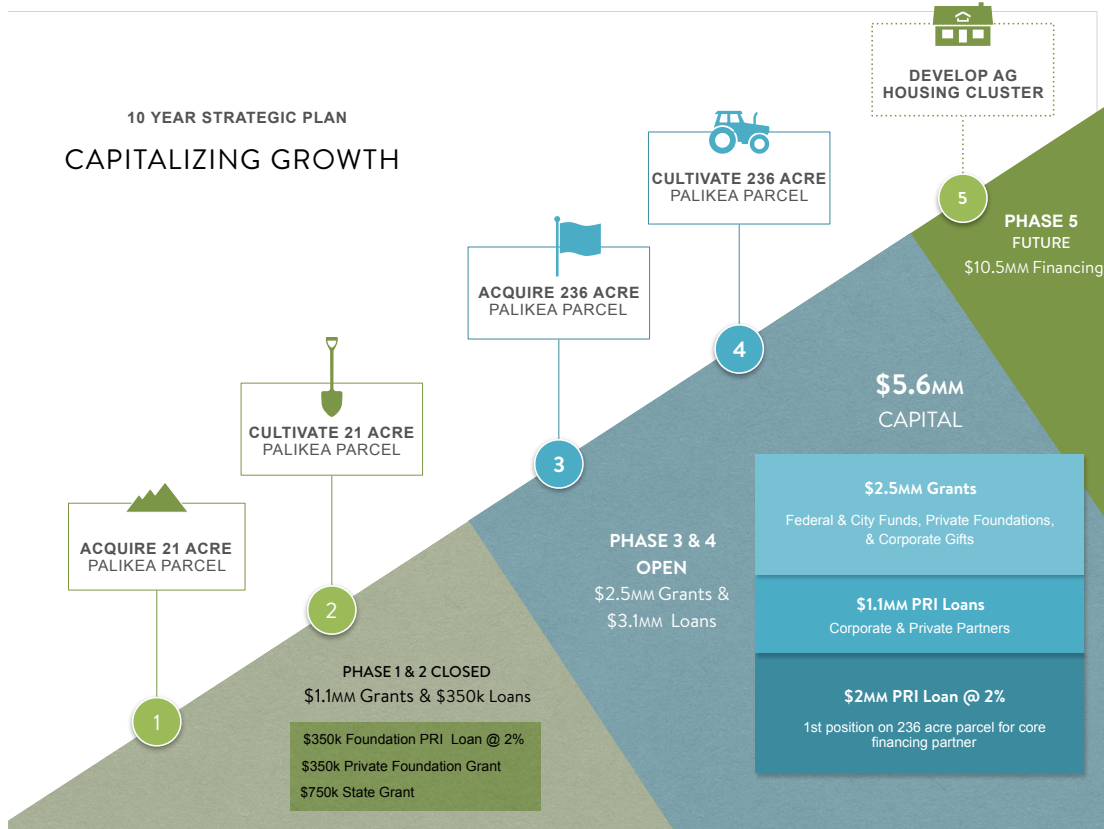


ANNUAL OUTCOMES	5 ACRES	16 ACRES	24 ACRES	45 ACRES*	281 ACRES*
Food produced (lbs)	36,250	125,925	167,000	627,712	2,774,389
Food sales (\$)	\$145,000	\$503,700	\$672,389	\$2,192,504	\$11,526,637
Youth in 'auwai	46	71	107	292	494
Students graduated (cumulative)	45	53	103	201	313
Operating budget % revenue	20%	29%	34%	46%	92%
\$ sales produced per acre	\$60,417	\$62,963	\$79,253	\$68,515	\$94,480
Acreage in production	2.4	8.0	8.8	32.0	122.0

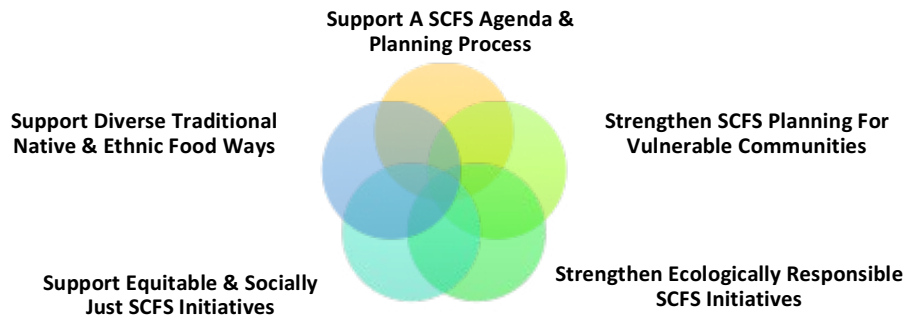
Outcomes for each scale are calculated at actual or (*) projected peak performance of the MA'O operation at that scale: 5 acres (2007), 16 acres (2010), 24 acres (2013), 45 acres (2023), 281 acres (2027)



10 YEAR STRATEGIC PLAN 2018 - 2027	
PHASE 1-4 CAPITAL Land Acquisition & Development	\$7MM
PHASE 5 CAPITAL Ag Housing Cluster	\$10.5MM
OPERATING GRANTS Tuition	\$3.2MM
Operations & Programming	\$17.3MM
EARNED REVENUE	\$52.4MM



MA'O Policy Considerations for a Sustainable Community Food System



Support A Sustainable Community Food System (SCFS) Agenda & Planning Process - Support for and promotion of a comprehensive sustainable community food systems planning process at the community and regional level.

- Creation of local/regional platform from which stakeholders are convened to dialogue, plan, and take action.
- Development of plans to build local and healthy food reserves and activities that prepare communities for food emergencies.
- Creation of local/regional plan for food security.
- Development of land use policy that enhances food systems development.
- Development of good research and data that helps community understand the economic impact of a locally situated food system.
- Development of initiatives to deploy marketing, technical and business development assistance for vibrant food systems.

Strengthen SCFS Planning For Vulnerable Communities- Support of policies, plans, and regulations that specifically address vulnerable communities and food security.

- Development of culturally appropriate foods, including indigenous crops.
- Development of communally situated initiatives to ensure access to healthy foods.
- Development of tools that connect healthy foods to low-income communities.
- Development of policies and tools that address safe and fair employment opportunities for ag workers.

Strengthen Ecologically Responsible SCFS Initiatives- Support of polices, plans and regulations that specifically address creating and strengthening ecologically responsible and sustainable food systems.

- Development of local/regional food system toward sustainability, create reliance within a foodshed.
- Development of a food system that minimizes waste and uses local/renewable energy resources.
- Development of initiatives that assess and mitigate negative ecological impacts caused by food system related activities.

Support Equitable & Socially Just SCFS Initiatives - Support of food systems that are equitable and socially just.

- Development of programs that enhance food-related economic opportunities for women, low-income residents, and people of color.
- Development of supportive public, private, and nonprofit sector initiatives that foster access to healthy food and that provides employment to low-income communities.
- Development of initiatives, projects and activities that resolve issues of poverty (rural or urban) through land use measures, transportation, or regulatory means.

Support Diverse Traditional Native & Ethnic Food Ways- Support food systems that preserve and sustain diverse traditional food culture of the native peoples (and food ways of ethnic minority communities).

- Development of local/regional food assessment tools, programs, and initiatives that preserve and strengthen traditional native and ethnic food cultures.
- Development of venues to engage, participate and collaborate with local communities and the specific ways they wish to revitalize their traditional food way.
- Development of strategies that support traditional native and ethnic communities in the development of their food system.

Wai'anae Valley @ MA'O Organic Farms



Ka'ala & Hui Kū Like Kākou

Tatiana Kalaniopua Young, PhD, Instructor, Anthropology, UH West O'ahu

He lokomaika'i ka manu o Kaiona.

Kind is the bird of Kaiona.

Said of one who helps a lost person find his way home. The goddess, Kaiona, who lived in the Wai'anae mountains of O'ahu was said to have pet birds who could guide anyone lost in the forest back to his companions.

(Pukui, 1983, 770)

Aloha nui kāua heluhelu (Greetings, dear reader). I would like to begin by acknowledging my kuleana (duty and right) as a Kanaka 'Ōiwi Maoli (Ō'iwi) and mähūwahine (indigenous transgender woman of Hawai'i) and the deep sense of gratitude that I have for my ancestors who continue to guide me to the people and places that nourish me. As someone who descends from the Indigenous peoples of Ko Hawai'i Pae 'Āina (the Hawaiian archipelago) and as someone who has felt a deep connection to the Goddess, Kaiona, of Wai'anae, since infancy, I understand that being of service to a higher calling, raising lāhui consciousness, and co-creating waiwai (abundance) to be living aspects of ea (breath, life, sovereignty) (Goodyear-Ka'ōpua, et al., 2014). Ea can be understood as a collective political act of consciousness through practices, principles as well as priorities that cultivate spiritual abundance (Mei-Singh, 2016). It can also be understood as that which moves beyond deficit thinking to empower our ability to adapt and heal in the face of challenges.

While completing my Ph.D. in Cultural Anthropology at the University of Washington in Seattle, Kaiona would send birds to guide my dreams. Eventually, these birds helped me to get back home to Wai'anae during a time of tremendous personal struggle. Upon returning, I joined the 'Imi Na'auao: Hawaiian Knowing and Wellbeing research project, which provided me with the op-

portunity to conduct research with members of my hometown community near Kaiona's sanctuary atop Mauna Ka'ala. Focusing on the Wai'anae coastline, one of the richest agricultural hubs on the Island of O'ahu, 'Imi Na'auao helped me to redefine Hawaiian health and wellbeing beyond the deficit model. The project helped me to understand community-building, sustainable food production, and grassroots action as pathways to equity and social justice. My particular



Lei Hala

contribution to this project did so by documenting, serving and uplifting the living Hawaiian practices, principles and priorities of food sovereignty, environmental justice, and political self-determination. While working with a group called Hui Kū Like Kākou (HKLK), a Wai'anae-based food and 'ea'ducation group, I came to understand the role of 'Imi Na'auao, to seek wisdom through 'aina-based healing and learning.

Though primarily made up of working-class ma-ka‘ainānā (people of the land), HKLK is also an inclusive ‘ohana-based organization that is led by Hawaiian values of service. Anyone who is willing to get into the lepo or mud to cultivate kalo during our Sunday meetings can consider themselves a part of the group. Members of HKLK meet regularly at Ka‘ala Farm—a multi-acre cultural learning center in Wai‘anae directed by long-time resident, Eric Enos. The farm primarily grows kalo but is also replants indigenous forests and plants, while improving Hawaiian health and wellbeing for a sustainable future. Ka‘ala Farm is one of three food sovereignty sanctuaries along the Wai‘anae coastline involved with ‘Imi Na‘auao. The others include Kahumana Organic Farms and MA‘O Organic Farms. The sustainable future of Wai‘anae is elevated because of these incredible organizations who put the healing of people and place at the core of their missions.

Aloha ‘Āina, Kuleana, ‘Ohana

In this report, I discuss aloha ‘āina (love of people and place), kuleana (duty and right) and ‘ohana (intergenerational extended family) as three methodologies (values put into practice) that center ideas of waiwai or abundance. Deficit-thinking and deficit models have tended to overlook the power of indigenous people, our resilience as well as our capacity to manage our own affairs and natural resources (Gallimore and Howard, 1969). A return to waiwai is thus also a return to ike kupuna (ancestral knowledge) and ka poe kahiko (ancient Hawaiians) where the abundance of healthy food and clean waters sustained multiple generations of ea. These insights are based on my involvement in ‘Imi Na‘auao, time spent conducting research on contemporary Hawaiian life, and my own lived experiences.

As a child born and raised along the Wai‘anae coastline, I have personally witnessed cultural trauma in the form of land displacement and dispossession over the years.

These observations include stories of resilience; the ability to bounce back from trauma, and the ability to work across differences to strive for excellence. Being able to work with HKLK constructively transformed the pain of intergenerational trauma into restorative pathways for improving Hawaiian health and wellbeing. Farming with people actively engaged in healing from cultural trauma turned suffering into opportunities for economic self-sufficiency and lāhui consciousness.

As a novice kalo (taro) farmer and university instructor, I am constantly searching for wisdom. Through the ‘Imi Na‘auao process, I had the opportunity to grow kalo with a diverse group of people, served as a water protector with my community, and helped to revitalize the cultural practices of ka poe kahiko to transform colonial degradation into obstacles that can be overcome. Through community-based farming, protecting sacred sites, and affirming ea (breath, life, sovereignty), the ‘Imi Na‘auao process has allowed me to develop an inclusive mähū methodology for raising lāhui (community/nation) consciousness through practical applications of ike kupuna (ancestral knowledge) that include rather than exclude our queered kin. As a kupa‘āina o Wai‘anae or an Indigenous Hawaiian child born and raised along the coastline, my understanding of lāhui consciousness stems from my experiences as a Hawaiian transgender woman confronting colonial dispossession, organized empowerment, and pathways to waiwai.

“Up House” in Wai‘anae Valley and Cultural Trauma



Ke Kaala Hale

In 1974 and 1979, respectively, the Honolulu Advertiser ran articles about my ‘ohana, describing the sixty or so residents of my great grandparents’ house in Wai‘anae Valley as “old” Hawai‘i, denoting communal farming arrangements and little need for the grocery store. On February 15, 1974, staff writer, Pat Hunter writes an article entitled “At the Keamos, aloha is alive and well.” She begins the article with a paradox, “If you believe that the old Hawai‘i has disappeared—that there’s no aloha spirit anymore—take a trip out Wai‘anae way and drop in on the Keamo family. You’ll be surprised” (Hunter, 1974, B1). Focusing on my ‘ohana’s ability to meet the nutritional needs of over sixty people every night with farm grown foods and ocean caught resources, the article highlights the rotation of farm, household and kitchen duties. Healthy taro patches meet with free-range chickens, pigs, flowers and vegetable gardens, offering a glimpse into what scholar Enrique Salmòn calls a “kincentric ecology” where human life and nature interweave an intimate sense of belonging and place

(Salmòn, 2012). The article gives the reader a sense of spiritual abundance, both in terms of familial obligation to the community and to the land.

On June 30, 1979, in a similar tone to Pat Hunter, columnist Bob Krauss wrote, “With the Keamos, it’s all in the family.” Though somewhat sensational, the article includes several powerful visuals. One is a photo of my great grandma holding her grandson, a three-year-old “Willie Boy.” Another image highlights a few men of the ‘ohana: my uncles Freddy, Walter and Apua as they process their bountiful ocean catch of fish and squid. Perhaps most haunting of the images is the verdant kalo patch captured in the backyard. The patch is fed by a healthy, flowing stream.

Unfortunately, by the time I came of age, the stream was gone. According to my dad’s sister, the Board of Water Supply capped and privatized the backyard stream in the 1980s. The lack of water further alienated

my family from their traditional farming practices. My auntie Charlene, who was around during that time, explained how after that, the kalo patch and many other plants died, leaving my great grandparents heartbroken. Worst still, by the 1990s, a number of the older kupuna (elders) passed away, including family members who watered the gardens. By the 2000s, “up house” felt different from what I remembered as a kid in the 1990s. Concrete was laid where fruits and vegetables once blossomed, further alienating the culture of farming that our family once enjoyed.

Growing with the Lo'i at Ka'ala Farm

Fortunately, HKLK, at least for me, came to fill that sense of loss in my own 'ohana. Every Sunday, we would go up to the lo'i to reconnect with our ancestors. There, flowing water, while nourishing a sense of cultural integrity and intergenerational healing, embodied this sense of ea, deepening my appreciation for ancestral love of all people and places. One day, I brought my dad and mom (who are originally from Wai'anae but now live in Wakinekona or Washington State) up to Ka'ala to gather kalo. When my mom looked around, she began to cry. The pristine greenery transported her back to a time and place of days gone by. She recounted the passing of loved ones whose farming practices she recalled in vivid detail. In her own words, being at Ka'ala felt like being “up house” in the 1970s again. The peaceful sound of moving water mixing with kupuna laughter conjured an “older” Hawai'i in the present. In this way, HKLK organized space for cultural reintegration, adapting the “old” to a k(new) way of life, weaving our feelings, thoughts and prayers into a pathway for healing. As Kānaka maoli/Native Hawaiian scholar Manulani Aluli Meyer relates, for many Indigenous peoples, “*Our thinking body is not separate from our feeling*

mind. Our mind is our body. Our body is our mind. And both connect to the spiritual act of knowledge acquisition” (Meyer, 2008, 223).

A warm breeze moves through my one bedroom condo living room as I pound kalo (corm of taro) using a pestle and mortar in lieu of a papa ku'i'ai (wooden board for smashing kalo) and pohaku ku'i'ai (stone for smashing kalo), two items that I regrettably still do not have in my possession. There in the cultural practice of pounding steamed kalo, I feel my ancestors coming to life within me. Like them, I now know how to grow my own food, how to make pa'i'ai and poi and how to be self-reliant. Connecting to the Hawaiian movement for aloha 'āina in the 1970s, today, kalo farming bridges Hawaiian health and food production to the restoration of lāhui consciousness.

Every Sunday, members of HKLK head up to Ka'ala Farm. A *Cultural Hub* for community growers and groups, Ka'ala Farm helps Hawaiians to reclaim the living culture of ka poe kahiko in order to strengthen the kinship relationships between the 'āina and that which is pono/just/righteous and balanced. HKLK is one organization that helps to actualize that mission. Utilizing the fresh water resources and lo'i (wetland taro patches) at Ka'ala, HKLK cultivates kalo and in the process, grows community for both ka poe Hawai'i (Hawaiians) and ka poe honua (earthlings).

HKLK membership is determined by showing up for Super Sustainable Sundays and revitalizing 'āina-based efforts through direct action. “Growing with the lo'i” indexes movement beyond the cultural trauma of dispossession. It is an act of bridging the gap between abundance and deficiencies. First time participants are

routinely informed by Kaukaohu (the alaka'i/guide or leader) of HKLK, a jolly Hawaiian man in his 50s, that "once you get in the lepo, you're family." This information is usually provided as a kind of verbal welcome and embrace because doing lo'i work almost always



Hui Kū Like Kākou

involves getting into the lepo (the mud). The already novel experience of getting lepo between the toes becomes a pleasant right of passage. Many first-time participants refer to their experience in the lo'i as "healing" and "transformative." Life and work is about balancing the dreams of the past with the demands of the present. There are days when there is no lo'i work to be done. On these Super Sustainable Sundays there might be time designated for event planning, weaving lauhalā, reflection on a recently implemented event, or a teach in of some kind by a visitor. What is almost guaranteed to take place on any given Super Sustainable Sunday, are the protocols of Aloha Circle, Food Blessing and Potluck, and Ki'i (picture taking).

While there is no designated start time, people honi each other as they arrive, and place food contributions to the potluck on the two fold-out tables. Kaukaohu, acting as alaka'i (which rotates often, depending on

who shows up) will call everyone to circle up for Aloha Circle in hale na'auao. Participating in Aloha Circle means holding hands as each member of the circle, starting from Kaukaohu and moving to his right or left, shares their name, where they are from, and who or what they bring with them.

The who or what can vary between a family member, a friend, a deceased ancestor, someone physically absent, to one's whole 'ohana, lāhui, or a virtue or pleasantry like humility, or laughter. This variety of people and things brought on the hearts of attendees adds to the variety of places people come from, the spectrum of age and personality, and the mixture of 'ōlelo Hawai'i and English language, as well as occasional other languages. The result of such difference is that each consecutive input can be harmoniously solemn and heartfelt or casual and comical or cute and witty. The harmony of such contrast being found in the shared willingness to open up personally to the encircled group is a reminder of our interdependence. Aloha circle demonstrates how social belonging to the people and places we each call home conjures internal and external peace and serenity.

Usually after working in the lo'i, or after whatever activities—sewing leis, cleaning kalo, hula practice, talk story, games or napping—a bamboo or conch shell pu will be blown to call everyone to gather for the food blessing, or food gratitude circle. This circle always consists of a call and response format recital of a song in 'ōlelo Hawai'i. The call and response is usually led by Keku, the youngest member of the Lopes ohana. The song is short and easy to recite. It is a song giving thanks for the food addressing Ke Akua and ending with a double refrain of amene.

The types of dishes vary from home-cooked meals and family recipes, to store or restaurant bought food trays, pizza and desserts. Fruits of different kinds like mai'a (banana) and lychee, from people's yards are also common contributions that are widely appreciated with the mālama 'āina (take care of the land and it will take care of you) consciousness that pervades the gathering.

Indeed, an appreciation for 'āina-based healing and revitalization efforts and an intent to aloha 'āina (love the land or that which feeds through action) defines all of the participants in the protocols and activities of HKLK; this appreciation and intent is definitive of HKLK membership. In fact, even guests and first time participants, invited by friends and family, and not driven necessarily by said appreciation and intent, can be seen smiling warmly when stepping into lepo, or gazing about captivated by the sight of the land restored, at least partially, to the state of agricultural productivity that is its multigenerational legacy. Likewise, these guests can be seen immersed in the affective calm and delight of Kanaka 'Ōiwi, restored, at least partially, to the state of agricultural productivity and spiritual fecundity that is their manifold intergenerational legacy.

Given the nature of organizing its membership, HKLK serves an important role in drawing in members of the larger Wai'anae and O'ahu community who might not otherwise make it up to Ka'ala for kalo production and community formation. An exact number for HKLK's membership is hard to document, although I've interviewed thirty people who self-identified during the Imi Na'auao research process as being a member of HKLK. Most are from Wai'anae, many are not. HKLK members include people on Moku Honu (Turtle Island/USA) and in countries like Japan, France, Germany, and Korea.

Kaiona, Kalo and Home

Just as the kalo stands in the lepo, as it has for the many generations recounted in mo'okuauhau (traditionally chanted genealogy) as expansive, detailed and perceptibly verifiable as the Kumulipo (the deep darkness), so too, do Kanaka 'Ōiwi, and to some extent Hawaiian patriots of much more recent genealogical arrival, get to embody that numbingly humbling vision of abundant life and positions of immeasurable powers of perpetuation, when they step into the lepo of the lo'i with the elder brother of the first Kanaka 'Ōiwi, Hāloa, the divine deity of kalo. A lo'i with lepo, fed with streams flowing from mauka (upland) to makai (shore region), and kalo fed by la (sun) and mahina (moon) sailing kahikina (east) to kekomohana (west), in innumerable cycles, as sacred in their stability as the cycles of birth, aloha and death among 'Ōiwi have deposited and derived their DNA into and from the 'āina, into and from the lepo, into and from the very same lepo lo'i in which waiwai or abundance is experienced. It is a level of genetic, memorial harmony that transcends any capitalist, protestant work ethic, or mercantilist definitions of home and belonging, for it is far older and more intimate and is exceedingly more loving. It is the harmony of aloha 'āina, kuleana and 'ohana of our shared commitment to people and place that animates lāhui consciousness. It is this sense of home that guide the lost and weary back to nourishment, guided always by the birds of Kaiona.

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Ka'ala Farm



Ka'ala Farm (a.k.a., Ka'ala Farm Cultural Learning Center) and Lāhui Consciousness

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E kanu i ka huli 'oi hā'ule ka ua.

Plant the taro stalk while there is rain.

Do your work when opportunity affords.

(Pukui, 1983, 39)

Ma ka hana ka 'ike: By doing one learns.

'Ike aku, ike mai, kōkua aku, kōkua mai, pele iho ka nohona 'ohana: Know and be known, help and be helped, such is family life.

Nānā ka maka, hana ka lima: The eyes look, the hands do: Observe with your eyes and then do what is necessary

Introduction: Community Based Research and the Mā'awe Pono Principle

The Mā'awe pono framework was foundational to our research process, requiring a conscious alignment of the research agenda with community needs. As our research team began to assimilate into the culture of Ka'ala Farm, we were compelled to transition from the Institutional Review Board (IRB) mode of inquiry and research ethics to the mā'awe pono mode as we found certain methods and research questions to be out of sync with the mission and culture of Ka'ala Farm. It not only meant our research agenda being shaped by our close working relationship with Ka'ala Farm, it also meant helping out with tasks at events as a part of Ka'ala Farm's 'ohana. This sense of kuleana helped us to maintain a state of pono with Ka'ala Farm, and the larger connected community, throughout the project. Through this mā'awe pono positionality, we came to know Ka'ala Farm as a network of diverse community-based programs in education, research, natural resource management, recovery/healing, and indigenous

food production. Central both to Ka'ala Farm's community-based ethics and programs is the preservation and innovation of a living cultural site through the retention and maintenance of a natural flow of water into the ancient lo'i kalo; the contextualization of activities in cultural protocol; and conscious affirmation of the community wealth that transcends monetization.

Our insights were shaped by the larger Hui 'Imi Na'auao questions on health and wellness. We were particularly drawn to the questions: "How do social conditions contribute or inhibit thriving Lāhui?" and "What is the impact of cultural restoration and revitalization on Native Hawaiian health and wellness?" Our findings consist of observations on how Ka'ala as a place and organization improves health status by contributing to a thriving Lāhui through its cultural restoration and revitalization efforts. We thank all those involved, many who are practitioners or educators, in sharing their 'ike; because, it is this collective knowledge that provides the cohesive thread of the following narrative and stories of resiliency.

Discussion reconstructs the totality of 'ike gained through our interactions at Ka'ala Farm that derived from: 1) face-to-face interviews with the facilitators of the 'āina based healing and learning activities as the farm; 2) participant observation activities including

Ka'ala Farms' monthly event called Lā 'Ohana; 3) and the preliminary findings of the microbial study on the lo'i kalo at Ka'ala Farm through the separate but related Kikaha project.

In essence, our project took the form of two separate but interrelated projects. One in which a large amount of findings resulted from the more qualitative aspect of our work. This one was mainly influenced by the 'Imi Na'auao research questions. It entailed engaging in participant observation activities and interviewing several practitioners, educators, learning activity facilitators, and the staff and leadership of Ka'ala. The second project was a community based STEM project that we along with other UH West O'ahu faculty and students created for Ka'ala Farm in order to support their future vision of "Ka'ala University" as a robust community based research hub. This project is outlined in the following paragraph. The major findings and reflections from both projects are described in the next section.

Directly responding to community needs, based on the mā'awe pono principle, I initiated the Kikaha research project. Along with Dr. Olivia George, Assistant Professor of Microbiology at UH West O'ahu, we obtained two grants (UH Mānoa Seed Idea Grant and a National Science Foundation Tribal College Grant). Funding was applied towards student led research projects. One consisted of two sets of data collection: 1) DNA analysis of Ka'ala's composts from the compost toilets in hopes of creating a potential mitigation plan for harmful pathogens and bacteria that was undertaken by Ms. Sirena Reyes (UH West O'ahu graduate); and 2) DNA analysis of microbes in the lo'i kalo and dry land mālā, undertaken by our student Ms. Ashley Halemano. One student research project included interviews with the



From right: Butch Detroye (Ka'ala Farm), Olivia George (UHWO), Ashley Halemano (UHWO), and Eric Enos (Ka'ala Farm)

Ka'ala director and staff as well as the Ho'omau Ke Ola, a substance abuse recovery center, directors to juxtapose the Ka'ala's microbial community with the healing effect that Ka'ala offers to the participants.

“Walking the path of the footstep of our ancestors”:

Throughout the research activities, I was haunted by O'ahu chief Kūali'i's famous kōnāwai called Kōnāwai Ni'āupi'o Kolowalu: It mandated farmers and fishermen to feed the hungry and guaranteed the freedom of movement and public safety especially for the vulnerable population (Kamakau, 1964). This kōnāwai is a reminder of the original functionality and purpose of lāhui and the centrality of food, sharing, and aloha. I was reminded of this kōnāwai during interviews. The synergy between Kūali'i's kōnāwai and the functionality and meaning of Ka'ala Farm to the community seems to be the key to unlocking the necessary social conditions for a thriving Lāhui and for restoring and revitalizing the well-being and health of Kānaka Maoli as a whole. This conclusion is based upon the five themes that emerged from our observations regarding Ka'ala Farm as a space, as well as the centrality of cultural protocol and milieu, food, the lo'i, and Lāhui Con-

sciousness.

Ka'ala Farm as a Space of Learning, Healing, and Connecting: Hyimeen Akiona, Cultural Director of Ho'omau Ke Ola, defines Ka'ala Farm as a source of unconditional love through which healing can take place for the survivors of domestic violence, substance abuse, and incarceration: "One thing Eric [Enos] and Butch [Detroye] (..) no matter what you need they will not refuse you. They are gonna feed you." The facilitators of high school and early college programs also mentioned a bountiful aloha and care provided by the Ka'ala farm directors and staff as a critical factor in their learning experience. As explained in the following themes, the provision of aloha and care comes not only from the people of Ka'ala Farm and its organization's intent and purpose but also from the totality of Ka'ala Farm: the 'āina, environment, cultural protocol, food/kalo, and lo'i kalo. As Lexter Chou, Leeward Community College (LCC) Student Government Advisor, says, "This is a place of learning, healing, and connecting."

Butch Detroye, the Manager of Ka'ala Farm Cultural Learning Center, also speaks of the intertwinement of learning and healing at Ka'ala farm: "We are not only about education, it's about healing for everybody, even for a fourth grader." While talking story, he also acknowledged how healing and learning result from connecting with the ancestors: "When they step in the mud, that is the same mud that their ancestors were stepping in eh, that's the same mana, the same aloha they are picking up by being in that mud and touching the pōhaku." Ms. Akiona shared a similar view when she observed how her haumana experiences "visible changes, spiritual changes" as soon as they get into the lo'i: "I believe it's walking the path of the footstep of our

ancestors and continued on throughout the years." In other words, connecting with their ancestors footsteps facilitates the healing process for the survivors of violence, substance abuse, and incarceration as "broken people."

But how does the healing and connecting process manifest itself at Ka'ala Farm for 4th graders, high school students, and college students? Liveon Simmon, staff member at Ka'ala Farm, observed the dramatic changes among 4th and 6th graders in terms of their engagement: "I mean like from being here to you know like they were not even paying attention, not even engaged at all to at the end they no like leave. I mean that couple hours, it's a big difference." Similar observations were made by the facilitators (Ms. Lexter Chou, and Drs. Michael Hayes and Cathy Ikeda) of high school early college programs and college students. The enhanced engagement for high school and college students manifested itself as their spontaneous undertaking of the roles of "natural leader" and "natural harder worker" in the lo'i. Jewlyn Kirkland, Nānākuli high school science teacher, sees the major changes in those who had experienced "being out of place," especially their "cultural place". She attributes this to them gaining confidence and recognizing their abilities when they present projects at public meetings and at the school science fair. Thus, Ka'ala is providing healing by giving them an opportunity to reconnect within themselves, with each other, and with 'āina, nature, culture, and the ancestors. In other words, Ka'ala Farm serves as a space of healing and connecting for the 'ōpio and young adults in the educational system. This is vital given that the public education system is designed to atomize both students and teachers, thereby, depriving them of a place to be who they really are.

The act of connecting forges the link between the participants' work at Ka'ala Farm and their own lives. For the Ho'omau Ke Ola haumana, their recovery gains meaning when they weed out the lo'i and witness the flow of water: "If I don't clean and take out (the rubbish) then (water) can't go smooth in life for me" (Ms. Akiona). Similarly, college student government representatives experienced the immediate outcome of their collaborative work by observing how the lo'i changed from "no water movement" to "superflowing" (Ms. Chou). In both cases, Ka'ala Farm provides a very unique experience that participants can not only relate to their own lives but to help positively transform their lives.

The Importance of Cultural Milieu and Protocol:

One of the distinctly unique aspects of Ka'ala Farm is its Hawaiian cultural milieu made up of ancient kalo terrace embedded in the original ahupua'a ecosystem (from uka to kula), a traditional hale, and the following of cultural protocol. There is a routine at Ka'ala Farm at the beginning of each work day. The work day participants line up in front of the hale (in some cases divided into Kane and Wahine) and offer their oli for permission to enter. Butch Detroye offers a welcome oli composed by Mililani Allen, Kumu hula from Wai'anae during the late 1990s. It talks about the goddess, mountain, streams, and all the special places in the area. Participants then enter the hale, and Mr. Detroye instructs them to do the hanu – hā breathing exercise as an exchange of hā or honi with the entire place, and asks everyone to introduce themselves. After the initial gathering at the hale, Mr. Detroye gives a short tour of Ka'ala Farm, which includes a visit to the ahu where Mr. Detroye explains the meaning of the pohaku in the shape of a footprint (used as a footrest in the old days) to remind the participants of the footsteps of their an-

cestors.

Dr. Cathy Ikeda, UH West O'ahu Professor, sees the importance of cultural protocol in instilling a sense of place among her students. Ms. Jewlynn Kirkland, Nānākuli high school teacher, echoes Dr. Ikeda in the importance of cultural protocol to the sense of place: "We're appreciating that this particular oli is about this place. It's about the foundation." Further, Reno Yaw, Ho'omau Ke Ola staff, Rap Center (alternative school in Wai'anae, a founding partner to Ka'ala Farm) alumnus and former Ho'omau Ke Ola haumana, talks about the major impact the hale at Ka'ala farm had on him: "I think my whole life I've never been in one hale and it was my first time ever and it impacted me. (...). My aha moment." Robert Nunes, Ho'omau Ke 'Ola Manager and former haumana, affirms the importance of "chant, kalo, Hāloa, and reasons behind them" as an entry point to his cultural retention in the process of recovery.

The Importance of Food in Healing and Learning:

According to Ms. Akiona, food and Kalo, in particular, plays a catalytic role in the healing of her haumana as it is aligned with her idea of "gut level" healing practice: "In order to get to the man's gut and the heart, you gotta get to the gut. Food is it. So when they are fed and you ask questions, 'whoa!' everything came out. Everything, the crying, everything." Ms. Kirkland also talks about the importance of food for struggling high school students in retaining their interest in learning. She sees the ultimate lesson of partaking and planting food at Ka'ala Farm is for her students to understand that they can grow their own food. Now as a caretaker of Ho'omau Ke Ola's 'āina based learning facility just below Ka'ala Farm, Mr. Nunes acknowledge his debt to Ka'ala Farm



From right: Sterling Beair (Kū Aloha 'Ola Mau), Butch Detroye (Ka'ala Farm), Nancy Beair (Kū Aloha 'Ola Mau), and Micah McGivern with keiki.

for his knowledge and skills in his current position as a caretaker of Ho'omau Ke Ola's 'āina based learning facility.

The Importance of Lo'i Kalo (the wetland):

There was an unanimous consensus among the interviewees involved in this research that working at the lo'i is the major factor in healing, learning and connecting at Ka'ala Farm. Ms. Akiona noted a definitive preference for the lo'i kalo over the dry land māla among her hau-mana: "They enjoy the wetland; they don't enjoy the dry land lo'i." On three occasions in which the monthly Lā 'Ohana took place in the wetland, I observed the difference in the fullness of joy among all the participants from keiki to kupuna. At one of the Lā 'Ohana gatherings, I even witnessed all of the participating 'ohana spontaneously drift away from the dry land towards the lo'i kalo area before their work was fully completed.

When Mr. Yaw, Ho'omau Ke Ola staff, had a chance to talk story with his clients about their lo'i kalo experience, they all shared the sense of déjà vu that connects them to the ancestral memories. The feeling of déjà vu

shared by Ho'omau Ke 'Ola staff and clients resonates with Ms. Akiona and Mr. Detroye's statements earlier about the healing process at Ka'ala Farm as the participants retain their connection with their ancestors.

Mr. Detroye also talks about the phenomenon of instant bonding that takes place in the lo'i kalo: "Even with college groups, because a lot of them don't know each other ... But once you get in the mud, in the loi. And then you hear a laugh, you hear talking, you hear joking, and by the time they come out, they all know each other." Dr. Hayes relates the instant bonding to increased rapport with his students. Ms. Chou noticed that the bonding also manifested in the organic nature of teamwork among her college students: "Everybody was working as a team. So that was great. Just to see how organic it all flowed together. They all started to make their own lines of you know pulling from this side, passing down to this side (...)." Ms. Akiona sums up the inter-relatedness between bonding, cooperation (laulima), and aloha: "There's a bonding. Bonding and helping the next person. (...) So what I have seen was laulima, the working together. (...) it brought love. (...). How would people from different ethnic background love one another so much?"

The UH West O'ahu Kikaha student project analyzed the population of microbes at Ka'ala Farm in search for a microbiological explanation for the different effect that the lo'i kalo and the dry land may have on the participants. What we learned from the project is that microbes form a community to enhance the metabolic function of the soil which is more pronounced in the "water-stable macroaggregates" (Bach et. al., 2018). The DNA analysis data collected indicates that a much more diverse population of microbes is working together in the lo'i kalo with the presence of unique microbes in each lo'i than in the dry land mālā. The bonding, laulima, and love among humans in the lo'i kalo exists as a "parallel universe" to the microbial world in which the microbial community is working collaboratively to enhance the soil fertility for the kalo to grow and vice versa. When participants put their foot into the mud, they are not only becoming in touch with their human ancestors but also microorganisms as their primordial ancestors, who are acknowledged and honored in the Kumulipo and ahupua'a ecosystem.

Ka'ala Farm as a Space of Lāhui Consciousness:

Ms. Akiona sees Lāhui manifests itself as a space of coming together with purpose in Ka'ala: "People come together, living together, living aloha, breathing aloha. (...) So Lāhui I think it is everybody coming together, living by example." Both Mr. Yaw and Ms. Kirkland see Ka'ala Farm as setting the example of Lāhui by teaching the people how to grow your own food, how to cook food, how to build hale, and by showing "This is what life was like before. This is what life can be for you." They also see openness and inclusivity demonstrated by Ka'ala Farm as a manifestation of Lāhui because it is a where people can find their place to "get reconnected or connected (...) where they can be apart of."

For Dr. Ikeda and Jameil Saez, Ka Maile Academy teacher, Lāhui becomes visible and tangible with the intergenerational connection unfolding at Ka'ala Farm. Mr. Saez recalled the time when all the family members of 6th graders and high school came to join their work day without prior notice. As Mr. Saez observed, the sight of multigeneration 'ohana – "from kamali'i, makua, to kupuna" – working together in the lo'i gives us a glimpse of how a thriving Lāhui would look like. For Dr. Ikeda, it is the multi-generation of teachers that constitutes Lāhui as the continuity of their connection with the 'āina based education.

Finally, as the UH West O'ahu Kikaha student research demonstrates, the inclusivity and intergenerationality of Lāhui extends to the unseen existence of microbial community that is at work in fostering kalo and other life forms in the muddy water as well as in facilitating the healing and (re)connecting process among the participants. If these unseen members of Lāhui are not cared for by humans through their maintenance of optimal ahupua'a ecosystem, there will be no kalo nor healing and connecting for the Kānaka. Thus, Lāhui's raison d'être is in the protection and care of its most vulnerable yet most vital constituents.

Kamakau (1964) elucidates how the cosmogonical origin of kānāwai can be traced back to the time of a great flood when Kānenuiakea stepped into to regulate the water by separating the ocean water from the land to protect "the living things on earth and the breathing things that live in space" (p.13). Lāhui, as it manifests itself in Ka'ala, can be traced back to the same motive and intention as Kānenuiakea; just as community members, Rap Center and Queen Lili'uokalani Children's Center teachers and students created the foun-

dation for Ka'ala Farm in the late 1970s. They did so by restoring the natural flow of water to protect and nourish the stream life and the 'ōpio that “fall through the cracks” of the standard educational system.

Synthesis and Conclusion

The totality of 'ike unravelled through this research at Ka'ala contains insight into social conditions that contribute to a thriving Lāhui, one being the retention and maintenance of a healthy ahupua'a ecosystem. While Ka'ala Farm retains the ahupua'a ecosystem only from uka to kula, the natural water flow from Kānēwai coupled with the infrastructure of ancient terrace allows interdependence between all life forms within the area. As we observed in the resonance between the community building among humans and microbes in the lo'i kalo, Lāhui consciousness is fostered in the space of ecological interdependence.

As the life stories of Mr. Nunes, Ms. Akiona, Mr. Yaw, and Schantell Schmidt-Tayler (a Rap school alumnus) attest to, Hawaiian cultural practices, protocol and milieu have not only contributed to their recovery from the structural violence against their indigenous personhood but also motivated them to become a facilitator of the healing process for those survivors of structural violence. The impact of cultural restoration and revitalization can also be seen as a preventive measure for keiki and 'ōpio from taking the path of self-destruction. In both cases, cultural restoration and revitalization provides them an identity attached to a sense of place that is significantly absent or suppressed in their community, schools, work places, and social networks. A dedication to healing, learning, and connecting is an instrumental aspect of the necessary social conditions for a thriving Lāhui. There is an unanimous consensus

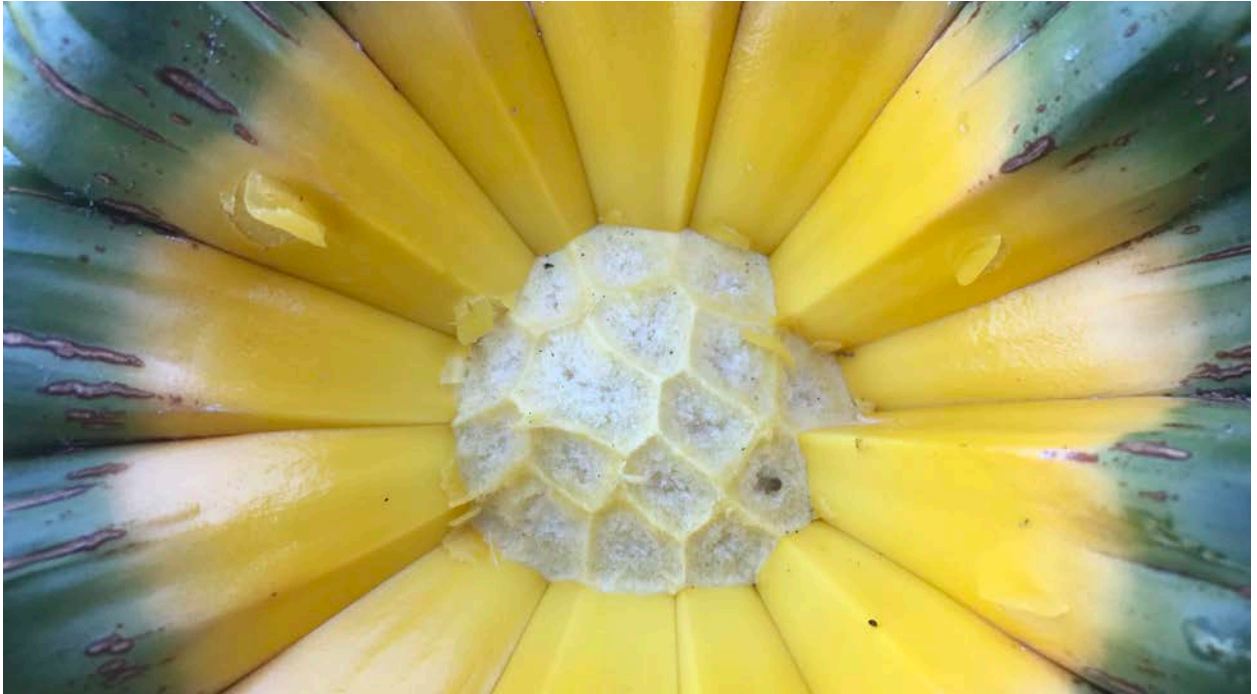
among the interviewees about Ka'ala Farm's high dedication to facilitate healing, learning and connecting among the participants. It is the culture of Ka'ala Farm, as Ms. Akiona explains, that gives love unconditionally so that those who receive unconditional love can start giving love to others.

Finally, a gift and subsistence economy provides the socio-economic base for Ka'ala Farm's dedication to and retention of unconditional love or aloha, the original economic mode of Lāhui. Their conscious aversion to profit focused business model of operation largely is due to a commitment to amplifying the gift economy and subsistence economy where sharing and aloha functions as the primary currency.

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Hua hala



Kahumana Farm Hub, Student Involvement, and Geo-Spatial Understanding

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Do your work when opportunity affords.

(Pukui, 1983, 39)

Seeking to identify solutions for improving economic wellbeing by supporting 'āina based practices, the Kahumana Farm Hub (KFH) team explored economic opportunities and possibilities through KFH as a nearby resource in order to highlight both regional growers' needs and existing assets. Major described findings include identified assets on ideas for improving economic wellbeing (e.g. a gift economy), barriers faced by growers, policy considerations for KFH and the region, as well as proposed solutions that have broader implications for sustainable land use practices. Designed to highlight agricultural abundance in Wai'anae, rather than focus on existing socioeconomic disparity, research incorporated Mā'awe Pono for prioritizing the production of deliverables to directly benefit community. A significant portion of this report details the research design and how Mā'awe Pono impacted how we conducted research. Therefore, the specifics of our assets based approach that consisted of participant observation, interviews and surveys, used towards producing policy briefs and story maps, are greatly detailed. Overall, this report primarily examines the ethnographic research of the KFH subproject team. However, it also describes the work of the mapping team as it relates to the KFH research as well as the ways in which I involved students throughout our 'Imi Na'auao work.

The Kahumana Farm Hub (KFH) team was based on an already established relationship between Saleh Azizi and myself, Dr. Christy Mello. Saleh was both a co-researcher and graduate research assistant in addition to being a Ph.D. candidate in Regional and Urban Planning at UH Manoa and former KFH Manager. Together, we had been developing research to support growers in the region through social enterprise. Research was designed to support the work of Alternative Structures International (dba Kahumana Organic Farm), a 501(c)(3) non-profit organization operating on 50 acres in Luaualei Valley in Wai'anae, that established KFH in 2017. KFH was started as a resource for farmers faced by socio-economic disparities and barriers, living in the surrounding region on the Leeward Coast, to sell their food on the market so that their harvest would no longer go to waste. On a weekly basis, KHF provides growers with economic opportunity by aggregating growers' fruit and vegetables or other related products and then facilitating sale and delivery. KFH began as a network of thirty growers in 2017 and has since expanded to seventy-five growers as of February 2019, 75 percent who identify as Native Hawaiian. 90 percent of the growers who sell to the food hub receive SNAP/EBT benefits.

Research Design and Approach: Mā'awe Pono and Reflexivity in Action

Methods were selected with the objective of applying

data towards the development of deliverables, including maps to support policy briefs on supporting 'āina based practices and access to land. Our major research question on how to improve growers' economic well-being through 'āina based practices, with KFH as a major resource, was designed to aid in improving growers' livelihoods. To do so, barriers and needs were identified. Through an assets lens, the social, cultural and economic aspects of growers' lives were examined to better inform strategies and to develop policy for improving their economic and overall well-being. Further, research documented how growers in the Wai'anae region are increasingly engaging in social entrepreneurial efforts for expanding operations. We explored ways on how to do so. For instance, we paid particular close attention to their value added ideas. Manufacturing a value added product consists of converting food raised or grown and medicinal plants into a product to sell on the market. Pickled mangoes or noni capsules are examples of value added products. Finally, our research also evaluated the impact KFH has on the region and growers.

To capture the lived experiences of growers, participant observation was the primary method in which other methods were grounded. Saleh, being the Farm Hub Manager, was uniquely positioned for collecting detailed field notes prolific with insight. Shea-Lah Kama, a student research assistant, also engaged in fieldwork. Shea, a Native Hawaiian student from Wai'anae, was a graduating senior in anthropology with similar research interests and had once been an intern at MA'O Organic Farms. She was placed at KFH for an internship, which counted towards her senior practicum course. She provided a service to KFH in the giving of her time while she captured data for fieldnotes.

I compiled Saleh and Shea's fieldnotes and later coded them in NVivo. I coded for variables and their attributes within larger patterns and then compared my analysis of the data with the conclusions Saleh had drawn from his coding of the same set of compiled fieldnotes. There was 100 percent consensus with the exception of additional policy insights Saleh had gained from his experience as the Farm Hub Manager, active leadership role in the farmers union at both the state and regional level, and interviews he conducted for his separate but related dissertation research. Interrelated themes that emerged from the data, regarding growers, consisted of their existing assets, barriers, policy considerations, as well as solutions to and measurements of economic wellbeing.

Shea conducted six of the seven interviews with Saleh conducting the seventh interview. Dr. Kū Kahakalu emphasized how Mā'awe Pono involves conducting research that is relevant and respectful to community members. Therefore, conducting interviews, commonly referred to as informal semi-structured interviews, should be based on talking story. Both Shea and Saleh were comfortable with talking story, given Shea is from Wai'anae and Saleh has lived there for the last seven years with many well-established relationships. Notably, talking story took precedence over the interview questions designed to measure stories of place, land use, needs, assets, and water. Therefore, the questions intended to document a sense of place as it relates to land use were not consistently asked for examining trends in responses. Thus, the interviews were coded as fieldnotes and later used for capturing verbatim quotes. Malia Mokuahi and Anthony Amos, student research assistants, later assisted with transcribing the interviews. The following is an excerpt from Shea's

fieldnotes in which she reflects on the interview process after one of her interviews; it embodies the importance of Mā'awe Pono:

This is the beauty of unexpected yet perfectly deconstructed conversations taking place. We (...) shared so much about ourselves and how we were connected. The unique quality of Wai'anae comes from the people of this community. It is such a small community that it is rare to come across someone you have no connection to. We discovered we shared mutual friends, which opened the conversation even more. Often times in the community when you just sit down and talk story you begin to share your whole life story and find commonalities in those stories. This is the primary reason I enjoy storytelling and interviews. You never leave empty handed. You walk away with your shared history, pains, compassion, understanding, and growth. All this invested in to a conversation.

As a way to further enrich student experience and to value their insights, I invited student workers to attend 'Imi Na'auao meetings with faculty. Shea would attend these meetings and also attended our Summer 2017 retreat of faculty and community partners at Kahumana Organic Farms. Based on her experience at the retreat, Shea wrote a deeply moving and insightful reflection shared below. She integrated her personal reflections as a Native Hawaiian student researcher, situated in her community of Wai'anae, into her fieldnotes, which speak to her valuable contributions to not only the KFH research but the larger 'Imi Na'auao project and Wai'anae community.

(...)Visiting Kahumana Organic Farms for our first meeting with the whole team truly was an ideal place for me to be. It connected me back to the valley that I spent most of my days throughout my adult life thus far. The place I

worked and made lifelong friendships with dreaming up what my life is going to be and how I can get there. I found my voice and strength in Wai'anae. I began working with and in community. Culture and education cohesively presented itself as I continued working in and for Wai'anae.

The collaboration between these people and their shared interest in making cohesive change for our beloved community and people. I introduced myself as a University of Hawai'i West O'ahu student focusing on completing my B.A. in Social Science with a concentration in Psychology and Anthropology. At first, I questioned how to separate myself from my work and school related capacities. I wasn't sure how to approach being a Native Hawaiian student from the Wai'anae Coast who also works for Kamehameha Schools. There was a large part of me considering if this was in part a conflict of interest since the grant in a Kamehameha Schools grant. However, Auntie Manu and many others pointed out that they felt it was not a disadvantage. This was seen as a strength to be a Native Hawaiian woman from the Wai'anae community. It was empowering to be reminded that the role I would be playing in this project also went hand-in-hand with my capacity as a native of this place.

(...) It reminded me of the reason I continue to work hard for Wai'anae and why I believe that there is so much more to this community than the negative stereotypes. (...).

The following excerpt from Shea's field notes is from the second day of the retreat and reflects her understanding of Mā'awe Pono and the ways in which it is incorporated into 'Imi Na'auao as well as how Hawaiian knowing served as the foundation of our meetings.

(...). We sat under large monkey pod trees near the pool-

side. It was a beautiful and welcoming weather. (...). We started the day like yesterday. We chanted “E Ho Mai” to again prepare us for the day and offered a pule before beginning. Aunty Manu and Ku took the lead to go over the day’s agenda. We would be going over Mā’awe Pono process until lunch, after lunch we would be going over the necessary steps and resources needed to complete the Institutional Review Board (IRB) process, and Mā’awe Pono in each project. Ku took the lead to share more detail about Mā’awe Pono as it relates to the whole project. What I noticed during her presentation was the way she spoke. Even in her presentation she embodied Mā’awe Pono by implementing Native Hawaiian methodology (ways of knowing) by enforcing Native Hawaiian ways of being and doing. She spoke as though she was telling stories. Using other stories and events in her life to express the subject she was sharing about. (...).

As we continued to delve in to the values and practices some interesting thoughts came to mind. “To make progress we have to reconnect and understand”, “a healthy village raises a healthy child, a healthy child builds a healthy village” – Eric Enos, “it must be for, by, and with indigenous communities – solving our problems using our methods, our ways”, “we must challenge and push the system that restricts our ways of knowing, being, and doing”, “things of quality have no feat of time” – Manu Meyer, “indigenous research – knowledge is relational” – Ku Kahakalau – are some of the shared thoughts among the table.

The group agreed that to make direct impact on community we must change the way in which it [research] functions. Native Hawaiian culture is often hard to “prove” since oral history does not provide evidence to “justify” our thinking. However, when looking at this scenario we

are thinking in a Western way. Native Hawaiians did not question where knowledge came from but preserved and practiced their cultural through these practices. Much of academia will not acknowledge Native Hawaiian culture for the lack of evidence provided to prove the validity and accuracy of its truth. I related to this concept the more I heard about it. Throughout my academic career thus far I have been questioned about what and where I am getting my information. Academia beats in to our brain that scientific or physical evidence is needed in order to prove its truth. This made me hopeful that we could potentially change this thinking with the research we will be doing. It was inspiring to see so much people who agreed and wanted to give the Wai’anae community more.

The above quote demonstrates the value of reflexivity in research for producing rich insight shared by fellow community members. Reflexivity and reflection upon the fact that research is a relational process embrace what some would call bias rather than a valuable source of insightful information. When it fact, it actually exposes biases given the fact that ethnographic research is ultimately the result of one’s own positionality and relationality in which observation is ultimately derived. Saleh and Shea were positioned as interlocutors immersed in community as members prioritizing the wellbeing of their community.

Woven into their fieldnotes, to varying extent, both would reflect on how the research was positively impacting their growth as individuals and ability to serve their community. As a result of this process, they became more attune to things they had not paid attention to in their daily life prior to this research. Similarly, Dr. Manulani Meyer encouraged the larger ‘Imi Na’auao team to write “meta memos” for deeper reflection in-

tended to evoke this type of knowing.

I involved as many students as possible hoping that they would gain these types of positive experiences. I also did so that our students could gain a valuable skill set for marketing themselves when they seek employment upon graduation and for those interested in graduate school. I strive to bridge my pedagogy and scholarship for improving students' learning experience. For these reasons, the 'Imi Na'auao research was integrated into the courses I offer at UH West O'ahu. With additional mapping equipment that I purchased through another small grant, students from my course offerings in applied anthropology (ANTH 481 Anthropology in Action and Building a Career) and visual methods (ANTH 378 Visual Depictions of the Human Experience and Media Power) assisted with the mapping subproject that overlapped with the KFH project. 'Imi Na'auao speakers would visit class and students were provided the concept paper for learning more about the research process. The GIS course focused on mapping is now an official course, as opposed to an "experimental" course. It is now offered through both UH West O'ahu's Anthropology and Sustainable Community Food Systems concentrations. Familiarity with GIS is a highly valued skillset in the current job market.

I also coordinated the production of a video for the overall 'Imi Na'auao project that was integrated into the visual methods course in which a student with video experience, Christian Mostoles, was hired to work as a peer mentor to other students in the class. With Christian as their mentor, students were given the opportunity to capture footage, conduct interviews, and edit footage. Gina Carroll, having established relationships and rapport with interviewees, would also attend the



ANTH 481 Applied Anthropology students mapping at Kahumana Organic Farms with Saleh and Dr. William Belcher

interviews with students to ensure students asked appropriate questions and create a comfortable experience for all involved. Completion of the video is pending.



Students creating storyboards while Gina provided 'Imi Na'auao insight for the video

Mā'awe Pono enhanced both classroom learning experience and positively impacted our use of research methods. This was also the case with our surveys for the KFH research. Anthony Amos, undergraduate research assistant, assisted Saleh and myself with distributing the seventy-four surveys. He inputted the data into Qualtrics that I later analyzed. Growers were recruited through KFH, the Hawai'i Farmers Union United Wai'anae Chapter meetings, and the local Wai'anae Coastal Comprehensive Health Center's Makeke Farmers Market. An additional ten individuals living in

Pu'uhonua 'O Wai'anae completed the survey. Many, here at Pu'uhonua, grow their own food.

The coherence and clarity in the survey design is a result of working with Dr. Kū Kahakalau who guided us through the Mā'awe Pono process. Kū initially observed that the logic of the draft survey would not be readily apparent to community members, and it is important for our community to understand the relevancy of the research. Thus, I reformatted and organized the survey to clarify our intention in regards to how we believed it would benefit community. Needed changes also became evident when Saleh conducted five preliminary surveys in which all five participants, KFH growers, indicated they were not comfortable answering questions about overall household income. They felt this was the personal business of those sharing their household. This would have been insightful information useful for a clearer measurement of economic disparity, however, those particular questions were deleted out of respect. After viewing the survey, representatives of the HFUU state chapter adopted the survey to distribute statewide; thus, it became a useful tool for the general public. The following is how the redesigned survey began and demonstrates the clarity brought forth due to implementing Mā'awe Pono:

Aloha, You are helping to create a pathway for helping us to better help you A) get top value for your food related products, B) access more land, and C) gain additional resources related to agricultural production/marketing/distribution. Any questions you do not care to answer, you can leave blank. Mahalo nui for your time and knowledge.

Maps and Spatial Representations of Wellbeing

As mentioned, the KFH project overlapped with the mapping subproject. Dr. Monique Mironesco began the mapping subproject in order to ground truth data from an earlier study on food insecurity and the retail environment in Wai'anae. For the 'Imi Na'auao project, we sought additional maps incorporating an assets approach to reflect the agricultural abundance in Wai'anae. The rationale was to create a visual tool to justify the development of policy briefs supporting the expansion of locally produced foods in order to address food insecurity in the region. We drew upon early KFH fieldwork observations regarding policy in addition to other concerns expressed by the larger 'Imi Na'auao group. These interests provided the basis for additional mapping areas.

For developing assets based maps, we worked with Michael Wahl, our GIS consultant. He taught a GIS course in the Fall 2018 so that students could complete the ground truthing of the data they collected in a Fall 2017 course taught by Dr. Albie Miles. Michael integrated the additional mapping project areas into the 2018 course. One project area entailed examining the relationship between agricultural land and housing in order to back Saleh's interest in developing policy to support housing on agricultural land. Another project area was devoted to the identification of suitable and potential agricultural land. The anticipated outcome was to support the development of farms or growing regions on land not already zoned as agricultural land. A fourth project area illustrated where food is being grown and where it is being sold in order to provide a visualization of the fact that there was food insecurity in an agriculturally abundant place. Much of the data for this fourth project area came from the KFH research, including the surveys, and data kept by KFH for their internal purposes. Michael

incorporated these four project areas into the GIS course in which he co-produced story maps with students. Upon completion of the course, he later finessed the maps with Monique's and my feedback, editorial input, additional gathered data, as well as input by Kū and community partners including Kahumana Organic Farms, MA'O Organic Farms, and Ka'ala Farms.

The maps are an example of a deliverable produced to benefit and impact community as a result of this research. With our sharing of the maps, community members have come forward with their ideas for building upon this research to address their needs as described in the concluding thoughts section. Maps create spaces of possibility and social transformation. Maps serve as a focal point for groups to gather and discuss the visual depiction of layers of data as a way to build relationships and identify solution strategies. As such, the 'Imi Na'auao maps are readily accessible to the public, foundational for future work, and can be found at the following link: <https://uhwo.maps.arcgis.com/apps/Cascade/index.html?appid=895ddf-2da16246e99489fab7ae9c3f43%20>

Growers' Assets and the Barriers They Face: The Role of the Gift Economy

The maps are a visual representation of insights gained earlier in the project. As a result of the KFH research, the mapping project area identifying suitable land for growing was based on earlier findings observing that a major barrier for growers is not having the ability to live where one grows food. Sixty one survey respondents reported growing on other people's land, mainly that of friends and family. 48 percent of these growers would like additional land for food production and other growing related activities. Based on the central issue of

access, especially regarding land, the following discussion of major findings is organized around the topics of identified barriers, policy implications, and assets for improving economic wellbeing. Proposed solutions constitute a related area of findings to be discussed in the concluding section.

Before the 'Imi Na'auao project, Saleh and I had been seeking grants to support growers with developing their business ideas based on the assumption that this would improve economic wellbeing. The KFH team surveys for the 'Imi Na'auao project were developed to capture relevant information for KFH to serve as a future location providing business plan writing support as well as training on marketing, quality control, packaging, etc. Responses confirmed that community members are interested in developing businesses based on their value added products that they currently produce or hope to produce in the future. Examples of value added products produced via KFH include medicinal capsules, smoothies, pickled products, mamaki tea, dried fruit rollups, trail mix, and juice.

Out of the sixty-eight respondents that answered the questions on business ownership, fifty-one people do not own a business though 27 percent of them would like to start one. Examples of existing businesses include farms, selling mochi, helping those living in Pu'uuhonua 'O Wai'anae who experience homelessness to collect kiawe for making protein bars, and packaging fruit. Ideas of those who would like to start a business ranged from owning a nursery or restaurant, selling medicinal items, operating roadside food stands or food trucks, in addition to other ideas. The survey included questions on why people grow certain foods so that we could gain a sense of potential business ideas

that could be encouraged through KFH for those who are interested and wanting assistance. There were no significant statistical associations between their reasons for growing or raising food and business interests. However, out of the seventy-four who answered the question on reasons for growing or raising food, forty-two people indicated that they grow food for the expressed purpose of giving it away.

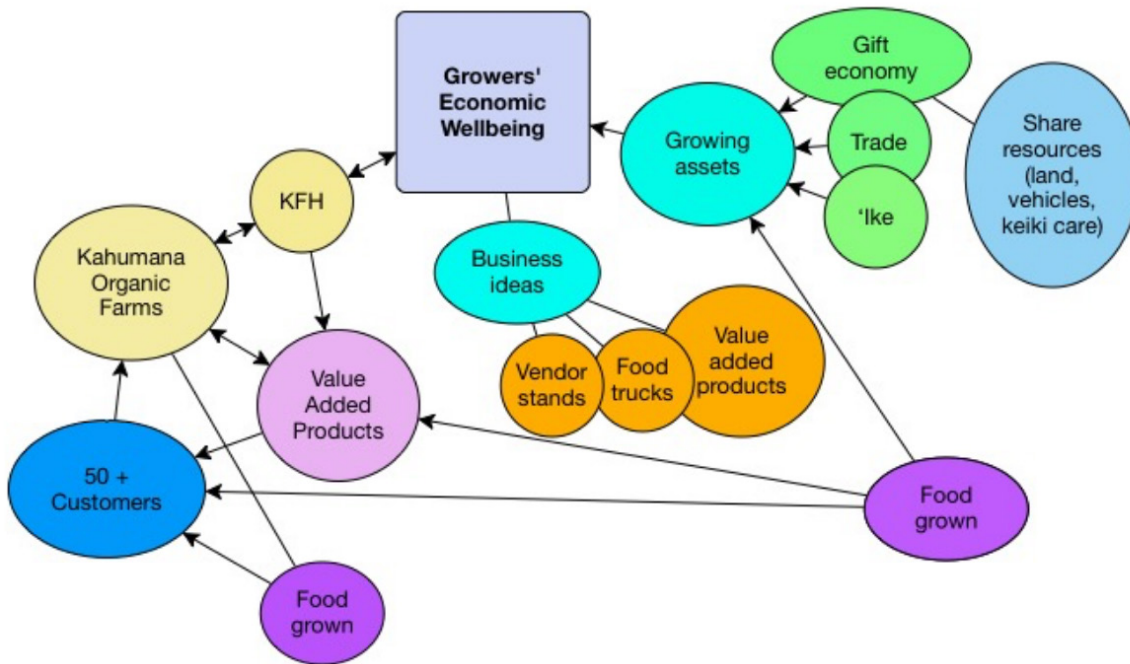
The fact that many people grow food to give it away, speaks to the importance of the gift economy—the exchange of goods typifying mutual support—occurring in Wai'anae. As we observed in our work with growers, a gift economy is one significant asset that enhances economic wellbeing. Attributes of growers' gift economy involve sharing land, watching each other's chil-

dren, and sharing other resources such as transportation or homes.

Figure 1 below accounts for the role of the gift economy in growers' lives, in particular those who sell to KFH.

Upon analysis of both quantitative and qualitative data, it became apparent that identified barriers were those not completely met by the gift economy due to the cost of living constraints, highly inflated by the larger neoliberal global economic system. As mentioned, access to land is a major barrier towards increasing food production, which is also considered a barrier to farm ownership. Barriers to farm ownership involve lack of equipment, infrastructure, and machinery. Barriers to the production of food, for those who identify either as

Figure 1



farmers or backyard growers, are land and water access, physical limitations due to age, lacking available childcare or transportation, time constraints due to other responsibilities such as jobs, experiencing agricultural theft, not living where one grows their own food, as well as the need for training and/or labor.

KFH is a valuable resource in how it facilitates the sale of fruits and vegetables for growers and addresses some of these barriers. Common types of food sold by growers to KFH include mango, ulu, papaya, squash, tomato, cucumber, coconut, dragon fruit, banana, lychee, starfruit, jabong, tangerine, lemon, orange, lime, and grapefruit. When KFH facilitates the sale of the produce on the market, it takes thirty cents of each dollar sold. The grower makes seventy cents per each dollar sold as opposed to the zero dollars they made prior to KFH. KFH supports growers who wish to sell directly to the market by sharing the name of their buyer.

The following two quotes by two of the KFH growers demonstrate the valuable service it provides to community as a resource for reducing waste as it provides an additional source of income. For instance, one grower told Saleh, "...I do know it's a resource that could help me, would help me and is helping me cuz I could go pick my ulu filled tree and make eighty dollars, that's something that was unheard of for a very long time in Wai'anae because we did not have a Hub." Shea, student research assistant, seeking to learn about value added uses of produce, asked one KFH grower: "Do you guys do anything special with your citrus?" Their response was "Um no not really, I just found out about this farm about selling because it was going to waste... I lived here over thirty something odd years and I never

know had the farm down here Kahumana."

Policy Considerations for Revitalizing Lāhui

As evidenced by the above quotes, there are several policy implications directly related to food hubs based on Saleh's observations regarding KFH and his role as its Manager. Policy considerations relate to increasing food security, reducing food waste, and perpetuating culture-based knowledge. KFH increases food security by reducing food waste. Produce such as fruit from trees that would have gone to waste is now sold on the market. From food that once went to waste, the KFH sold 200,000 pounds of produce in two years as the network of thirty growers in 2017 increased to seventy-five growers by 2019. This has huge implications in terms of improving food security beyond a regional scale if there was more government support for the development of food hubs.

Much of the knowledge used towards growing in Wai'anae is based on the perpetuation of traditional Hawaiian expertise on how to manage the 'āina, which can be applied towards enhancing local food supply in Hawai'i. Thus, the transfer of this knowledge from kupuna to newer growers is essential for increasing food security and supporting cultural restoration efforts. In part, as a result of this historical knowledge and way of knowing the world, many of the growers' subsistence activities are linked to their identity in which they do not view themselves as farmers. Saleh captured this fact in his fieldnotes during a conversation with one of the KFH growers when he asked her: "Do you think of yourself as a farmer?" Her response was "oh no, this is just what we do." Thus, programs, federal funding opportunities and policy focused on supporting "farmers" often overlooks growers' needs.

Policy suggestions generated out of this research pertain to both KFH and how to impact growers living in the region. To further the level of positive impact on the community, there are several suggested areas for how KFH, in particular, can advocate for growers such as accessing water for agriculture, reducing agricultural theft, providing training and education, and addressing these needs through political representation at the Hawai'i's Farmers Union United and the National Farmers Union.

In regards to KFH and food hubs at other locations, there could be procurement or more government funded support programs. As observed by Saleh, food hubs are a potential resource for creating linkages to markets, providing start up capital, offering programs for accessing land, providing business plan development support, teaching financial literacy, and providing training on such things as quality control. Food Hubs can also serve as a resource for offering workshops such as cooking demonstrations, ideas on growing techniques, etc. Currently, the HFUU Wai'anae Chapter, in which Saleh and I serve on the board, organizes community gatherings offering these types of workshop activities.

Additional policy suggestions involve housing. Saleh is currently developing a policy brief to support housing on agricultural land in Hawai'i, which is currently zoned for not building new structures. He observed having the ability to live where one works attracts more people who want to engage in growing food. Moreover, having available housing allows for growers and farm owners to attract skilled workers. One of the primary barriers reported by 20 percent of survey respondents, both

those who identify as either a backyard grower or a farm owner, was not having enough labor help.

Finally, an essential area for policy development commonly suggested by growers involves creating more access to water. Each of the seven interviewees mentioned the need for greater access to water. People, in general, commonly complain of how the Board of Water Supply has been diverting water from the Wai'anae region. A few of the interviewees referenced the fact there are stones in their yards from where streams use to run down the mountains. One person, in particular, recalled a higher flow of water and lamented on this loss:

When I first moved up here too that stream it flowed maybe about three four months out of the year. Now, it doesn't flow at all. And you know all old timers that's still around say they use to catch papai out of there and it ran six to eight months out of the year.

Many expressed resentment toward the Board of Water Supply with one person imagining someone behind a desk, pushing buttons, and laughing about having the ability to control the flow of water.

The expense of water is another source of frustration. Growers suggest agricultural rates for those considered backyard growers and not necessarily farm owners. One interviewee while talking story with Shea shared,

Working with the state is a pain in the ass. Everything they say yeah to and then next thing you know they say no to or you gotta have this or you gotta have that. And that's another thing too, our state is trying push towards Ag but I can't even get Ag rates right now cuz I don't have enough things growing yet in their eyes. So that's a three/ four hundred dollar water bill that could be down to a hundred fifty if I had Ag rates. You know that's something

you gotta challenge you know, the state you know, they don't even have a grace period to help you get started. I spent three thousand dollars on the back-flow meter and irrigation throughout the property, still can't get Ag rates. I think the state is challenging, they say they want to help be more agriculture friendly.

Finally, in regards to water access, the military currently has access to water in the region as well as ownership and occupation of land that could be used for agriculture. As noted by Saleh in regards to Kahumana Organic Farms' and MA'O Farms' access to water, these two farms would have to negotiate with the U.S. military for access, given they are all located in the Lualualei Valley of Wai'anae.

Concluding Thoughts: Proposed Solutions and Future Work

Future research will further address the issue of water access. Maps will be developed that reflect water use, availability, and accessibility. For supporting an increase in agricultural production, there must be enough water. The 'Imi Na'auao maps were developed to serve as a baseline for the other projects and policy briefs. Future maps will incorporate water use. This is an example of how the work of 'Imi Na'auao will be continuous.

In addition to maps and developing policy around the earlier identified areas, there has been discussion on strategies for more effectively improving economic wellbeing and the facets of health tied to income. Not having a for profit status limits ability to generate revenue for expanding operations and purchasing land for both cultural preservation and food production reasons. One possible alternative explored by a couple of

community partners is the development of a Community Development Financial Institution (CDFI) to pool resources for economic development purposes.

The development of non-exploitive for-profit business models, designed to generate revenue for community, is one possible solution to generating needed funding for land acquisition (reclaiming lāhui) to improve wellbeing. This is one possibility especially given the fact that developers are increasingly buying up property in the region. One way for community to generate revenue to apply towards purchasing land would be through agricultural tourism. I have developed research on this topic to begin Summer 2019. It will explore the value of Native Hawaiian social enterprises offering travel experiences rooted in place-based education premised on mo'olelo. Research will determine strategies for repurposing the current culturally exploitive and natural resource depleting tourism industry to instead serve Native Hawaiian travel experience offerings as a tactic for increasing biodiverse agricultural production as a climate change mitigation strategy.

Finally, growers have several other ideas for increasing food production and/or sustaining current activities such as creating a cooperative in which growers can share equipment. Activism ideas, for contesting the further encroachment of foreign owned industrial agriculture operations, include the idea to grow mushrooms to legally prevent those organizations being allowed to spray fungicides that would kill the neighboring mushrooms. Growers also have climate change mitigation ideas regarding crop cover plants for water retention and capturing carbon. Further research could document these ideas and support the public dissemination of these ideas via organizations such as

the HFUU that are attended by growers. The genius of cultural awareness and solutions embodied by the Wai'anae growers' everyday values and practices have worldwide implications and applications.

Concluding insights and solutions are mainly those of our community members. Uplifting these ideas to apply towards the development of deliverables—such as maps and policy briefs—to institute systemic change, through collaborative university and community research, is the result of our collaborative 'Imi Na'auao team partnership. Our work embraced transdisciplinary knowledge guided by the tenets of Mā'awe Pono. In today's age of anthropogenic climate change, research that seeks solutions to wellbeing must be open to new possibilities in which survival depends on honoring ancient wisdom for restorative efforts regarding sustainable land use. Healthy 'āina equals healthy people.

Policy Paper: Farm Labor Dwellings in Hawai'i

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O ka hāule nehe o ka lau lā'au, he hāwanawana ia i ka po'e ola.

The rustling of falling leaves is like a whisper to the living.

It is the living who appreciate such things.

(Pukui, 1983, 2404)

As the most geographically isolated state in the country, Hawai'i imports approximately ninety-two percent of its food, according to the United States Department of Agriculture. Currently, Hawai'i has a supply of fresh produce for no more than ten days. Ninety percent of the beef, sixty-seven percent of the fresh vegetables, sixty-five percent of the fresh fruits, and eighty percent of all milk purchased in the State are imported. The legislature further finds that Hawaii's reliance on out-of-state sources of food places residents directly at risk of food shortages in the event of natural disasters, economic disruption, and other external factors beyond the State's control (Hawai'i State Legislature, Regular Session 2012).

Hawai'i's current inability to feed itself is dangerous and extreme. Both government leaders and local consumers want to reduce our dependence on imported food. Hawai'i's farmers are responding to consumer demand for local food. In 2015, sales of locally produced foods reached 84.4 million dollars; more than 50 percent of the total farmer base participated in the local food industry and one third (33 percent) of them were new farmers (less than ten years). However, Hawai'i may be unable to reach its self-sufficiency goals unless we provide adequate housing for farm workers. After setting the context of our modern food security crisis, I evaluate the state of local food production and its ben-

efits. My research suggests that one of the major barriers for increasing food production is the availability of labor and farm worker housing. Focusing in on this aspect of the problem, I analyze the issues related to farm worker housing and offer possible public policy solutions.

Historical Background: From 100 Percent Self-Sufficiency to 90 Percent Dependency

Research suggests that the modern-day ancestors of today's Native Hawaiian community resided in the Hawaiian Islands at least as far back as 500 and 700 A.D. They brought with them taro, sugar cane, bananas, nuts, pigs, chickens, sweet potatoes, and other food items that they managed through small farms throughout the islands (State of Hawai'i, 2012b). During this time and prior to the arrival of Captain Cook in 1778, Native Hawaiians had been 100 percent agriculturally self-sufficient for over a millennium, supporting a population of 800,000 to 1,000,000 people (Stannard, 1989). It was commonplace, if not expected, that people from all walks of life would engage in agricultural labor, and Hawai'i's Indigenous political system maintained processes that ensured adequate agricultural labor to serve the Hawaiian people. Today, Hawai'i has a population of 1.4 million people and a 90 percent dependency on imported food.

³ The author thanks Kāwika Riley, PhD Candidate at the University of Hawai'i at Mānoa Department of Political Science for his consistent support, research, and editing of this paper.

Export-oriented agriculture first became popular in the 1850s with Irish and sweet potatoes, onions, pumpkins, oranges, molasses, and coffee, much of which was shipped to the West Coast of the U.S. This was around the same time as when the landholding system was changed to allow fee simple ownership of land by private persons (Hollyer, 2013). Fifty-seven percent of all lands in Hawai'i (approximately 2.3 million acres) was privatized with the majority owned by plantations (Philip, 1953). Sugar and pineapple industries eventually became the largest export crops, which required a significant number of farm laborers (Philip, 1953). Prior to 1878, most farm workers came from China but in that year, workers arrived from Portugal. After 1885, mostly Japanese workers were beginning to reach Hawai'i. Filipino farm workers arrived in 1900, followed by smaller groups of immigrants from Korea, Puerto Rico, Spain, and Germany (Philip, 1953). While different from the agricultural labor system established by Native Hawaiians prior to Western contact, the Hawaiian Kingdom and subsequent U.S. based governments also prioritized policy actions that secured the farm labor that residents and industry desired (State of Hawai'i, 2012b).

The term “diversified agriculture” was first introduced when sugar and pineapple industries experienced a decline in the 1950s. To quote Philip (1953, preface): *“The term diversified agriculture as used in Hawai'i includes all agricultural industries on the Islands other than sugar and pineapple.”* In 1951, Hawai'i had a well-balanced trade freight with approximately 2 million tons coming in and two million tons going out (Philip, 1953). Only two decades later, imports were on the rise and locally grown and locally consumed food was in a decline. The 1970s witnessed the continual decline in plantation size production levels and, most

importantly, planted acreage for pineapple and sugar declined, while food imports outpaced locally grown food to meet the growing tourist demand (State of Hawai'i, 2012b).

Since the decline of plantation era agriculture, public policy objectives have transitioned from promoting “any other industry than sugar and pineapple” to promoting “local food grown for local consumption”, also known as increased agricultural self-sufficiency, as described in the 2012 Hawai'i Food Security and Self-Sufficiency Strategy (State of Hawai'i, 2012a). Ironically, while practices and policies allowing for sufficient agricultural labor were a priority during the plantation era and earlier, Hawai'i has not developed a clear farm worker strategy specific to its diversified agriculture and local food production goals.

Local Food Production in Hawai'i Today

While our state remains dangerously dependent on imported food, local food sales have been growing in recent years. In the U.S. mainland, local food is a niche market with only 15 percent of farmers participating. In contrast, a 2015 USDA local marketing study shows there were 3,512 farm operators involved in the sales of local food, amounting to over 50 percent of Hawai'i's farmers in 2012 (USDA, 2016a; USDA, 2012). Further, in 2016, sales reached 84.4 million dollars, of which 22.8 million dollars came from farmers markets, community supported agriculture (CSA) and on-farm sales, with the remainder from supermarkets, restaurants, public institutions such as schools, prisons, and hospitals, and wholesalers (USDA, 2016a).

Local food production in 2012 represented approximately 12 percent of the agricultural sector in Hawai'i

(USDA, 2012). Hawai'i had tripled local food sales in the ten years prior to 2012 and doubled the number of farm operators that participated in food production for local consumption during the last five years (see charts at the end of this paper); nonetheless, Hawai'i as a whole was still relying on food imports for nearly 90 percent of the food consumed by Hawai'i's residents and tourists combined (State of Hawai'i, 2012a). This continued to be the case when in 2017, Hawai'i's Governor David Ige stated that "...instead of continuing to import 90% of our food, we need to take steps to produce more food locally" and create a goal of doubling local food production so that 20 to 30 percent of food consumed is grown locally by 2020 (Ige, 2017).

There remains a major gap between locally produced food and local food consumption; consumers in Hawai'i spend 6.09 billion dollars on food annually (Leung and Loke, 2008). Every 1 percent increase in food self-sufficiency (e.g. 1 percent increase in consumption of locally produced food) would result in 60 million dollars in local sales and approximately 1,578 additional jobs. A UH Mānoa study on agricultural self-sufficiency reports that an increase in local food purchases can greatly contribute to many jobs; Leung and Loke (2008) show that a one million-dollar increase in final farm-gate sales of locally grown fresh vegetable generates 26.3 jobs.

Increased agricultural self-sufficiency compared to plantation-era farming requires small farmers to hire more labor for diversified agriculture operations. New policies and objectives are needed that prioritize an agricultural economy based on local food production for small farmers. A 2015 report to Congress on local food systems (Low et al., 2015) shows that selling to lo-

cal consumers through farm stands, farmers' markets, or CSAs is labor-intensive and farmers with local sales employ significantly more labor than farmers without local sales. Because farms that market through conventional channels require less labor, these farms can become larger before labor must be hired; however, farms using local marketing would need to begin hiring labor at a smaller scale of production (Low et al., 2015). In Hawai'i, small farmers have reported difficulty in finding labor to grow their operation. A State mandated report identified lack of farm worker housing as a major obstacle that increases the cost of local food production (State of Hawai'i, 2012a); the problem is further detailed in the report:

(...) many dwellings located within the Agricultural District are transient vacation rentals (TVR) or bed and breakfasts (B&B) not connected with a farm or agricultural activity that generates income. In many cases, a token amount of farm income justifies allowing additional dwellings within the Agricultural District. These conditions lead to a lack of farm worker housing by accelerating agricultural decline due to farmers' disinvestment in their farm operations in anticipation of development and the selling of agricultural lands to non-farmers whose primary objective is income producing TVRs and B&B (State of Hawai'i, 2012a, p 25).

The problem, thus, intersects with the high cost of living in Hawai'i and farmers' income opportunities arising from renting houses to residents and tourists instead of investing in housing labor as an income opportunity for farmers.

Small farmers and experts in Hawai'i identify availability of labor and farm worker housing as a major factor in increasing local food production (State of Hawai'i,

2013). Farmers and agricultural experts describe the current state of labor as dismal. Challenges include a lack of both unskilled and skilled labor; non attractive pay in the industry; confusing labor laws; the inability to retain seasonal workers; and language barriers with migrant workers.

In addition, the type of work in agriculture is usually hard and monotonous labor, so workers get tired of the hard work and get bored (State of Hawai‘i, 2013). In order to overcome some of these issues, farmers suggest incentivizing work. By engaging workers in the whole process and not just one aspect, it may make the job more meaningful. Also, incentives such as free or subsidized housing can create appeal for agriculture workers (State of Hawai‘i, 2013).

Small and New Farmers in Hawai‘i

Compared with the U.S. mainland, Hawai‘i’s agricultural sector faces unique challenges and opportunities. In Hawai‘i, 33 percent of farmers are classified as new farmers and have operated less than ten years compared to 22 percent of the farmers in the U.S. mainland. As new farmers have smaller operations compared to farms that have operated for more than ten years, they account for only 10 percent of production of family farms in the U.S. mainland. Despite available loan programs, new farmers often report that their biggest challenge with getting started in farming is difficulty with accessing enough capital and the appropriate type of financing, as well as farmland for operating at a size capable of earning a sufficient profit to build their equity and collateral in the farm (USDA, 2013).

Another major difference with the U.S. mainland is the structure of the market and large farmers: the vast ma-

jority of farmers in Hawai‘i are small-scale producers. On the U.S. mainland, 223,634 of 2,109,303 farmers (10.5 percent) operate on less than ten acres and 90 percent of them each generate sales less than \$25,000 per year (USDA, 2012). In Hawai‘i, 4,648 of 7,000 farmers (66 percent) operate on less than ten acres and 90 percent of them each generate sales less than \$25,000 per year (USDA, 2012). On the island of O‘ahu, 743 of the 999 farmers, 74 percent, operate on one to nine acres (USDA, 2012). In other words, farmers in Hawai‘i operate with a larger share of small farmers compared to the U.S. mainland.

Most small farm operations lack the scale to build their own processing, storage, and distribution infrastructure. Moreover, marketing and distribution represent a substantial cost and time drain, as does complying with food safety regulations. These small farmers also lack the market power to be able to negotiate favorable conditions with large distributors and in some cases their production levels are too small to be of interest to distributors. In short, small farmers face many challenges in reaching economic viability. However, given their large numbers and the fact that many of them use regenerative techniques that re-build healthy soils and protect the environment, they represent the best hope for Hawaii to achieve increased self-sufficiency.

As a part of the 2017-2018 University of Hawai‘i West O‘ahu study entitled *‘Imi Na‘auao: Hawaiian Knowing and Well-Being*, I visited with multiple farmers in the Wai‘anae region. Tom McDonald, CEO of Kahumana Organic Farms (KOF) that operates in the Lualualei Valley in Wai‘anae, said that “if we collectively can figure out how to create more housing for farmers then we’ll definitely attract more people to the industry. But, if

you're a farmer. This is not so much different from any production industry (...) if UH wants to attract students and young faculty, it's got to provide housing. People just can't do it on their own, there is not enough housing."

KOF also operates a farm hub to support community and backyard growers with marketing and sales. In 2017, three farm families who were members of the farm hub program had to move from Wai'anae to Palolo, Hawai'i because of the lack of affordable housing rental. As a result, approximately 30,000 dollars in annual sales and 25,000 lbs. of locally grown food was stopped. McDonald further said that "...we need to change the building code and somehow provide an extra incentive, a financial incentive, so that farmland can also be used as workforce housing for farmers."

More evidence that farm housing is an important issue for farmers comes from a Hawai'i Farmers Union United (HFUU) 2018 membership survey. HFUU is a statewide organization formed in 2009 as a 501(c)(3) agricultural organization formed under Hawai'i law. It advocates for the right of farmers to create and sustain vibrant and prosperous agricultural communities for the benefit of all Hawai'i through cooperation, education and legislation, and has grown to 1,359 members in thirteen local chapters statewide (HFUU, 2018). HFUU (www.hfuuhi.org) is a part of the National Farmers Union (established in 1902), also known as the National Farmers Educational and Cooperative Union of America. At the beginning of the 2018 membership survey, members were given over forty statements and asked to rate the statements from strongly agree, agree, neutral, disagree, or strongly disagree. After the list of questions, members were asked to write an explanation to which item they

thought was the most important. A total of seventy-eight comments were given and organized into themes. The predominant theme was concern with living on farms and the second most important theme was food hub and marketing, and the third was the importance of political and legislative representation (Azizi, 2018).

Comments from those themes are prevalent enough that we can say with high confidence that they represent the wider HFUU membership; 24 percent of members, who are small farmers, felt that living on farms is the single most important issue facing local agriculture in Hawai'i. The reasons for farmer and labor housing being the most important included reasons such as 1) always having a person present on the farm to monitor daily changes and apply hands-on solutions; 2) farmers wanting to offer a whole package solution for workers including rent to attract reliable labor and move away from transient agricultural volunteers; 3) farmers feeling that living on the farm allows workers more time to focus on production; and 4) homelessness has become such a big problem in their communities and theft is becoming such an alarming issue that living on the farm would provide better security to prevent the theft of crops (Azizi, 2018).

Public Policy Support for Local Agriculture

Agriculture, farm dwelling and increased local food production for agricultural self-sufficiency are important policy objectives in Hawai'i. The State constitution of Hawai'i in Article XI part three states that "the State shall conserve and protect agricultural lands, promote diversified agriculture, increase agricultural self-sufficiency and assure the availability of agriculturally suitable lands (The Hawai'i Constitution, 1959, Section 3)."

Further, part ten of Article XI states that “lands shall be used for the development of farm and home ownership on as widespread a basis as possible, in accordance with procedures and limitations prescribed by law (The Hawai'i Constitution, 1959, Section 10).”

Efforts for Hawai'i to transition away from plantation agriculture to become more agriculturally self-sufficient through diversified agriculture was extended by Governor Abercrombie under the New Day in Hawai'i Plan (State of Hawai'i, 2010) and a three-volume self-sufficiency strategy was published in 2012 (State of Hawai'i, 2012a). In the last decade, Hawai'i's agricultural policies have shifted from focusing on supporting plantation export-oriented agriculture to placing more support on food production for local consumption. The Hawai'i Department of Agriculture Strategic Plan (HDOA, 2008) of 2008 mentions several strategic priorities that concern local food industry farmers, including objective six for addressing labor and agricultural worker housing issues by: 1) facilitating discussions with federal, county, state, and nonprofit organizations concerned with rural housing; 2) partnering with organizations to establish agricultural housing units; and 3) coordinating with the Department of Labor and Industrial Resources in identifying pools of available farm labor.

The Hawai'i State laws also show support for farming and self-sufficiency. Chapter 165- Hawai'i Right to Farm Act includes supports for farming as an activity and has declared it to be in the public purpose and deserving of public support (Hawai'i Revised Statutes, 165-3). The laws have designated special funding for farm housing with a revolving loan program offered through the Department of Agriculture and the Agribusiness Development Corporation for the development of the purchase,

construction, or improvement of adequate farm dwellings and other essential farm buildings (Hawai'i Revised Statutes, 155-9). Chapters 226 and 227 include objectives and policies for the economy with a special focus on agriculture as follows:

Promote economically competitive activities that increase Hawai'i's agricultural self-sufficiency, including the increased purchase and use of Hawai'i-grown food and food products by residents, businesses, and governmental bodies; Perpetuate, promote, and increase use of traditional Hawaiian farming systems, such as the use of loko i'a, māla, and irrigated lo'i, and growth of traditional Hawaiian crops, such as kalo, 'uala, and 'ulu (226-7-17); and Increase and develop small-scale farms (226-7-18).

Chapters 4 and 155 state that the U.S. Department of Agriculture may cooperate with private and federal government farm loan sources to increase the amount of loan funds available to qualified farmers in the State. In that respect, the USDA has a farm housing loan program for low-income farmers that the Hawai'i department of agriculture could cooperate with to attain more funding for farm labor housing projects. The aim of the USDA program is to provide affordable financing to develop housing for year-round and migrant or seasonal domestic farm laborers. The program assists qualified applicants that cannot obtain commercial credit on terms that will allow them to charge rents that are affordable to low-income tenants (USDA, 2018).

City & County of Honolulu Zoning Requirements for Agricultural Dwellings

Current zoning codes with the City and County of Honolulu allow for small-scale farmers to have one single farm dwelling unless they own more than five acres of

land. Farmers who own more than fifteen acres of AG1 classified land or six acres of AG2 classified lands are also allowed to develop agricultural cluster(s). Under state law, “Farm dwelling” is defined as a single-family dwelling located on and used in connection with a farm, including clusters of single-family farm dwellings permitted within agricultural parks developed by the State, or where agricultural activity provides income to the family occupying the dwelling (HRS Chapter 205). Within agricultural clusters, detached, duplex and multifamily dwellings are permitted.

For the City and County of Honolulu zoning regulations, section 21-5.250 states that farm dwellings in the AG-1 district shall not exceed one for each five acres of lot area. In the AG-2 district, the number of farm dwellings shall not exceed one for each two acres of lot area. In addition, each farm dwelling and any accessory uses shall be contained within an area not to exceed 5,000 square feet of the lot. (City and County of Honolulu, Added by Ord. 99-12).

The City and County of Honolulu has two legally approved options for farmers on less than five acres who want to expand beyond a single dwelling unit. Sec. 21-8.20 of the City and County of Honolulu (2018) Land Use Ordinance states that ‘ohana dwellings have been allowed to encourage and accommodate extended family living, without substantially altering existing neighborhood character. Further, one ‘ohana dwelling unit may be located on a lot zoned for residential, country, or agricultural use, with some restrictions. In addition, the City and County of Honolulu permitted Accessory Dwelling Units (ADUs) for all residential districts to increase the number of affordable rental units and alleviate the housing shortage in the City (City and County of

Honolulu, 2015).

There appears to be options for the development of additional farm worker housing on farm land, but this does not resolve other factors that make it difficult for farms to attract the worker population needed to double or triple local food production. For example, the discussion on farm worker housing has been unresolved for a long time because of concerns with gentleman estates on farm-zoned lands and fear of prompting residential developments in the country. While the policy objectives in the Hawai‘i constitution and state laws support adequate housing for farmers and workers, I suggest that we currently lack the support mechanisms to implement our public policy objectives for increasing agricultural self-sufficiency. In this paper, I try to move this discussion forward by finding solutions to the problem of farm worker housing. While local food production might continue to increase in Hawai‘i because of beneficial local marketing opportunities, as advocates for agriculture, we also should be listening to small farmers and what they consider is the most important issue in local agriculture, which is available and affordable housing. This is something people understood during the plantation era, resulting in Hawai‘i being the world’s lead-producer of sugar and pineapple at the time.

A small farmer in diversified agriculture could employ between ten and twenty workers on a small productive farm on five acres; however, the farmer is unlikely to invest in a large farm dorm or farm labor housing for several reasons. One reason is that small farmers do not have much time for anything other than production, and they are needed on the farm. However, agricultural clusters (e.g. farm dorms) on O‘ahu zoning is

permitted on large tracts of land with a minimum of fifteen continued acres (AG-1) and a minimum of six continued acres (AG-1). Small farmers with smaller plots are allowed the additional options of 'ohana dwelling units or an ADU in the case when the land has a country designation. Availability of more funding would allow some small farmers to better access housing solutions for their labor. An effective solution to this problem would not have to amend rules to allow farmers on plots smaller than five acres on O'ahu to build farm labor houses, because those rules are already in place. Rather, an effective solution must address funding opportunities for low-income farmers. As a result, a proposed solution should focus more on making funds available to farmers who want to increase attractiveness for farm labor through housing options and less on changing zoning regulations or on making funds directly available to farm workers.

This is perhaps the main reason why HB2451 also known as the Tiny Houses Bill, written to allow micro housing units on farms, was rejected for Hawai'i County. Here are some objections to the HB2451 Tiny Houses Bill:

- L.R. Asuncion, Director for Planning (State of Hawai'i)- 1) Currently "farm dwellings are allowed in State Agricultural Districts and this kind of initiative should be pursued at the county-level; 2) As written, the amendment to HRS § 205-4.5 (a)(4) will be problematic for county implementation and enforcement, and frustrate county efforts to regulate and control non-agricultural residential uses in the State Agricultural District;
- M. Yee, Director for Planning (County of Hawai'i)- 1) HB 2451 is redundant since both State and County land use laws already provide opportuni-

ties for employee housing and farm dwellings on legitimate farms within our Agricultural Districts; 2) There is a misconception that obtaining a farm dwelling unit is complicated. An owner only needs to sign a Farm Dwelling Notice for the first farm dwelling unit on a parcel.

The above objections of the HB2451 Tiny Houses Bill suggest it was a bill with a redundant measure. Instead, an effective solution would have to impact the ability of low-income farmers to attract and attain labor and show how it connects to increased food production. Below, I propose three solutions to this problem and discuss each further. In the 2018 legislative session, Senate Bill 2424 and House Bill 2473 (companion bills) proposed a funding mechanism for tiny houses on Hawaiian Home Lands. The bills were not passed with the main objection from the Department of Hawaiian Homelands who claimed that a funding mechanism for housing already exists and that the measure would be redundant (State of Hawai'i, 2018).

During the 2019 Hawai'i legislative session, companion bills SB755 and HB1101 related to farm worker housing task force were introduced. SB755 is not asking for a change in zoning or law but for a task force to study the issue further. When combined, these two bills received over two-hundred pages of supportive comments (see www.capitol.hawaii.gov for SB755 and HB1101 public testimonies). The companion bills died and were instead reintroduced as House Concurrent Resolution 76 and House Resolution 74, requesting the Director of the Office of Planning to establish an Agricultural Housing Task Force within the Office of Planning.

Understanding Criteria for Problem Resolution

In this paper, I have argued that a housing solution is urgently needed to assist small farmers in Hawai'i to retain reliable workers for increased local food production. This argument has mainly focused on the situation on O'ahu but similar movements are underway on neighbor islands, which can learn from each other's successes. A proposed solution to the problem should be knowledgeable of efforts that have been tried in the past and be proactive in addressing any objections brought to the table. A solution should also fit within current administration, laws, programs on federal, state, or local level governance. A solution should effectively respond to the reality faced by small farmers in the field and assist the community with the problem they are currently facing. This includes an understanding that extensive bureaucracy limits farmer participation. A solution should be able to effectively empower economically marginalized farmers such as farmers with low-incomes and people who are considered socially disadvantaged, as well as farmers that operate on less than five acres. A solution should be implemented in such a way that it encourages and incentivizes increased production among small and local farmers. Last but not least, a solution to this problem should benefit Native Hawaiian people.

Public Policy Alternatives

In this section, I present public policy options that could resolve the problems faced by small farmers and workers. These options include a housing voucher program for farm workers in order to establish a fund to assist low-income farmers with housing construction and forming a state task force to better understand the labor problem faced by farmers.

1. Establishing a **housing voucher program** for

farm workers. This solution is not focused on building more houses but rather creating a subsidiary voucher program for farmers to assist their workers with paying rent. This option relies on availability of rental units in the farming communities. In other words, this would be similar to Honolulu City & County Section 8 Housing Assistance Payments Program but be specifically for farm workers including the farmer.

2. Establish a fund to assist low-income farmers to purchase **tiny houses** for the exclusive purpose of providing farm worker housing. This solution would direct the State or County to leverage funds and provide grants to small and low-income farmers for building an Accessory Dwelling Unit (ADU) or 'Ohana dwelling on their property for farm workers. This program could learn from USDA farm housing and direct loans program mentioned earlier.
3. Forming a **state task force** on farm worker housing to study the relationship between farm worker housing and the labor needs of small farmers, with the mandate to submit a report, including draft legislation to the state legislature by a specific date. Some feel that more information is needed to understand the issue of farm worker housing. A task force focusing on farm worker housing could visit with small farmers to understand the relationship between food production and labor retention from a small farmer's point of view.

Discussion

Housing Vouchers for Farm Workers

First, I will discuss option one to establish a housing voucher program for farm workers. This solution would

improve the affordability of farm labor if there are houses and rooms for rent near agricultural production areas. It would need to set aside a special fund for the purpose of farm labor housing. How it would be administered remains a question.

This option might be the more practical solution as the City & County of Honolulu already manages a similar program for people with low-incomes. The most difficult part of this proposal is connecting these vouchers with small farmers who are focusing on increasing production and expanding their farms. It is likely that all small-scale farmers would want this voucher irrespective of their contribution to the local food system but an effective solution would distribute these vouchers based on farm production goals.

The Hawai'i Department of Agriculture (HDoA) is currently the public administration with the most knowledge of farmers in Hawai'i. Other institutions that work with farmers include the University of Hawai'i at Mānoa's Center of Tropical Agriculture and Human Resources (CTAHR) extension agents, the Hawai'i Farmers Union United (HFUU), and privately run food hubs who aggregate and distribute on behalf of small farmers. HDoA could work directly or indirectly through other institutional collaborations to distribute vouchers based on farmers annual production goals. Finally, a housing voucher system could also entirely bypass the farmer and become a direct agreement between the farm worker and the administration that issues the payments in return for the worker showing proof of working on one or multiple farms.

Tiny Houses for Farm Workers

The second proposed solution was to establish a fund

to assist low-income farmers to purchase and install tiny houses for the exclusive purpose of providing farm worker housing. As in the case of the 2018 Senate Bill 2424 and House Bill 2473 (companion bills), it might be argued that a revolving fund already exists for this purpose given the HDoA revolving fund that was mentioned prior and also the Agribusiness Development Corporation revolving fund. However, it might be easier to leverage third party funds for other public private partnerships if funds are exclusively raised for labor dwellings specifically and not just generally. This solution would result in more houses on small agricultural lots and not just rely on already existing housing units. Complying with Department of Health rules to ensure sanitary conditions and potable water of the Tiny Houses is an important consideration within this proposed solution. A limitation mentioned earlier is that it would be difficult to measure farmers' increases in production as there is currently no agency that keeps track of farm performance other than the Internal Revenue Service. To make this solution effective, HDoA could work directly or indirectly through other institutional collaborations to first establish a system of measuring production based on sales invoices and apply incentives or benefits to farmers that want to or are doing expanding production to meet more local demand on an annual basis.

State Task Force on Farm Worker Housing

Finally, I will discuss the option of forming a state task force on farm worker housing to study the relationship between farm worker housing and food production, with the mandate to submit a report, including draft legislation, to the state legislature by a specific date. This solution could take a new look at the lack of labor farm dwelling in Hawai'i to understand how to prevent

gentlemen farms and a mechanism for incenting or rewarding farmers that want to make Hawai'i self-sufficient again. This solution would also navigate different rules on the county level and suggest if any change of rules is needed to allow additional farm dwellings. Earlier, I mentioned efforts in Hawai'i's 2019 legislature session HCR74/HR76 requesting the Director of the Office of Planning to establish an agricultural housing task force within the Office of Planning. The task force was first proposed as a bill and later reintroduced as a resolution. HCR74/HR76 does not mention affordability or funding as a limiting barrier. The resolution attempts to pose a solution to *"the overall lack of affordable housing in the State combined with the high cost of living contribute to the difficulty that farmers face in recruiting farm workers"* (State of Hawaii, 2019, p.1). The overarching focus of this effort is to analyze, study, streamline, and identify barriers in *"existing laws, ordinances, administrative rules"* (State of Hawai'i, 2019, p. 3) but not in funding.

Recommendation

As a community researcher and advocate, my passion is to seek the expertise of stakeholders on the ground, as well as, in a bottom-up manner, provide policy solutions for the people that I represent. During these past years, my passion has been to listen to farmers to understand the barriers that they face for increasing production and becoming financially sustainable. This passion has led me to pursue a Ph.D. in Urban and Regional Planning at the University of Hawai'i at Mānoa in which I have been exploring policy considerations for small farmers in responding to increased food security in Hawai'i. In 2018, I was selected as the Policy Committee Chair for Hawai'i Farmers Union United (HFUU). In 2019, I was selected for the National Farmers Union

(NFU) Policy Committee, where I had the pleasure to represent Hawai'i's small farmers in Washington D.C. It has allowed me to compare and contrast priorities of our farmers in Hawai'i with farmers on the U.S mainland. Attracting labor to agricultural operations is a priority for farmers from all States, but Hawai'i has a unique ability to retain people in agriculture through offering housing especially as all of Hawai'i locals face high cost of living and housing. This paper identifies solutions for attracting agricultural workers to further improve the local food market for Hawai'i's farmers.

The discussion on farm worker housing has been unresolved for a long time because of concerns with gentleman farmers and fear of prompting residential developments in the country. While the policy objectives in the Hawai'i constitution and state laws support adequate housing for farmers and workers, I suggest that we currently lack the support mechanism to implement our objectives. In this paper, I move this discussion forward by finding solutions to the problem of farm worker housing. A proposed solution to the problem should be knowledgeable of efforts that have been tried in the past and be proactive in addressing any objections brought to the table. When I listen to farmers who are passionate about growing more food to improve Hawai'i's food security, there is a general agreement that we do not need more studies or analysis on the subject of on-farm agricultural housing; we need, however, the programs and resources to come up with affordable housing solutions for farmers to incentivize labor retention on farms by offering housing as an employee benefit. That is why a solution to the problem has to make funds available to farmers to build tiny houses for their workers or direct payments available for workers for working on an approved list of farms first and foremost.

There are a few reasons why I do not think an agricultural housing taskforce would be suitable to resolve this problem. First, most taskforce proposals outline activities that would take two to three years to produce results. The issue would then not be resolved in a timely manner, because it further delays a solution that most farmers urgently agree on. Task force proposals often offer to study evidence that people have already considered. Several official reports including State of Hawai'i's (2012a and 2012b) Strategy for Increased Food Security and Food Self-Sufficiency and Hawai'i's Department of Labor (State of Hawai'i, 2013) present the dismal state of skilled agricultural workers in Hawai'i and only reference housing as a solution. Moreover, in the 2018 recent Hawai'i Farmers Union United membership survey performed by myself, it is further evident that living on farms contributes to food security because it allows having a person present on the farm to monitor daily changes and apply hands-on solutions. Farmers want to offer a whole package solution for workers including rent to attract reliable labor in order to move away from reliance on transient agricultural volunteers. Farmers believe that living on the farm allows workers more time to focus on production. Further, homelessness has become such a big problem in farm communities and theft is becoming such an alarming issue that living on the farm would provide better security to deter the theft of crops. The issue on housing was further validated by the HFUU membership in the 2018 Mau'i convention when "Living on Farms" was voted in as Article XIX in the HFUU 2018 Policy Statement (HFUU, 2018). The Hawai'i Farm Bureau, another organization that advocates for Hawai'i's farmers, recognizes this need as evident in their testimony: "*HFB recognizes the need for agricultural workforce housing and believes that affordable housing is*

necessary to attract farm workers. This has been a major shortfall as we try to address labor needs for expanding agriculture" (State of Hawai'i, 2019). The support for worker housing is also evident from two-hundred pages of public testimonies submitted to SB755/HB1101 (State of Hawai'i, 2019).

Raja et al. (2018) classify local and regional government (LRG) policies as (i) soft policies, (ii) official plans, (iii) ordinances, bylaws, and regulations that are legally enforceable, (iv) actions that provide physical infrastructure, as well as (v) fiscal enactments that influence community food systems. The first two offer broad guidance, and the remaining three facilitate implementation. While the State of Hawai'i has distinct public policy language for supporting farmers to achieve food security and self-sufficiency (State of Hawai'i, 2012), there is some evidence Hawai'i's farmers and the public are recognizing the lack of implementation on the State's goal of doubling local food production. For instance, while people agree on Governor Ige's bold move to double local food production, a Honolulu Civil Beat article suggests that the government's focus has been to import solutions such as inviting the Costco Corporation to farm for us; thus, the implementation of solutions for Hawai'i small farmers has been lacking (Yerton, 2019). Some legislators in Hawai'i such as Representative Richard Creagan, Chairman of the House Agriculture Committee, suggest the implementation of in-utero calls for audits of public policy efforts (Yerton, 2019). Banking on imported solutions, like in the case of the Costco Corporation, sends the wrong message to the many small farmers and community-based organizations in Hawai'i who are building capacity to increase local food production.

Conclusion

As I have demonstrated in my paper, Hawai'i is poorly equipped to meet its food production and food sovereignty goals until it establishes a public policy regime that will support the farm labor it needs. While the establishment of a task force may be helpful for practical and political reasons, I argue that the answers are ready to be tried and not further studied by a new task force. As such, I recommend stronger action, in the form of farm worker housing subsidies or actual housing development for farmers. Until we advance such policies, or other efforts to provide the labor necessary to meet our production goals, we should not be surprised if we continue to perpetuate the food dependency that so many of us claim to want to end.

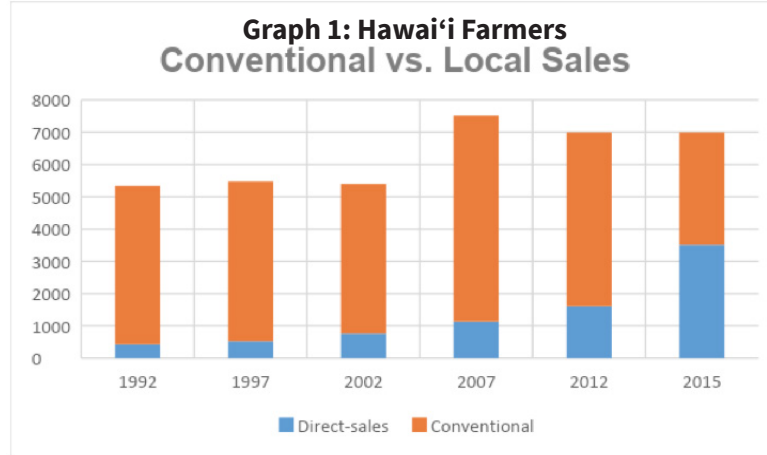
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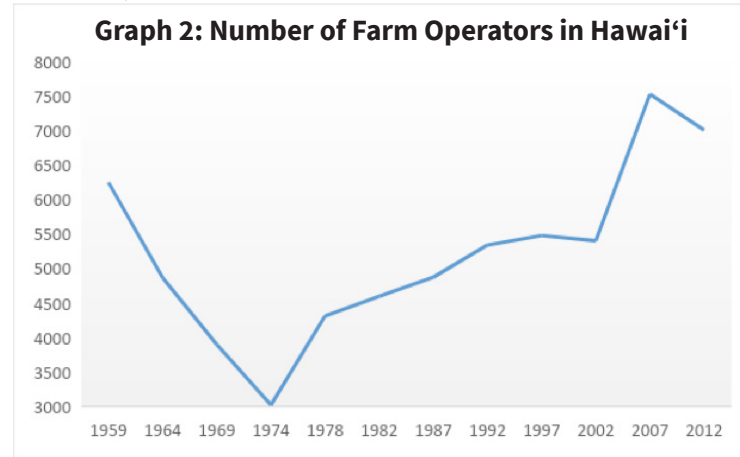
Food Sales in Hawai'i

Source: US agricultural census archives; Hawaii 1992, 1997, 2002, 2007, 2012, and USDA, 2015



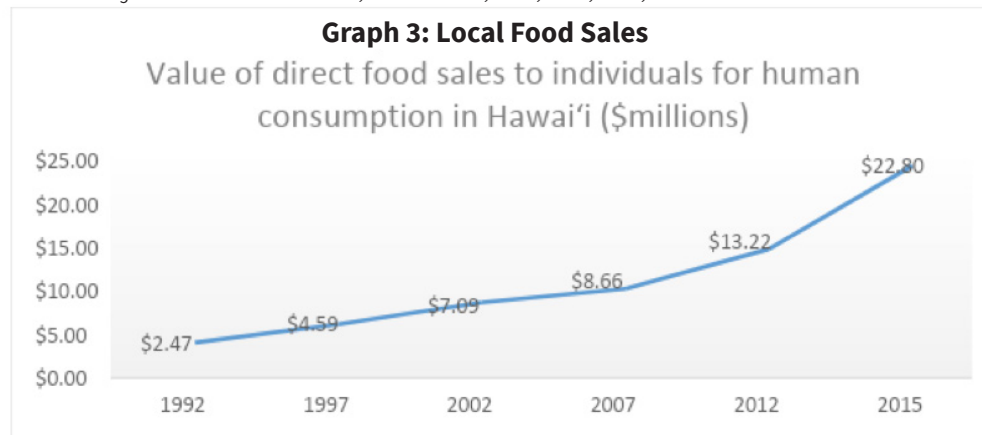
Note: According to USDA, (2016a) there are 3,512 of local sales operators in Hawai'i; however, the total number of farm operators was not updated from 2012.

Source: US agricultural census archives; Hawai'i 1978, 1982, 1987, 1992, 1997, 2002, 2007, and 2012



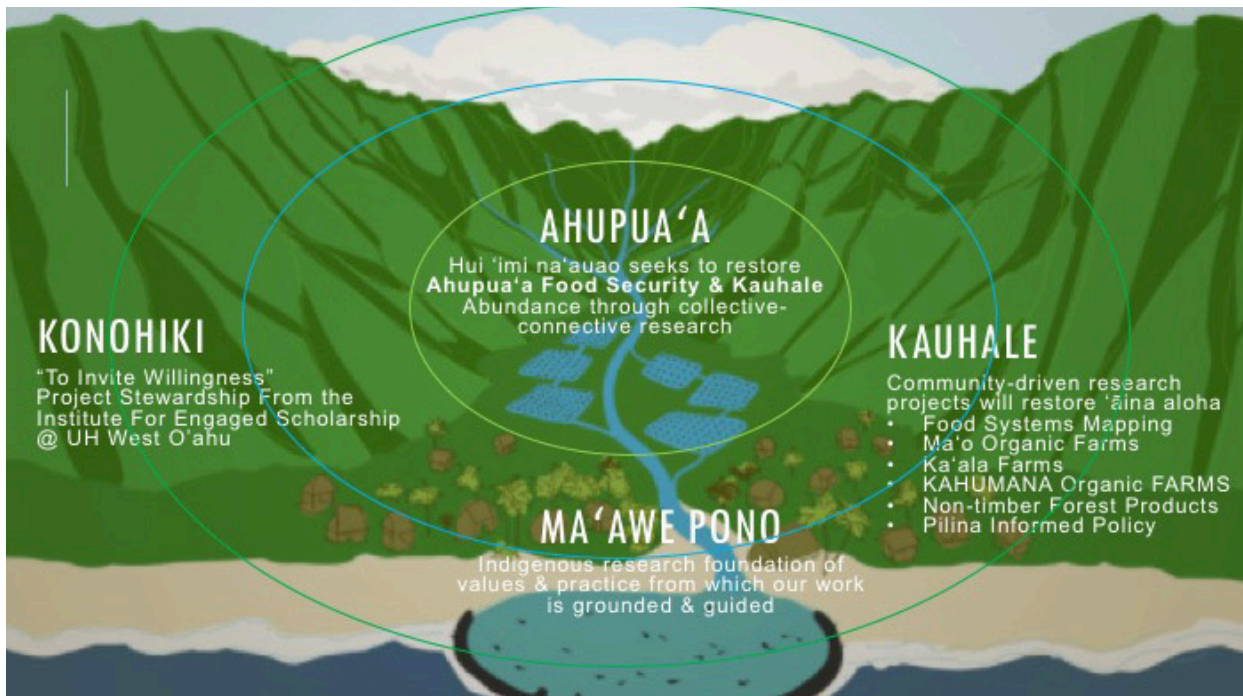
Graph 2- Total farm population Hawai'i 1950-2012

Source: US agricultural census archives; Hawai'i 1992, 1997, 2002, 2007, and 2012



Graph 3- Sales direct to individuals for human consumption

Kukui Maunakea-Forth: A Visual Synthesis of 'Imi Na'auao



A Storied Landscape

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Ahuwale ka nane hūnā.

The hidden answer is seen.

That which was a secret is no longer hidden.

(Pukui, 1983, 20)

The major research question guiding this 'Imi Na'auao subproject focused on how to improve growers' economic wellbeing through 'āina-based practices. Through an assets lens reminiscent of the Kahumana Farm Hub subproject which examined the social, cultural and economic aspects of growers' lives for better informing strategies and developing policy for improving their economic and overall well-being, the mapping subproject of 'Imi Na'auao developed maps representing various aspects of the Wai'anae coast food system to help to all of the 'Imi Na'auao project participants through ground-truthing of pre-existing maps and creation of new maps with Geographic Information Systems (GIS) students at UH West O'ahu. With the guidance of Michael Wahl, maps were initially created during the Fall 2017 semester by students enrolled in Dr. Albie Mile's Sustainable Community Food Systems (SCFS) 300 course. These original maps only included the food retail environment.

Since the student GIS experiences in the SCFS class were positive, we developed an experimental SCFS 398B Introduction to GIS course for the Fall 2018 semester in order to ground truth the previously collected data and also develop maps of the agricultural challenges and opportunities on the Wai'anae coast. Further, while we were not able to widely share the results

of the maps from Dr. Miles' SCFS 300 class, due to some of the time limitations inherent in the data collection (it was only allotted one day on the course schedule since it was a late "add on" to the curriculum), it was determined that the maps generated in the future would indeed be disseminated more widely. Michael Wahl, a GIS specialist with the Hawai'i State Historic Preservation Division/Department of Land and Natural Resources, was hired as a lecturer to teach the course. He developed the curriculum to a group of five enrolled students and several other students who were developing their GIS skills as a part of service learning projects for a Political Science and an Anthropology class respectively.

Based on the success of the original mapping exercise in Dr. Albie Mile's SCFS 300 class and that of SCFS 398B, we believe that learning GIS mapping skills is an excellent way to develop workforce skills not only for SCFS students, but for anyone interested in this cutting edge field of study. Towards the end of Fall 2018, after observing the course's success, a permanent course proposal for Introduction to GIS was put forward to the UH West O'ahu Curriculum Committee. It was approved and now the Introduction to GIS course, ANTH/SCFS 361, will be offered regularly on the schedule of classes as an elective for either the SCFS or the Anthropology (ANTH) concentration.

Dr. Christy Mello, Michael Wahl and Dr. Monique Mironesco presented on the process of developing this type of course and the associated learning outcomes to the Sustainable Agriculture Education Association Meeting on July 28, 2018 at UHWO. Our presentation was entitled “From Food Insecurity to Food Sovereignty: Goals for a Community-Driven Applied Research Project on the Leeward Coast.” In it, we described ‘Imi Na‘auao as a collaborative UH West O‘ahu-based research project supporting the restoration of lāhui (nationhood) by identifying methods for improving Native Hawaiian well-being through subsistence practices. This presentation highlighted one of the larger project’s six studies which called attention to UH West O‘ahu students learning basic GIS skills to map the food retail environment on the Leeward Coast by engaging in applied research practices. Preliminary student-generated maps were highlighted in the presentation.

With Dr. Ku Kahakalau’s Mā‘awe Pono framework and consultation, this project ensured that everyone was agreeable to the dissemination of information gained from student research/work. While the maps section of the larger ‘Imi Na‘auao project does not include any specific community partners, all of the sub-projects within the overall venture can in fact make use of the various maps the students generated through their projects in the GIS class. The policy papers can also use the maps if necessary in order to provide visual representations of various social, economic, and ‘āina-based indices found on the Wai‘anae coast.

One notable lesson learned by the subproject participants is critical to highlight: a needs-based view of Wai‘anae community encourages a deficit model (using the language of food deserts for example). Flipping the

script to an assets and community/resource-based model helped our team identify areas of current and potential agricultural activity on the Wai‘anae coast. We sought to create additional maps incorporating an assets-based approach to reflect the agricultural abundance in Wai‘anae. The rationale was to create a visual tool to justify the development of policy briefs supporting the expansion of locally produced foods in order to address food insecurity in the region. We drew upon early Kahumana Farm Hub fieldwork observations regarding policy in addition to other concerns expressed by the larger ‘Imi Na‘auao group. These interests provided the basis for additional mapping areas and to support policy.

One policy area entailed examining the relationship between agricultural land and housing in order to support Saleh Azizi’s (Ph.D. candidate in Regional and Urban Planning and former Kahumana Farm Hub - KFH - Manager), interest in developing policy to support housing on agricultural land. Another project area was devoted to the identification of suitable and potential agricultural land. The anticipated outcome was to support the development of farms or growing regions on land not already zoned as agricultural land. A third project area illustrated where food is being grown and where it is being sold in order to provide a visualization of the fact that food insecurity exists in an agriculturally abundant place. Much of the data for this third project area came from the KFH research, including the surveys, and data kept by KFH for their internal purposes. Wahl incorporated these three project areas into the GIS course in which he co-produced story maps with students. Upon completion of the course, he later finished the maps with Drs. Mironesco and Mello’s feedback, editorial input, additional gathered data, as well

as input by Dr. Kahakalau and community partners including Kahumana Organic Farms, MA‘O Organic Farms, and Ka‘ala Farms.

The maps are an example of a deliverable produced to benefit and impact community as a result of this research. Through sharing of the maps, community members have come forward with their ideas for building upon this research to address their needs. Maps create spaces of possibility and social transformation. Maps can serve as a focal point for groups to gather and talk story about the visual depiction of layers of data as a way to build relationships and identify solution strategies. As such, the ‘Imi Na‘auao interactive maps are readily accessible to the public, foundational for future work, and can be found at the following link: <https://uhwo.maps.arcgis.com/apps/Cascade/index.html?appid=895ddf2da16246e99489fab7ae9c3f43%20>

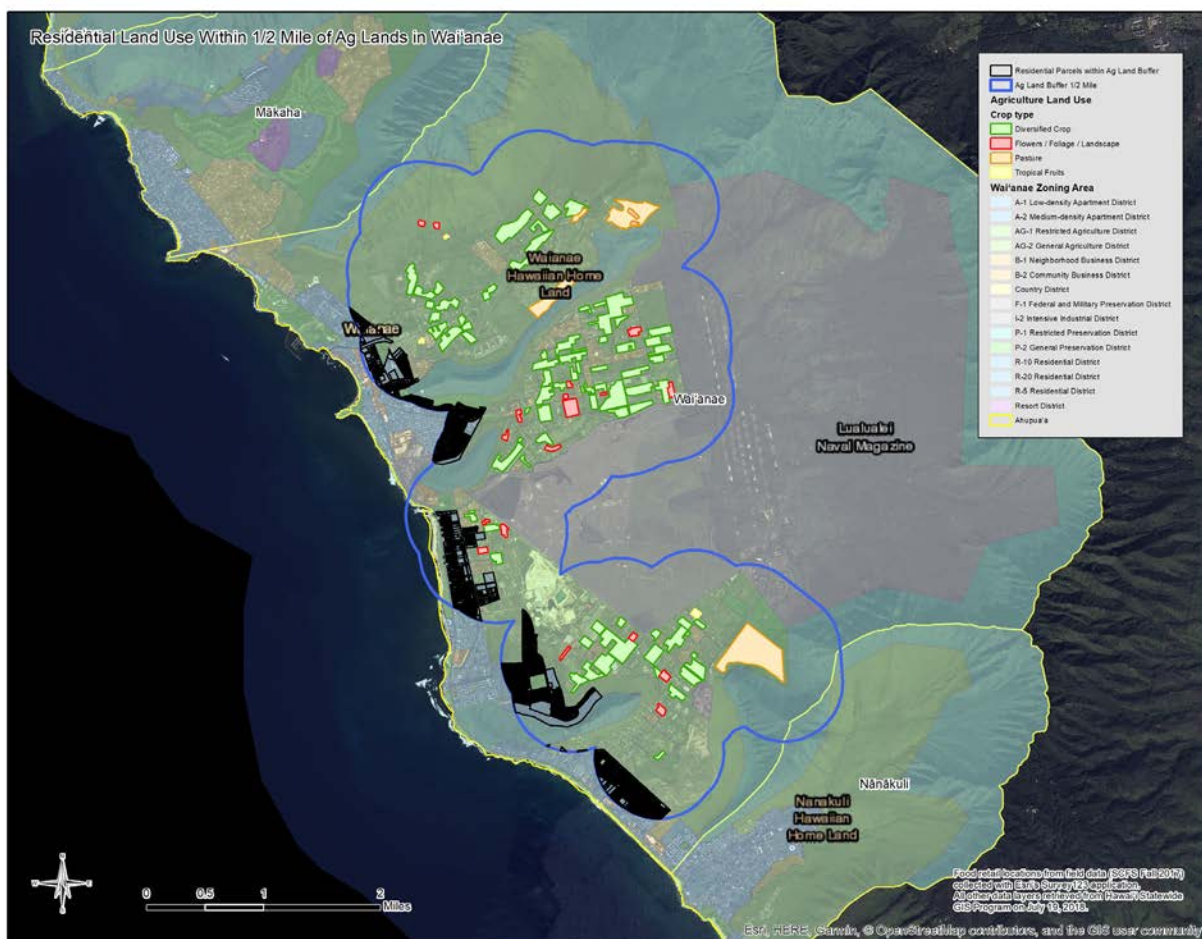
Finally, again, it is imperative that we do not arrive to any conclusions on the mapping project from a deficit-based model of Native Hawaiian health and well-being. Therefore, the most relevant ‘Imi Na‘auao research question to the mapping subproject was “How do social conditions contribute or inhibit a thriving Native Hawaiian lāhui?” While the maps reflect the present reality of social indicators as they relate to the food system on the Wai‘anae coast, they also encourage the public and other community stakeholders to interact with the content in order to continually change and update the information contained within. The maps are a visual representation of insights gained throughout the project. As a result of the KFH research findings shared with the mapping subgroup, the mapping project area identifying suitable land for growing was based on earlier findings observing that a major barrier for

growers is not having the ability to live where one grows food.

Future research will address the issue of water access. Maps will be developed that reflect water use, availability, and accessibility. For supporting an increase in agricultural production, there must be enough water. The ‘Imi Na‘auao maps were developed to serve as a baseline for the other projects and policy briefs therefore, since water access is such a critical basis to agricultural infrastructure, future maps will seek to incorporate water use and allocation. This is an example of how the work of ‘Imi Na‘auao will continue to serve the community long after the grant has ended.

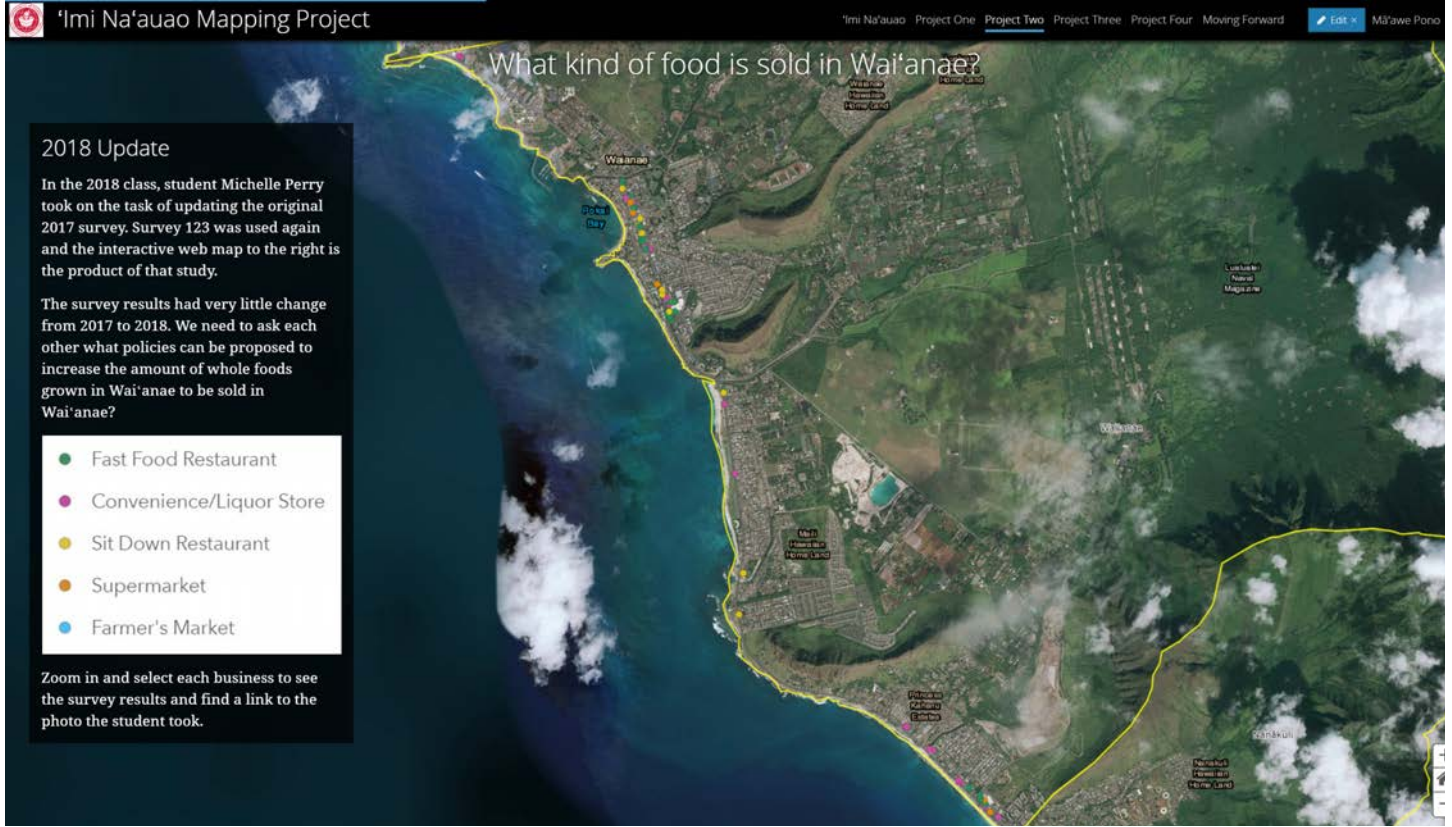
The 'Imi Na'auao interactive maps are readily accessible to the public, foundational for future work, and can be found at the following link: <https://uhwo.maps.arcgis.com/apps/Cascade/index.html?appid=895ddf2da16246e-99489fab7ae9c3f43%20>

Residents in Relation to Agricultural Land

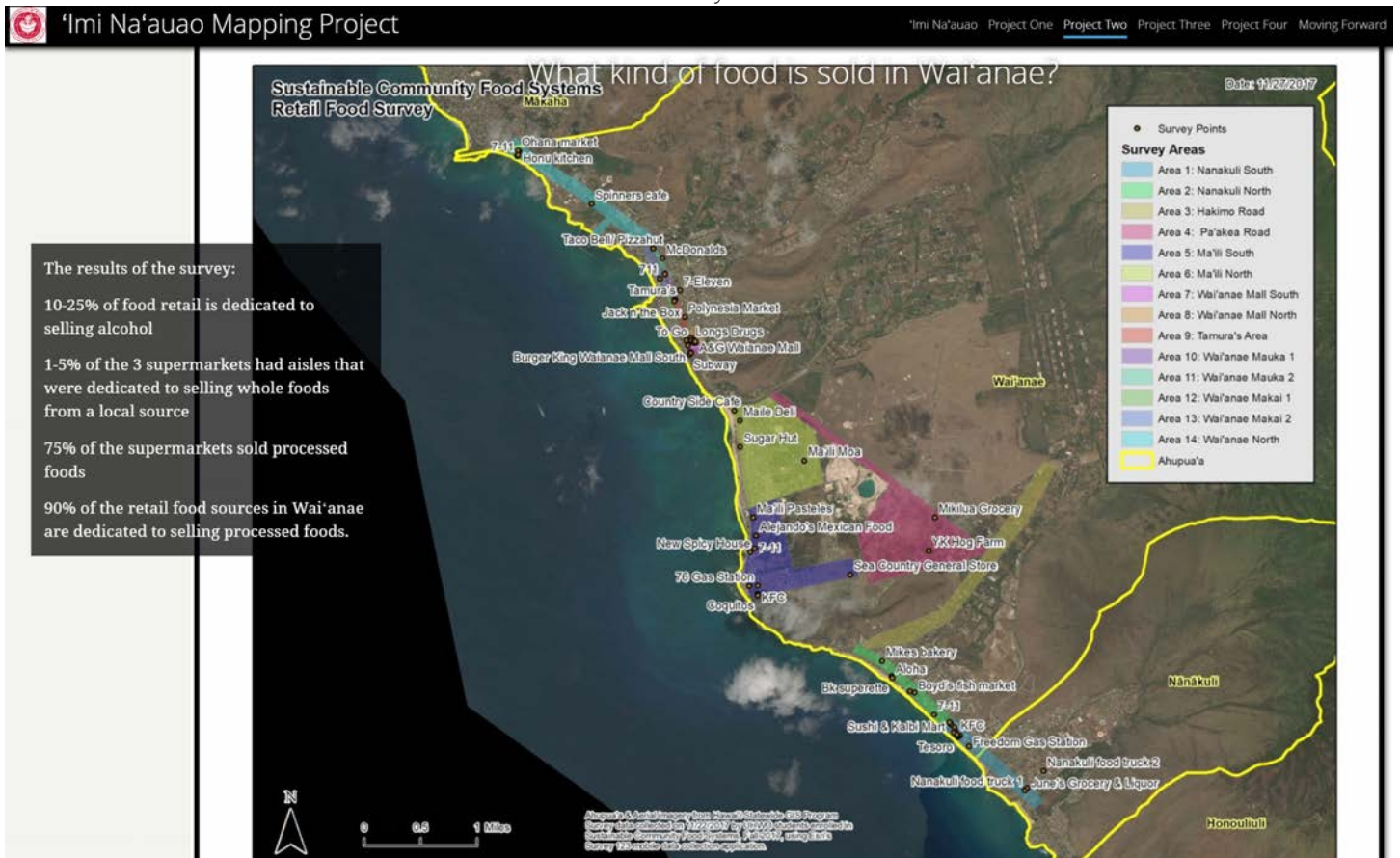


Food Retail Environment Maps

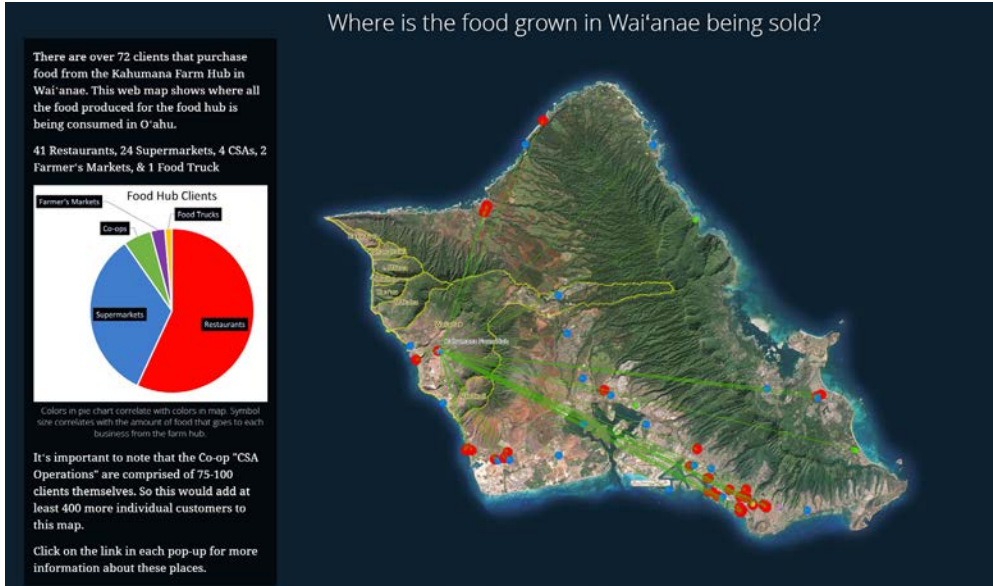
Retail Areas in Waianae 2017 Survey



Retail Food Survey 2018 Results

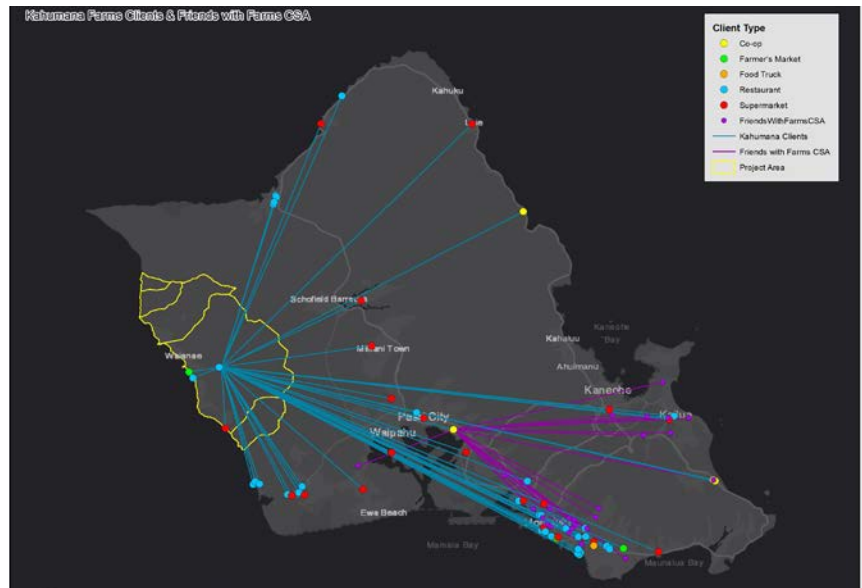


Where Food is Sold and Grown (Kahumana Case Example)



Kahumana Distribution Customers on O'ahu

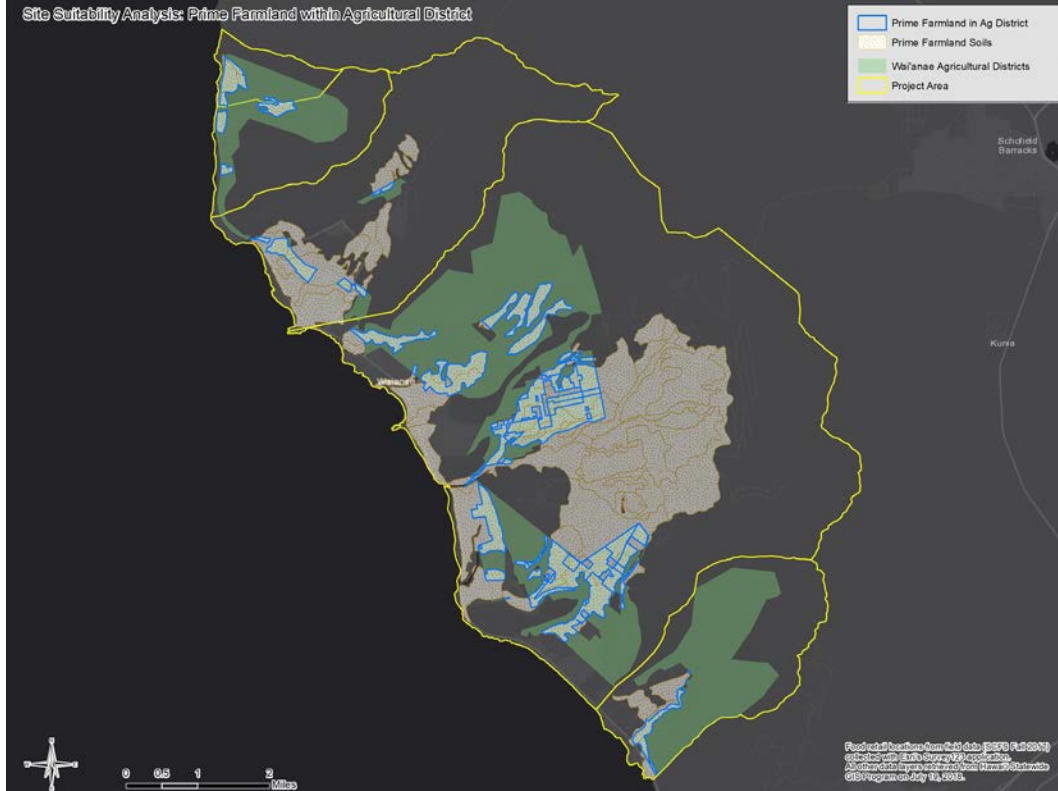
Kahumana Distribution via CSA



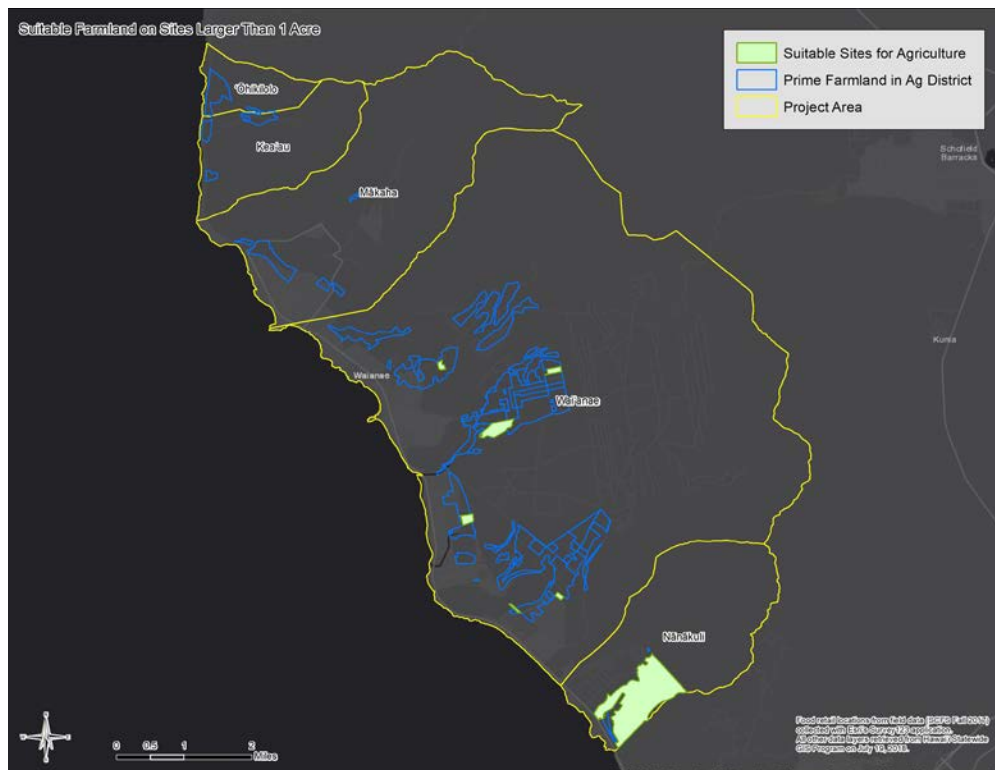
Kahumana Distribution to Foodlands in Hawai'i

Site Sustainability Maps

Prime Agricultural Land



Site Suitability Results



Kupu HYCC Community Program Participants at Pahole Natural Area Reserve



Conservation Practices and Their Impact on Hawaiian Well-Being Among Youth

*Camonia R. Graham-Tutt, PhD, Assistant Professor, Community Health, UH West O'ahu,
Emma Broderick, Employment Coordinator, Kupu, HYCC Community Program*

Nei ka honua, he ōla 'i ia.

When the earth trembles it is an earth quake.

We know what it is by what it does.

(Pukui, 1983, 2307)

As we began writing this report, we committed ourselves to being explicitly honest. Standing firm in our truth, we now know the information contained in this report only scratches the surface of the following three qualities of Hawaiian health and wellness: 1) what is one's place of knowing; 2) how does one's experience inform their health behavior; and 3) how can excellence surrounding one's own health and wellness be shared (aka: *'auamo kuleana + ho'opono*).

Bulleted Summary of Report Highlights

- Community we engaged: Kupu Program Participants and Alumni (young adults)
- Research Methodology: Mā'awe Pono
- Research Methods/Process: Peer Research Mentoring Process
- Summary and Findings of 'Imi Na'auao subproject
- Favorite Quotes that bring forth key highlights + insights

Main Research Question:

What is the impact of cultural restoration and revitalization of Native Hawaiian health and wellness among youth?

Snapshot Project Summary

In this project, we worked collaboratively with Kupu

alumni to examine the relationship between land, culture, health, and Native Hawaiian wellbeing. Specifically, we looked to measure the individual and collective level of impact that Kupu has had on youth in terms of health and wellness, which we believed would involve increasing knowledge about land conservation and culture. We wanted to better understand and recognize more about the significance of touching land and its effect on culture and education among youth. Furthermore, we sought to determine how touching land, as a Kupu alum, has impacted the overall wellness of Native Hawaiian young adults.

At the start of our project, we simply hoped to bring Kupu alums together to share and learn more from each other's experiences regarding local land conservation practices. We also wanted to hear from this community of youth on how these practices could improve an individual's overall wellness in terms of health and social conditions. However, after our 18-month project, we not only gained valuable feedback on conservation practices and ways youth can engage others to improve health by touching land, we also confirmed that alums are living examples of Kupu's two-fold mission of "preserving land while empowering youth." Evidence of our findings, that pride, identity and purpose among Kupu alums contribute to the relationship youth have to the land and to each other were revealed in our review of

Kupu graduate artifacts and the peer research mentoring process.

Secondary Questions:

Our secondary questions arose from preliminary discussions with Kupu alum who were interested in furthering their work in land conservation and cultural restoration. These questions helped to guide the formation of our project into three phases.

- How do we show that knowledge of conservation among Kupu alum is transcultural/trans-historical/transformational?
- How do we assess the quality of the relationship alums have with Kupu?
- How do we quantify the place-based education alums have received from Kupu?
- How do we expand Kupu's pipeline of employment for youth interested in working in land conservation across the state?
- What is needed to expand and then to sustain this project?

This project can be described in three phases. In the first phase of this work, two opportunities were created to foster the development of relationships among Kupu alumni and university partners and also to chart a course for this work. These two opportunities involved Kupu alumni, staff and UH West O'ahu faculty coming together to mālama 'āina. The first opportunity was a group service project, held at Moku o Lo'e (Coconut Island) in Kāne'ohe Hawaii. The second event was held at Kupu's Ho'okupu Center (formerly known as the Net Shed) in Honolulu, Hawai'i. During both of these collaborative opportunities, *Mā'awe Pono* was used as the "research methodology" to inform the path for project participants to find solutions to issues of cultural resto-

ration and revitalizing health and wellbeing among Native Hawaiian youth.

During the second phase of this project, interested alumni, who attended one or both of the gatherings above, self-identified as wanting to learn more about drawing conclusions on the impact of local land conservation experiences among youth. Alumni were then introduced and welcomed into the peer research mentoring aspect of the project. Finally, alumni used the new skills gained in the peer research mentoring program to evaluate artifacts (qualitative data) of Kupu graduates.

Summary of Findings

A. A peer mentoring program established

After opportunities for relationship building were made, ideas were provided on plausible next steps for a group of Kupu alumni to get involved in the research process. Over the summer of 2018, five Kupu Alumni were trained on how to utilize the qualitative software program, NVivo. Kupu Alumni attended four workshop trainings (May 2018-July 2018) on the software. The trainings covered workshops on types of data, content analysis, steps for using NVivo, and drawing conclusions from the qualitative data.

One of the most applicable and sustainable products of our work was the initiation of a peer research mentoring program in qualitative research. Our project used a peer led approach to foster learning among a group of Kupu alums. Together they were introduced to qualitative data techniques in a workshop-based setting. They then used the techniques they learned to dig deeper into their understanding of the impact of Kupu in their lives. Using a peer led design provided an avenue for

peer engagement and influence during the duration of our work. This approach was useful toward uncovering how youth viewed health and wellness at the conclusion of their Kupu programs.

The goal of each workshop training was to identify how qualitative data could be analyzed using NVivo. Kupu alumni reviewed available data by first reading artifacts (e.g. individual Kupu graduate journals and speeches from Kupu's Hawai'i Youth Conservation Corp's Community Program- a program designed to provide youth with a hands-on, outdoor field experience in land conservation) and then searching for reoccurring themes in the data. After being fully trained, Kupu alumni inputted the data into NVivo to help with verifying and maintaining accuracy of the results from reading each artifact. At the conclusion of the trainings, peer researchers

self-identified several themes related to cultural restoration and the significance that youth touching land has on culture and education. (See a snapshot of the themes below in Figure 1.)

Based on a review of artifacts, the peer research mentors (who were also Kupu Program Alumni) reviewed fifteen graduation speeches, five reflections, and ten "great stories" as they are called, in the form of written narratives. Findings revealed that Kupu Alumni largely believed that Kupu had the following three impacts on their lives:

1. A positive impact on the daily routines of their lives, positive changes in self and an increased recognition of purpose in life
2. Opened their eyes to the value of touching land in changing their mindset on education and mo-

Figure 1



tivation to improve/change the current education system

3. An increased effect on their connection to others/family, increased appreciation for life and sharing with others.

B. Increased engagement and interaction of people with the 'āina correlates with increased social consciousness

Our project demonstrates and supports the idea that there is value in touching land among youth. A review of artifacts from Kupu graduates further demonstrates that the mission of Kupu has been changing the mindset of youth on education and motivation to improve/change the current education system. Youth want to see more opportunities for education that require interaction with 'āina. Moreover, as evidenced by those who were a part of the peer research mentoring program, providing opportunities for touching 'āina together increases connection to others/family and ultimately raises social consciousness.

Favorite Quotes that Bring Forth Key Highlights + Insights

A. Kūlia i ka nu'u

"I came here at first with low expectations of myself, and I doubted that I would make it to graduation because prior to Kupu I had never completed any plans I had made for myself. I had low self-esteem, hung out with the wrong type of people, believing they cared, and followed others with no real sense of who I was as an individual. From the day I joined Kupu until now, I have seen both small and profound changes in my thinking and values. Now I strive to be the best I can, I am persistent even when times are hard. The people I choose to hang out with are pretty positive (probably

because I'm almost always hanging around at the Net Shed), and I actually have confidence in the choices I make and in myself as a person." (Community Program Participant 2017)

An increase in self-confidence and self-worth were seen in many participants after successful completion of the Kupu Hawai'i Youth Conservation Corps (HYCC) Community Program. Native Hawaiian health and wellness is improved when connection to 'āina and community is reestablished. This is a definition of health that goes beyond one's physical wellness to includes one's thinking, values and mental well-being.

B. I ulu no ka lālā i ke kumu

"A wise team leader once told us that the best time to plant a tree was twenty years ago; and the next best time is now. We have truly grasped the essence of that mana'o through the bittersweet satisfaction of makaluhi. This poetic phrase simply translates to "tired eyes"- specifically those of the people who have been working hard on a community project. Experiencing makaluhi and admiring progress made after a hard day's work has not only grown our relationship stronger to the land, but also with our community members and ultimately, with ourselves." (Community Program Participant, 2016-2017)

Mālama 'āina work reminds us of the origins of the word kumu. That without a strong trunk, a solid foundation and base, the branches simply cannot grow. Culture, land, and sea have always been our teachers and our foundation from which to greet the world and at times, from which to weather the storm.

C. 'A'ohē pau ka 'ike i ka hālau ho'okahi

"When I first started the Kupu HYCC program, I thought I would never reach my goal of getting a C-BASE diploma. I thought I was just going to fail and disappoint myself again. I was scared of failure. My mother always said that failure was a part of success. I didn't listen to her." (Community Program Participant, 2017)

Cultural restoration and revitalization of our 'āina, that which feeds us, has the capacity to not only positively impact the 'āina and our lāhui, but also to powerfully change the individuals caring for their communities. Not only do these individuals see their environment differently, but they view themselves differently. After completing a six-month program with Kupu's HYCC Community Program, members spoke positively about the importance of education and their ability to be successful in educational settings. These same students who graduate with their High School Equivalency Diploma were previously part of the overwhelming statistic of high school dropouts. Many of these students go on to higher places of learning, including both College and Community College, and have the confidence to do so because their view of 'ike is expansive and rooted in doing.

D. 'Ike aku, 'ike mai, kōkua aku, kōkua mai, pela iho la ka nohona 'ohana

"The staff and peers here became my family. They filled this gaping hole I have had inside my heart for such a long time." (Community Program Participant, 2017-2018)

Mālama 'āina work teaches its students about the reciprocal nature of life. Upon completing their Kupu experience, members spoke of an increased sense of community within the program and a better under-

standing of what it takes to build and maintain a connection to others. The vast majority of our Community Program participants have at least one or, in many times, several of the following as part of their reality: 1) incarcerated parent or family member; 2) homelessness; 3) substance abuse in the household; 4) domestic violence in the household; 5) deceased parent or guardian; 6) in the foster care system; or 7) a single parent household.

Their experience of caring for and being cared for by the 'āina allows them a safe place to practice building positive relationships and the potential to end a powerfully vicious cycle.

E. Summation of Key Highlights and Insights

The above highlights capture the strengths of Kupu as an organization in regards to the pride, purpose, and sense of identity that it instills in youth.

Project Strengths

We identified the following three (3) strengths of our project with Kupu:

1. PRIDE

Organizations like Kupu provide the infrastructure and space for youth to acknowledge, accept, and understand their health and wellness in order to help with openness - often times indirectly.

2. IDENTITY

To feel connected is to feel that you belong. Organizations like Kupu provide space for youth to create relationships with people, land, and themselves. Relationship affects one's health and wellbeing. If you ask an alumni what their greatest moments were during the

program, chances are it involved building new relationships.

3. PURPOSE

Experiences with 'āina provide alumni with the confidence to pursue their passions.

Our Kuleana

A. Lessons Learned

There are many ways of knowing. The challenge is being expansive rather than restrictive in how we understand what we see, hear, feel, and learn through our research. What questions are asked matters. Where the questions are asked matters. When the questions are asked matters. How the questions are asked matters. Who asks the questions matters. Why the questions are asked matters. We were intentional about the process of questioning in order to understand how 'āina impacts Hawaiian wellbeing, culture, and education. We also reflected on past questions and looked at how we can improve our questioning to better capture the life-changing experiences that doing mālama 'āina work has on our young adults.

Research is better together. Having a Hui of Alumni Researchers led by an experienced mentor, Dr. Camonia Graham-Tutt, created community in what can be an isolating data-filled world. Emma (Kupu Alumni Researcher) was hired under this funding mechanism to continue this research and during this time was able to persuade her team on the value of continuous analysis of qualitative data at the conclusion of Kupu programs. Together the Hui of Alumni Researchers reviewed the artifacts and uncovered the positive impact the Kupu mission has on youth of providing hands-on experiences in land conservation. Kupu Community Program has

purchased NVivo and will continue to use this qualitative data analysis software to understand the experience of participants and how the program can evolve to fit changing needs.

B. Next Steps

We plan to compare the ideas found in this work on the value of touching land among youth to existing public policies that are being implemented elsewhere, and compare them to legislative proposals that have not yet been enacted.

We would generally like to look at addressing state laws to create better pathways for Kupu alums to work in conservation jobs with the state. Hawai'i's youth have great value to Hawai'i and their 'ike is vital to the abundance of our 'āina, our families and our communities.



Dr. Graham-Tutt @ Moku o Lo'e

Non-Timber Forest Products of Hawai'i: Hawaiian Knowing and Wellbeing

Katie Kamelamela, PhD, Ethnobotany, UH Mānoa

He keiki aloha na mea kanu.

Beloved children are the plants

It is said of farmers (a.k.a ethnobotanists) that their plants are like beloved children, receiving much attention and care.

(Pukui, 1983, 684)

Ma ka hana ka 'ike, ma ka hana ka mana

In the work is the knowledge, in the work is the power.

The community I engage with are cultural practitioners, state forest managers, and federal researchers who advocate for biocultural restoration of forests. Biocultural restoration supports ecological as well socially important activities in areas linking language, knowledge, and environments. My role in this process is to help advocates, cultural practitioners and managers, hear each other's points of view for creating best management practices.

Subsistence gathering, an activity practiced since the dawn of humanity, includes gathering wild grown plants for nutrition, flavor, medicine, construction, art, religious ceremony, and livelihood. The gathering practices of a people define their relationship with their environment and is directly associated with how people shape their environment while simultaneously being shaped by their environment. Such gathering, harvesting, or collection of forest plants is done in non-curated environments, which include forests, deserts, wilderness areas, as opposed to urban areas, home gardens, or agricultural lands.

As an outcropping on a lava flow re-seeds the barren land around it, known as a kīpuka, cultural kīpuka pro-

vide the same sheltering for practices. Because of limited access by missionaries and merchants, locations such as Waipi'o (McGregor, 1995) and traditions such as imu (underground oven cooking), hula (traditional dance), and the cultivation of kalo/taro (*Colocasia esculentum*) persisted. These locations are now educational resources. Waipi'o and Kahana, for example, are where students come to learn Hawaiian ways of caring for land. Another form of a cultural kīpuka are hula hālau, where traditional dance and practices associated with the harvesting of forest plants are preserved (Garcia, 2002). Studies related to Hawaiian subsistence practices occurred in the 1990s (Matsuoka et al., 1994; Minerbi, 1995; Minerbi et al., 1993). Since then, little has been done to review what resources are currently being gathered and what are the common uses of these resources.

This research highlights the multiple ways in which people of Hawai'i continue to mālama (take care) wild resources through adaptive practices and the importance of relationship to place and protocol. The significance of my findings is the wide array of native and non-native wild plants used by Hawaiians today, the large number of people gathering, and the fact that the value of these species is largely culturally and identity based rather than monetarily valued. Finally, using a cultural kīpuka ahupua'a case study, I identify through interviews and participant observations the integral

importance of imu and wild harvesting of plants to life cycle events (e.g. birthdays, anniversaries, memorial, graduation) and ceremony.

This information, not previously documented, highlights the importance of wild plants to Hawaiians today and the critical need to maintain access to these forest resources.

To understand where we are today, I provide context for the current landscapes, demographics, and economic influences that have occurred in Hawai'i.

Significance of Non-Timber Forest Products (NTFPs)

Non-Timber Forest Products (NTFPs) play a critical role for communities in the United States and across the globe (Chamberlain et al., 2018; Shackleton et al., 2011). NTFPs include a diversity of plants and plant parts such as flowers, bark, latex, roots, branches and other parts as well as fungi. They provide materials for a multitude of uses, including food, medicine, housing, the arts, and ceremony. NTFPs can support subsistence practices and make major contributions to cash economies (Shackleton et al., 2011). In fact, NTFPs are projected to have a commercial value of \$1.4 billion dollars within the United States (Alexander et al., 2011).

NTFPs support cultural heritage, identity, and connection to place. They are harvested and used by people of all ages and socioeconomic classes, in some cases serving as a buffer against poverty (Shackleton et al., 2011). The sustainable harvest of NTFPs can also help conserve biocultural diversity and biological diversity (Cocks et al., 2011; Ticktin and Shackleton, 2011). In the United States, Alaska Natives, Native Americans, and

Native Hawaiians have certain legal basis to subsistence resources (Emery and Pierce, 2005).

Historical Use

Hawai'i's flora is unique, with 1,386 native vascular plant taxa (Imada, 2012), 90 percent of which are endemic (Wagner et al., 1999). Prior to human population, there were limited plant items to sustain a large population. The first migrations to Hawai'i, date approximately 1,000 years ago (Athens et al., 2014), when voyagers brought with them a suite of plants such as root, tuber, and tree crops, including taro, sweet potato, bananas, and breadfruit among others (Abbott, 1992; Balick and Cox, 1996; Krauss, 1993). These "canoe" plants along with animals provided materials for food, fiber, medicine, ceremony, leisure, and adornment among other uses (Handy and Handy, 1991; Abbott, 1992; Te Rangi Hiroa, 2003). They are referred to today as "Polynesian Introductions", and many have become naturalized. Some of these species such as taro, bananas (*Musa spp*), kukui (*Aleurites molucanna*) are found in both cultivated areas and forests.

The first Polynesians also adapted to their new environments by cultivating crops they brought (Handy and Handy, 1991). Subsistence gathering took place within a land tenure system known as the ahupua'a (Handy and Handy, 1991; Minerbi, 1999). The ahupua'a system was a slice of a larger island wide, moku, socio-political management system (Kame'eleihiwa, 1992; Abbott, 1992). While not all ahupua'a extend from the mountains to the ocean, the entire area was utilized for subsistence. Ultimately, the Polynesian introduction of plants along with native forest resources became the economic engine of Hawaiian culture, providing the carbohydrates and assets to build a thriving nation.

Contemporary Access to Lands in Hawai'i

With the illegal overthrow of the Kingdom of Hawai'i by businessmen (1893), transition to the Republic of Hawai'i (1894-1898), annexation by the United States (1898), territorial government (1900-1959), and then statehood (1959), Americans flooded to Hawai'i from the U.S. continent. In the mid-19th century, a larger wave of immigrants (contract workers) came to Hawai'i to drive plantation agriculture, primarily from Japan, Portugal, and China, but inclusive of many other nations. Dramatic deforestation occurred with the opening of lands for sugar plantations along with the redirection of water that flowed from the mountains to the oceans to irrigate crops. Except for the first Spreckles ditch on Māui, the water diversions were constructed after Hawai'i became a territory.

Today the population of Hawai'i is estimated at 1,431,605 and is multicultural (U.S. Census Bureau, 2015). O'ahu, the island home to the capital of Honolulu, is by far the most densely populated island, with close to one million inhabitants. Although O'ahu has the most Hawaiians living on it in terms of proportions, O'ahu has the lowest ratio to Moloka'i (over 60 percent) and Ni'ihau, a privately owned island (close to 90 percent), whom have high representation of Hawaiians, but relatively low absolute numbers. Moreover, today private interests own much of the land, and State Forest Reserves account for only 25 percent of forests in Hawai'i. However, State Forests play a critical role in resource availability.

NTFP harvest plays a significant economic, social, and cultural role in Hawai'i today (McMillen and Kamelamela, 2015). Despite this fact, as is the case for indigenous peoples elsewhere, the landscape is highly fragmented

(Wehi and Wehi, 2010). NTFP gathering and sharing are key aspects to the social fabric of Hawaiian communities, supporting both subsistence and livelihoods (Matsuoka et al., 1994; McMillen and Kamelamela, 2015). Products made from NTFPs are gifted, traded, and sold informally at cultural events, craft fairs, and farmers markets. The renaissance of Hawaiian cultural practices across the state, starting in the 1970s (Tsai, 2009), has led to growing interest in NTFP harvest for cultural perpetuation.

Given that Hawaiian culture has a connection with NTFPs for a millennia, that Hawaiians make up from 20 to over 60 percent of the population in parts of Hawai'i, and that Native Hawaiian gathering practices are supported by the Hawai'i State Constitution, administrative rules and case law, the focus of this research is on Native Hawaiians use of NTFPs. Subsistence practices are of key importance today, as they were historically, to Native Hawaiians. Therefore, identifying how a wider spectrum of plants are being utilized can shed light on multiple communities, provide educational endeavors, and support best practice management.

To evaluate the impacts of contemporary NTFP harvest in Hawai'i, we need to first understand what species are of most importance (common) for personal and economic use. Identification of plant species being harvested is valuable to land use managers to understanding the forest dynamics of NTFPs and the relationships human communities develop with them.

Methodology

During the 'Imi Na'auao process, I was able to verify forest plants commonly harvested, as well as who are harvesting these forest plants and why. I was also able

to identify common uses of harvested plants within a cultural kīpuka. Although I was already in the process of collecting data when 'Imi Na'auao came into play, the hui gave me a space to not feel alone since I am the only one doing this work. 'Imi Na'auao gave me access to cheerleaders and people that believed in me and my research.

Through practice, ceremony, as well as spending time with my peers, mentors and family, I learned about the type of commonly harvested plants, by whom, and for what uses. I approached these methods over the years through participant observation, interviews, and learning by doing with Native Hawaiian organizations. The process of 'Imi Na'auao, guided by Mā'awe Pono, is a path I wasn't aware I was walking. To provide a name and methodology others can follow is a blessing.

I recorded which plants are reported in the State Forest Reserve permit requests. I also documented which species are native and non-native, and are reported for personal, cultural, and commercial uses. Similar to Wehi and Wehi (2010), to supplement information lacking in permits, I conducted interviews with NTFP gatherers and users. Semi-structured interviews occurred with cultural practitioners. I also distributed a structured online survey, which included information garnered, to self-identified NTFP harvesters. Then, based on insights on the application of methods put forth by Bernard (2006) and Alexiades (1996), I assessed the use of NTFPs at cultural events and documented NTFPs sold in markets, both in person and virtual (online). I did so in order to identify what plants are being gathered, what plant parts are being used (when possible), and their prices.

Overall Findings

A vast range of NTFPs are harvested from Hawai'i's forests. Overall, so far, I have documented 166 species from seventy-four plant families that are wild harvested today. These include sixty-three native species (twenty-three indigenous and forty endemic), sixteen Polynesian introductions, and eighty-seven introduced species. In addition, the online interviews suggest that many of these species are harvested by a diversity of backgrounds. The most common uses of plants are for lei making, hula, food, and within the cultural kīpuka imu. The use of these NTFPs happens at important cultural events, as well as for family gatherings and life-cycle events, performances, graduations and public holidays, emphasizing both the volume harvested and the important roles these species play in people's everyday lives.

Harvesters intentionally engage with forest resources, mainly for cultural gain with only a few having economic motives. Within the online study and analysis of official State of Hawai'i permits, there was not much representation of selling though there is clear supply and demand being provided for in person and online.

Temporal Connections Between Peak Permit Reports and Merrie Monarch

More than 90 percent of permits came from Hawai'i Island and one third of those permits in 2015 coincided with preparation for Merrie Monarch festivities. The majority of reported permits include foliage, maile (*Allyxia stellata*) (Figure 1, Figure 2), palapalai (*Microlepia strigosa*) (Figure 3, Figure 4), and 'ōhelo (*Vaccinium reticulatum*) (Figure 5, Figure 6). Observations of the 2016 Merrie Monarch competition and of the kahiko and 'auana events revealed that maile, palapalai, and 'ōhi'a

Table 13 Summary of numbers and origin of NTFPs recorded in this study; Native (endemic), Introduced (Polynesian introductions).

Origin	DOFAW	Interviews	Online Survey	Cultural Events	Markets
Native	22 (15)	13 (8)	42 (28)	24 (12)	27 (19)
Introduced	35 (4)	5 (4)	66 (16)	6 (7)	33 (11)
Total	57	22	108	37	71

(Figure 7, Figure 8) were used in highest frequency for hālau (hula dance schools) present. Following the methods of Blair-Stahn (2014), I estimate a conservative harvest of over 8,000 palapalai fronds and ten football fields (3,000 feet) of maile in length.

To provide a sense of how cultural practices are valued by the market, a palapalai set (30 dollars) that includes lei po'ō (head), lei a'ī (neck), and kupe'e (wristlet/anklet) and maile lei (30 dollars each double strained, median price) amounts to over 50,000 dollars in value for resources observed on the Merrie Monarch stage. To include similar hula events throughout the year, projection of resources utilized by hālau for competition, just for palapalai and maile, reaches over 1,000,000 dollars

in value. This number represents the market value, not the cultural value. The monetary values applied here provide those who are not able to quantify cultural significance of plants into a format that maybe more familiar. These estimates do not include other major events such as graduation, the Kamehameha song contest, family gatherings, parades, political events, or spectators who also adorn themselves in the crowd with lei.

A Continuum of NTFP Practices

According to the general gathering and imu online surveys, a range of Hawaiians and non-Hawaiians are harvesting resources. Most survey participants share that they are active harvesters. The range in collection



Figure 1 Maile (Alyxia stellata) shoot.



Figure 2 Maile stems are stripped, gathered, and ready to be twined into lei.



Figure 3 Palapalai (*Microlepia strigosa*) fronds are harvested to make lei.



Figure 4 Palapalai lei for kuahu.



Figure 5 'Ohelo (*Vaccinium reticulatum*) in fruit at Volcanoes National Park.



Figure 6 Harvested 'ohelo berries for jam. (Image by Bobby Jean Leithead Todd).



Figure 7 'Ōhi'a (*Metrosideros polymorpha*) tree with red flowers.



Figure 8 'Ōhi'a lei, made from stem, leaves, and flowers observed for sale at the Merrie Monarch Festival market.

events are between one to over thirty-one days per year. Many, who responded in other parts of the survey, indicated that they gather “when need”. Though this may sound vague, some events are planned or can be planned for in advance. Examples include a baby’s first birthday party, a wedding, or a graduation, which are all known a year or so in advance. Merrie Monarch is another such planned event, out of many, during the year. Family members plan, monitor, and provide what resources are possible when events are known in advance.

Coconuts were collected by almost three fourths of on-line survey participants. Reinvigorating historical coconut groves may provide access to basic food and water resources in times of plenty as well as in times of need. Urbanization has encroached on forests and agricultural lands. Creating ‘aipono kīpuka and healthy eating areas such as a coconut grove, within communities, may also improve social conditions across the islands. Hawai’i has an ideal climate for growing food on a year-round basis. Prior to international shipping all food was grown in the islands. Creating community centers

around food that is shared may strengthen our social fabric, just by their presence.

Ahupua‘a Case Study

Through participant observation, I recorded forty plant species, with twenty-seven plant families, used (cultivation and/or “wild”) by Hawaiians. Of these plants, six are native species, twelve are Polynesian introduced, and twenty-two are post-contact 1778 introduced. Results include plants utilized from the mountains to the ocean, mauka i makai. In person observations affirmed continuum of gardening (active management) to volunteers (passive management) of “wild” resources. A few plant species were cultivated near the home as well as gardened outside of personal property. Gardened plants are those that are actively tended to through weeding, monitoring (occurs with intent: e.g. going to check the maturation of fruits), out planting, seed collection, and fertilization. Volunteers are tended to passively (whether someone knows a use for it or not) with no intentional active weeding occurring (planned before monitoring).



Figure 9 Imu (underground oven) being heated up with kiawe (*Prosopis pallida*) wood on Kaho‘olawe with Hokule‘a in the background, moored within Honokanai‘a.

Of all ahupua'a species recorded, 58 percent of plants in the ahupua'a were used for imu (Figure 9), which is an underground oven to cook meats and vegetables often for large amounts of people. Twenty-one species are recorded for fuel (firewood, tinder), hāli'i (green vegetation used to create steam in an imu), and/or food. Some plants such as coconut (*Cocos nucifera* [leaves, trunk, husk, nut, meat, water, serving tray]), hau (*Hibiscus tiliaceus* [hāli'i, firewood, serving tray]), false kamani (*Termanalia cattapa* [firewood, tinder, serving tray]) and hala (*Pandanus tectorius* [hāli'i, tinder, firewood]) are multi-use species. As reported in online imu surveys, twenty-two species of firewood were identified where kiawe (*Prosopis pallida*) was the preferred firewood by more than 80 percent of participants.

Discussion

The knowledge stored within intergenerational livelihoods impacts economic self-sufficiency for Native Hawaiians and the next generation of Hawaiians.

Foliage was the most reported item on permits including maile and palapalai. Possible uses include for lei, Christmas wreaths, and kadomatsu for Japanese New Year's celebrations. Collaborating with these already participating communities, such as hālau, churches and temples, in identifying what plant populations to monitor, may be helpful for land managers who are unfamiliar with celebrations in locations to participate. Hula practitioners are a part of a community that may be open to more formal partnerships with managers as they participate in formal permit processes currently, have a cultural connection to the forest, and annually harvest for significant events that perpetuate Hawaiian cultural practices. These events reach huge audiences likened to the "Superbowl" or the "Olympics", providing

insight to the large numbers of viewers.

With more commonly used imu, there is a clear need for firewood for this practice to continue. Though twenty-one other species were identified for use between O'ahu and Hawai'i Island, kiawe is the preferred wood by many respondents. In comparison to 'ōhi'a (*Metrosideros polymorpha*, native endemic) firewood, sold on Hawai'i Island, kiawe fetches two to three times the market price. Introduced species, such as guava, strawberry guava and mangrove, can fill needs in locations where kiawe may not be as prevalent. These three woods are abundant in various regions and, in some areas, are actively being eradicated for restoration purposes. Expanding user' awareness of diverse species useful for firewood may improve imu accessibility by reducing dependency on one species, kiawe. Where open fire cooking approaches are regulated, providing community locations to gather banana, ti leaf (*Cordyline fruticosa*), firewood and a cooking location may reduce barriers for cultural practices in urban areas. Imu contributes to family celebrations, provides time for connection, as well is a location to pass down traditions and address needs within communities.

My research highlights that people are learning from experimentation (such as books, online content, personal inquiries) more frequently than realized. This identifies a break in traditions that would be passed from generation to generation. Harvesters still learn from family members, but persons are more likely to learn from hula hālau and universities before learning from grandparents. This highlights a gap of knowledge within families or between generations related to local place or practice-based initiatives. Looking to formal institutions to share best management practices such

as weeding, monitoring, gathering on the way out of the forest, rotating sites, and refraining from collection when necessary can be informative to address this need.

Harvester perspectives: looking to harvest plants in the future

Most participants from the online survey responded to what plants they would like to gather in the future with forty-one plants mentioned. The top ten mentioned plants, from most to least frequent include: banana, ti, taro, breadfruit (*Artocarpus altilis*), 'ōhi'a, kīawe, maile, sweet potato (*Ipomoea batatas*), coconut, and kukui (*Aleurites molucanus*). Out of all the species mentioned, only 'ōhi'a and maile are considered classically native by conservationists and kīawe is a post introduction. Categories mentioned of interest for perpetuation include native plants, hula, canoe plants, lei, food, limu (seaweed), and lā'au (traditional medicine). These interests and resources overlap with species recorded in Hawaiian ethnobotanical texts and are still used.

There is a market for NTFPs, especially for food and celebrations. Almost half of survey participants purchase taro from the market followed by maile. Taro is cultivated in agricultural areas but historically was also planted in the mountains in case of drought, storms, or rain (Handy and Handy, 1991). Gardens of kalo, mango (*Mangifera indica*), coffee (*Coffea arabica*), coconut, māmakī (*Pipturus albidus*), kukui, banana and ulu can provide communities with baseline carbohydrates and sugars to support lāhui building activities. The cultivation of maile in forests, taking care of current patches and making new ones, may alleviate pressure on current populations and allow these plants to replenish (Whitehead, 2015).



Figure 10 Hō'io (Hawaiian term) (*Diplazium esculentum*), also known as warabi (Japanese), for sale at farmer's market in Hilo. One pound sells for \$4 per bundle.
Figure 11 Warabi roll for sale at Hilo restaurant for \$10 per roll, each roll uses one to two fronds at maximum.

The fern hō'io (*Diplazium* sp.) (Figure 10, Figure 11), which is eaten for its fronds, was sold or purchased by a quarter of respondents as well. Historically Hawaiians harvested the native *Diplazium arnotti* for food (Te Rangi Hiroa, 2003), but with the introduction and naturalization of *Diplazium esculentum* along forest streams, this new species is more commonly used today. Other fern shoots reported to be purchased or sold are kaku-ma (*Cibotium* sp.). Other native species bought or sold include 'ōhi'a lehua, koa (*Acacia koa*) and 'ōhelo berries (*Vaccinium reticulatum*).

Economic development and Native Hawaiian well-being

There is the belief in conservation and ethnographic work that indigenous knowledge is housed in a certain generation, when many ages should be considered. Even children, though perceptively minimal (van den Boog et al. 2017), play a role in knowledge maintenance. We learned that gathering practices are learned from grandparents (Pukui, 1983). Who harvesters are learning from suggests that transmission of knowledge is through parents, personal learning, and peers. Pukui (1983) did not cite tertiary and other formal institutions as locations to learn traditional or applied knowledge,

but we may need to be more inclusive of these possibilities. Families still play an integral role even though participants are learning from other sources indicating the depth and type of knowledge may be shifting and that personal experimentation may be increasing as we move forward.

Co-management of Hawai'i forests has been ongoing. The lineal descendant families that I directly observed as well as the online survey participants reported that they continue to monitor areas (whether collecting resources or not), eradicate invasive species, collect seeds, out plant juveniles, and rotate areas. These conservation strategies are consistent in various communities with harvesters' traditional approaches in Northern Michigan (Emery, 2001), New Zealand (Wehi and Wehi, 2010), and Moloka'i (Matsuoka et al., 1994).

Through political turmoil, such as removing people from the land, relationships with our forests still exist. It remains important for cultural and subsistence practices to retain pathway access to lands. As noted during the introduction, native and Polynesian introduced plants (Handy and Handy, 1991; Te Rangi Hiroa, 2003; McGregor, 1995) are the basis of Hawaiian culture. These plants are still important to the identity, social cohesion, and inevitable climate impacts of island living.

A Practice of NTFPs

Formal structures play a high-profile role in providing access and gaining interest in cultural activities such as hula, lauhala weaving, and woodworking. Most often, general plant gathering online survey participants reported they ask for permission from the plant or the land before they ask for it from formal agencies, such as

the Department of Land and Natural Resources Division of Forestry and Wildlife (DOFAW DLNR). Creating an online harvesting form for all lands, with Hawaiian interests, may facilitate monitoring of landscape or the specific impact on species such as Rapid 'Ōhi'a Death (*Ceratocystis* spp.), Hala scale (*Thysanococcus pandani*), naio thrips (*Klambothrips myopori*), koa wilt (*Fusarium oxysporum*), the coconut rhinoceros beetle (Asiatic rhinoceros beetle), the newly announced invasive caterpillar (*Arcte coerulea*) that is impacting māmakei (*Pipturus albidus*) leaves, or other anomalies. These efforts may be used to compile common issues and find or share potential solutions across the islands.

Communications or a warehouse of information to support NTFP plant populations and practitioners may also include education guides that share common practices and peak seasons of gathering. This social fabric provides for potential rapid response in communities that may be isolated from decision makers or managers. Where jobs are scarce, it is perceived that harvesting practices provide supplemental livelihood income. We now know that people from urban Hawai'i also participate in subsistence activities. Observations of positive management strategies have been recorded that mimic practices advocated for by conservation professionals. Improving best management practices in the forest can improve social conditions for Native Hawaiians and Hawai'i.

Final Thoughts

Supporting NTFPs connects all people of Hawai'i to the celebration of life, both of our people and our environment. NTFPs are widely used and valued in Hawai'i, especially by Hawaiians. My surveys and interviews make clear that NTFP gathering fulfills social, cultural,

and economic roles. It, therefore, contributes to the social fabric of our islands and provides conservation services that are assets to future generations. The number of harvesters will always be less than those who benefit from these actions. Synthesizing and providing available science in a timely manner to harvesters and stakeholders, who host forums for addressing concerns, is a step towards (Love and Jones, 2008) NTFP collectors taking active roles in forest research and management.

This 'Imi Na'auao process has allowed me time to reflect on this research, create connections, and be supported by practitioners who aim for the same goal of Hawai'i resilience, lāhui consciousness.

My dissertation timeline and restructuring has provided lessons in my writing journey. This research has informed management to formally recognize the importance of NTFPs through the codification of the term by DOFAW. The term Non-Timber Forest Product is proposed to be officially recognized and is viewed as more inclusive than the term forest product. NTFPs recognize the unique relationships humans hold with the forest for cultural and livelihood means. This research is being applied to the first National Assessment of NTFPs within a state, in general, and will provide policy recommendations that will impact the protocols across the United States and within our islands.

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'Ai Pono



Pilina Informed Policy

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Ku a 'aha lua.

A standing together in twos.
A time of comradeship, not contention.
(Pukui, 1983, 1854)

Policy is infused in most of what we do, yet, when it is well executed, we rarely recognize its presence. What makes well executed policy? How did we use the research from 'Imi Na'auao to further support well executed policy? Kawika Riley, PhD Candidate in Political Science, and Dr. Lorinda Riley, Instructor of Justice Administration, discovered through this process that pilina or relationship was key.

After holding a series of workshops, the Rileys recognized the reticence of both faculty and 'āina based practitioner community partners to engage in policy advocacy. Policy is often associated with politics, which has become increasingly frustrating. Furthermore, some people have had bad prior experiences with policy – whether it be poor implementation of a policy affecting their lives, failed attempts to improve policy, or just watching policy be made from afar. Most surprisingly, there were strong feelings among both faculty and 'āina based practitioners that they may not have the capacity to deeply understand policy, even in those areas in which they were subject matter experts.

Faculty (in general) and 'āina based practitioners (in particular) were encouraged to consider that policy created without their expertise would likely fail during the implementation stage. Their practical 'āina based knowledge was a necessary component to good public

policy. Creating pilina with 'āina based practitioners and policymakers does not just add something “extra” to policy in these areas – it is a fundamental component of sound policy.

To structure their pilina-based policy framework, the Rileys used the 'āina based metaphor of the pili grass itself, a mea kanu (plant) that was and is highly valued by Native Hawaiians engaged in ancestor-based ways of knowing. Just as the pili grass is often used to retain soil and soil nutrients within eroded or vulnerable areas, public policy forms the frames or barriers to cradle and nurture the ecosystem it borders. Also like the pili, policy is sound when it is intertwined with civil society, community organizations, and valued community members.

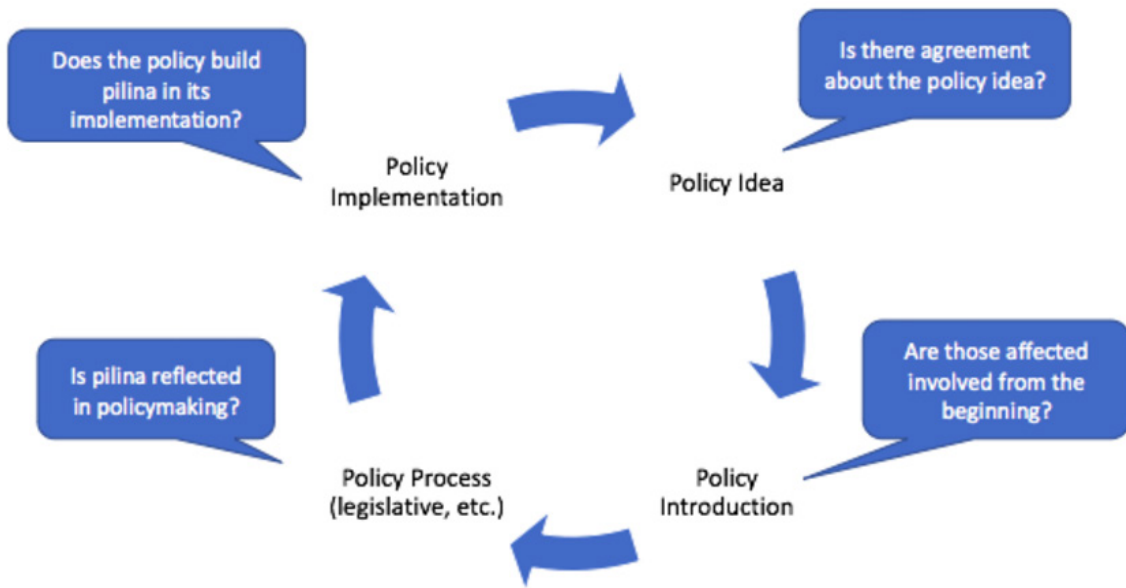
The pilina-based policy framework rests upon two assumptions. The first is that 'āina based practitioners hold inherent knowledge that can be tapped into to create more effective policy. In fact, 'āina based policy is a source of policy expertise that can be used to create more effective policy. The second assumption is that the incorporation of 'āina based practitioners serve as a catalyst to the creation of more effective policy. By merging 'āina based practitioners with policymakers, the pilina that exists between them grounds both. This is because policy systems and 'āina systems are both

complicated, complex, dynamic systems that take time to understand and attention to navigate. While it is possible for individuals to build expertise in both, knowledge in one of these systems should not be expected to naturally lend itself to an understanding of the other. In effect, 'āina based practitioners engaging in policymaking without policy expert participation will likely result in inefficient use of their time and energy, while policymaking without 'āina based practitioners' input will likely result in ineffective policies that do not meet the needs of the very people they are intended to assist.

Decolonizing Western methodology for research and transmitting knowledge is a critical element of pilina informed policy as best explained by Smith (2012). Truth, then is found in relationships rather than something that exists on its own awaiting to be discovered.

Thus, one's relationship with others, the environment, and knowledge itself needs to be proactively acknowledged and utilized when creating new understanding and thinking through solutions (Wilson, 2008). Indigenous focused community oriented research has long been understood to be improved when utilizing what Warrior (1995) calls a "process-oriented intellectual sovereignty" (p. 98). A pilina based policymaking framework was developed through engaging in the process of Mā'awe Pono and focusing on the power of mo'olelo, as detailed by Kahakalau (2018). As Kaiwipunikaukawēkiu Lipe highlights, "mo'olelo aku, mo'olelo mai" (to share and receive mo'olelo), is a method to understand the needs of 'āina-based practitioners while facilitating their ability to navigate the western policymaking process (Oliveria and Wright, 2016, p. 54).

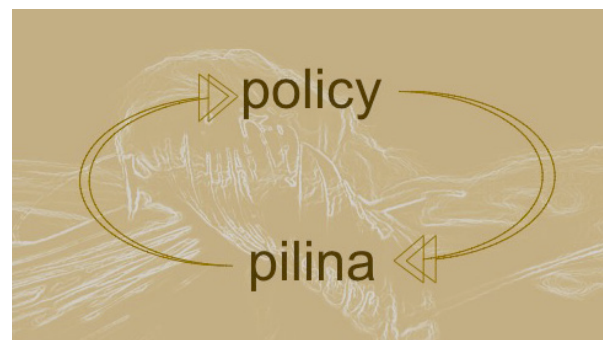
Policymaking Cycle with Pilina Indicators



Indicators that identify when policymaking is informed by pilina include ensuring that all affected parties are included in the discussion, whether the policy expands rather than reduces pilina, whether pilina is a prominent component of policy making discussions, and whether proposed implementation builds on pilina established in the policymaking process. While policymaking is improved when pilina pre-exists, it is not necessary to have a pre-existing relationship in order for policy experts and 'āina based practitioners to work together. These indicators can be built upon throughout the policymaking process creating pilina along the way.

One example where pilina was created during the policymaking process was with Saleh Azizi, formerly the Farm Hub Manager of Kahumana Organic Farms' Farm Hub. Azizi developed a policy paper arguing that Hawai'i needs to create more agricultural housing in order to meet its food sovereignty goals. The policy paper explores the history of agricultural policy in Hawai'i, starting with the sophisticated self-sufficient systems maintained prior to Western contact (See Azizi's section). It examined both the 'ōiwi (Native Hawaiian-determined) policy system that maintained agricultural abundance and the more recent plantation/export era. In both eras, food production was supported by a governance regime that took into account the need for land, water, transportation, and labor by developing policies and practices. Azizi's policy paper then shows that the current food security and the "grown local" goals, articulated by public policymakers, lack labor and housing components, severely limiting our ability to achieve the state's popular but unaccomplished food security goals.

It was through these types of relationships that we synergistically discussed other community concerns that could be better addressed through policy changes. For example, Kawika Riley conducted policy research on the Native rights provisions in the National Historic Preservation Act, and its application to Native Hawaiians versus other U.S. Indigenous people. Native Hawaiians have exercised certain rights to be consulted when federal undertakings may affect culturally significant Hawaiian resources, but the NHPA does not provide a process for Native Hawaiians to manage their own historic preservation and cultural resource programs. Such opportunities are available for federally recognized Indigenous people, over 180 of whom currently manage some or all of the functions previously administered by their state's historic preservation offices.



These same conversations lead to discussions about the high cost of living in Hawai'i and its impact on Native Hawaiians. Kahumana's Farm Hub (a food hub) provides one way for residents to increase their income using food resources that they already have. Another way Hawai'i residents can tackle the high cost of living is through developing cottage food opportunities or at home small scale food production. When our project began, Hawai'i was one of only two states in the nation that had a total ban on cottage food, which can provide

many Hawai'i families with an additional source of income in selling made at home food products directly to the consumer. Since then, the State has lifted its ban, but many still do not understand the legal requirements now in place. As a result, a paper discussing the process along with an informational sheet was developed to share with interested community members (see flyer following report).

The benefit of using pilina as a source of policy is that it allows for multiple ways of engaging in the policy making process. Groups found that their existing knowledge or their research as part of the 'Imi Na'auao project led them to advance policy conclusions. Thus, while the process looked different for each of the 'āina based practitioners, it was pilina that ultimately brought them to a policy space.

Pilina based policy is a value based proposition. 'Āina based practitioners and policymakers engaged in a pilina based policy process must hilina'i (trust, have reliance on) each other. While pre-existing pilina can help this process, it can be fostered through specific policy-making situations employing kūpono (honesty, uprightness) actions on the part of both parties along with na'au hāmana (openness of heart/mind). These two values of kūpono and na'au hāmana build upon each other in order to buttress existing or create new hilina'i.

Incumbent upon anyone involved in the policy process, whether in the creation, modification or simply the following of policy, is being maka'ala (vigilant, alert, aware). Most policy is made without pomp and circumstance, which requires both those affected by policy to be maka'ala about what policymakers are doing as well as those policymakers who are working with or allied

with 'āina based practitioners being maka'ala about the impact of policies upon those they have pilina with.

Rather than focusing on why and when policymaking matters to us, the pilina-centered policy model explains why we matter to policymaking. Because it best incorporates the expertise of subject matter experts with deep knowledge and responsibility, community-based policymaking is much more likely to be effective, informed, and perceived as legitimate by those affected by it. When people see their own importance to policy systems that affect the people and 'āina that they love, they are more likely to share their gifts through governance processes.

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Informational Flyer (Developed by Lorinda Riley, SJD)



Have a special recipe that everyone loves? You can now legally turn your skill into some extra money by starting a legal food business in your home.

The Hawaii Department of Health recently updated their Food Safety Code to allow Hawai'i's residents to sell certain foods made in a home kitchen directly to consumers. To qualify for this exemption to the Food Safety Code, home food producers must allow the Department of Health to inspect their home kitchen, if needed, and meet four conditions of the following requirements.

More information can be found at Hawai'i Administrative Rules Chapter 11-50-3 Food Safety Code or by contacting the HI Department of Health Sanitation Branch at (808) 586-8000.

What are the Requirements?

1. Obtain a Food Handler Certificate
2. Comply with hand washing regulations
3. Produce an appropriate label
4. Find a venue to sell directly to consumers

What Types of Foods are Prohibited?

*Any food that requires refrigeration and several addition high risk items

Examples include:

- Cakes and pastries with cream fillings
- Cheesecakes
- Custard pies and pies
- Focasia or breads with cheese
- Cut mellons and tomatoes
- Cut leafy greens
- Jerkies (including dried seafood)
- Fermented items (including kimchee)
- Garlic in oil
- Canned or bootled foods
- Acidified foods

What Types of Food Can I Make at Home?

*Most foods that do not require refrigeration for safe storage.

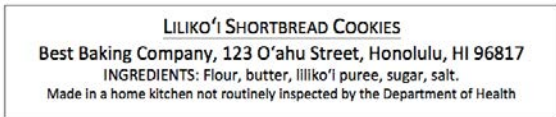
Examples Include:

- Breads, rolls, muffins
- Mochi
- Cookies
- Cakes and pastries (without cream fillings)
- Jams, jellies, and preserves
- Popcorn
- Spices and dried mixes
- Granola, trail mix

Other Considerations:

- Business registration with Department of Commerce and Consumer Affairs
- Obtain General Excise Tax (GET) from Department of Taxation and periodically submit the GET
- Obtain special event food permit from DOH for certain Farmers Markets
- Cottage food insurance (e.g., <https://www.fliprogram.com/>)
- Develop a marketing plan (e.g., the four P's of Product, Price, Place, and Promotion)

SAMPLE LABEL



Whether you are looking to supplement your income or testing a food product to determine its viability, starting a legal cottage food business can help you achieve your goals.

ADDITIONAL RESOURCES:

Business Registration

- All businesses, except sole proprietorships, must register with Hawai'i Department of Commerce and Consumer Affairs.
- Registering a business in Hawai'i is quick and easy. It can be done completely online or you can go in to a service center for assistance. For more information and a link to the registration, click here: <https://hbe.ehawaii.gov/BizEx/home.eb>
- Note that you may choose any business type (<https://cca.hawaii.gov/breg/legalinfo/>), though some have different tax and liability consequences. If you are unsure you should consult a tax advisor and/or an attorney.
- Once you have a registered businesses, there are periodic filing, such as the annual report filing, which are required in order to be in good standing. These can be done online as well.

Tax Number

- All businesses are required to pay periodic Hawai'i General Excise Tax (GET).
- All businesses in Hawai'i must obtain a Hawai'i Tax ID by clicking here: <https://hbe.ehawaii.gov/BizEx/home.eb>
- All businesses, except sole proprietorships, must also obtain a Federal Employer Identification Number (regardless of whether you have employees or not), which you can obtain here: <https://www.irs.gov/businesses/small-businesses-self-employed/apply-for-an-employer-identification-number-ein-online>.
- Be sure to keep organized. Consider opening a business bank account to help you separate your records. Retain receipts for expenses, which may be tax deductible, and track profits to analyze your success.

Cottage Food Insurance

- If you are concerned about liability related to your cottage food business you may want to consider obtaining additional insurance.
- You may be able to add on an additional umbrella policy through your homeowner or rental insurance by speaking to your insurance agent. Or there are several specialized cottage food insurance programs available, such as: <https://www.fliprogram.com/cottage-food-law-insurance>

Marketing

- In order to be successful and grow your business, you should develop a business plan and consider marketing your product. Think about the four P's – Product, Price, Place, and Promotion.
- For some resources on how to develop a business plan, check out the Small Business Administration website here: <https://www.sba.gov/business-guide/plan-your-business/write-your-business-plan>
- Consider researching marketing design by reading specialized books for food businesses:
 - Rachel Hofstetter, *Cooking Up a Business: Lessons from Food Lovers Who Turned Their Passion into a Career – and How You Can, Too*
 - Lisa Kivirist and John Ivanko, *Homemade for Sale: How to Set Up and Market a Food Business from Your Home Kitchen*
 - Jennifer Lewis, *Starting a Part-time Food Business: Everything You Need to Know to Turn Your Love for Food Into a Successful Business Without Necessarily Quitting Your Day Job*

'Imi Na'auao Project: Anticipation and Kūpuna Wisdom, Conflict and Tears

Gina Carroll, Kupu

E mālama ike 'ōlelo, i kuleana e kipa mai ai.
Remember the invitation, for it gives you the privilege of coming here.
(Pukui, 1983, 349)



I was filled with anticipation as we arrived at the heliport. The clouds were dark and low, the smell of rain saturated the air, yet we took off for base camp. The pilot was hopeful that we would find a break in the clouds long enough for us to deliver supplies, equipment and of course, us. The goal of the five day service project was to plant nine thousand dibble tubes of native plants to reforest Nākula, on the slopes of Haleakalā.

The sun seemed to shine brighter as we rose into the heavens. As we ascended into the cloud bank, the sun peaked through the clouds less often. The wind picked up, and I could hear a concerning conversation the pilot was having as he decided to fly over the cloud bank to determine our location. My eyes desperately searched for a sign of land.

Just as I began to contemplate life and the potential fate of

such a decision to fly, the clouds thinned. My eyes focused in on a single sunbeam shining on several koa trees on the edge of a gulch. It seemed as if they were waiting. Their root system, like long limbs, clung on to the edge and seemed to extend into the gulch in search of water. How lonely they looked, as if frozen in time. I wondered how long it had been since the stream that carved the gulch flowed free. The kūpuna trees seemed destitute yet strong, and I suddenly had the urge to cry. The clouds returned, obscuring my sight. The vision ended and my tears began to fall.

Time to write

I was on a high having just returned from visiting Northern California's forested 'āina. I was honored to have spent time with the inaugural and amazing participants, staff, and community leaders of the Blue Water's Exchange Program. I met Manu over breakfast and excit-

edly shared how much growth there was, along with vulnerability, cooperation, conflict, and an actual shift in consciousness. I became equally excited to hear about the idea of bringing organizations and people together to discuss the topic of 'Āina Aloha and Aloha 'Āina, and Food Security. In hind-sight, I was mostly excited because Manu was excited. I understood the literal meaning of 'imi na'auao, mā'awe pono; and 'auamo kuleana; however, I did not understand the depth of the journey we were both about to take.

We held retreats and regular meetings to acquaint ourselves with the task at hand. As the months progressed, I felt as if the Project was over my head and I struggled to discern how I was to fit it in. Many would share so transparently. I heard myself sharing about my work and recent decisions that involved important changes. As the words fell from my mouth, I could hear how my decisions were not reflecting my na'au.

I remembered the vision of the kūpuna koa and began to think about my thoughts as well as my emotions. Was I emotional because I was afraid and doubtful? Or was I touched because I entered into the realm of Wao Akua, a place of pure truth.

The process allowed me physical space to think about the web of experiences that created me. It provided safe encouraging mentorship. The process was about learning to find your sweet spot, the best version of yourself. The intentional time set each month to meet, share, and reflect, greatly reduced the “spin” of my choices just enough for me to observe my life through my own indigenous perspective. My life has been since changed.

Mā'awe Pono

The research methodology of the Project was structured in such a way as to give honor to each 'āina based organization. Community led, the larger focus was sustainability through the restoration and revitalization of our cultural practices. Rather than these being individual research projects, the process eventually led to them complementing one another, and not competing with one another.

The methods used were familiar to both UH West O'ahu and the community, such as talk story or focus groups; 'imi i ke kumu or researching for data; and nānā ike kumu or observing source data. After nearly a year of discussion, the methodology created by community and for community did not fit into the Institutional Review Board (IRB) research process nor did it fit the university's protocols. This in itself created very difficult conversations in and out of our monthly meetings about how to proceed with the remaining eight months of “research” in and of the community of Native Hawaiians. Is our task to do research for our community or with our community? Or, are we researching the community itself?

Mā'awe Pono reminded me to turn into the truth of who I am despite the world happening around me. Over the years, I lost site of my upbringing and overtime devalued the experiences that formed my character and inherent value system set in place by those who came before me. I am that first born; I am the one able to weave between the generations. As I reflect, we are all metaphorically that first born, the ones given the task to lead others by example through the narrow path of righteousness. It resonated, I get it, mā'awe pono placed the relationship between subject and “research-

er” in equal positions, not polar opposites. Neither was above the other; most importantly, both were teaching and sharing with each other. Both are necessary to the plan.

'Auamo Kuleana

People are different. Our purpose remains the same. Each project provided a spotlight on the amazing solutions already in progress in our community and future “research” should continue to be directed by community. This process is also a way to shine the light internally. It offers resolution to any possible unanswered questions about one’s kuleana or one’s own unique passion and purpose. It is about how you were designed and how you are using your design to better your community.

‘Auamo Kuleana is about stepping off the side lines and into the game by understanding and developing your own abilities to carry your own responsibility. Allow yourself to experience the feeling of connection and arrive. “Arriving” is not measured by success or accomplishment. It’s about recognizing how you and your space resonates. Your space should vibrate with what you do and with the people you meet. It’s when you say: Ahh, I got it now, I know why I’m here. I was meant to see this, I was meant to witness that. Understanding is nourishment to the soul. ‘Imi na’auao brought me to this place, eyes wide open, and I am unable to turn back.

Ulu ka hoi!

Something is happening!

Projects that utilize indigenous methodology are difficult, they go against the mainstream. They cannot be

left for another time. Like the kūpuna koa, they will linger on until someone notices and remembers how it was and how it should be. We have just begun, and it begins with the “research” of ourselves. To be sure our intentions are in the right place; it should be self-reflective and critical of our own selves, and we should find ways to be clear and how that clarity fits with others. Sometimes there will be conflict. Embrace it, don’t deflect it; accept it as a loving “check” to the na’au. Things will not fall into place without conflict.

Each day of this journey, we were greeted with countless hō’ailona that pushed us to continue. Through sometimes extreme conditions, diverse landscapes and personalities, we acknowledge the beauty of our ‘āina and our people. We are the subject and we are the observer. Like the kūpuna koa of Nākūla, we will all continue to thrive under the most adverse conditions with love and empathy for all. At the end, we arrive exactly where we are supposed to be.

Blossoming liko lehua at UH West Ō'ahu



E ho'ā'o nō i pau kuhihewa.
Try it and rid yourself of illusion.
(Pukui, 1983, 35)

Pule Pani: Summary

Manulani Aluli Meyer

Thus ends our tale of radical collaboration – only in text. In context, we are vibrant and still alive, still figuring it out, still wanting to be of service. I'd like to tell the refrain of our own becoming in five parts so that healing and understanding expands and deepens, and the promise of continued collaboration is assured:

- Hawaiian thinking is real and it makes a difference
- Radical collaboration is necessary for societal transformation
- Indigenous research methodologies are needed in institutions
- True wealth is found in the quality of our relationships
- Aloha is the primal source of our collective emergence

Hawaiian thinking is real and it makes a difference

'Imi Na'auao has affirmed my commitment to Hawaiian values, practices, principles and beliefs. We are strengthened when we can offer enduring patterns of pono behavior and express them ourselves. We are nourished when those patterns give us guidance and inspiration. They are clear, rigorous, and timeless. That is the purpose of 'ike kupuna and with all the 'ōlelo no'ēau that Kū Kahakalau gave us within the Mā'awe Pono process. It also happened when 'auamo kuleana and ho'opono became my own inward/outward expression – the values of culture became its own coherence. Continuity is a practice! We draw from the well of our history, language, stories and interpretation to offer the world something different.

- *'Auamo kuleana, collective transformation through individual excellence, was the main justifying principle that allowed the unique development of everyone's skill-set embedded smack-dab in their interests. We shared purpose, and then we connected with each other on many levels. Standardizing our research process was not feasible or expected. That was made clear over and over. Expecting everyone to know how to order video equipment was no longer the point. Thank goodness Christy was good at that! We learned to appreciate difference and to work within its illuminating parameters. That way, work was 'effortless', intentional, and flowed within a work-ethic that never lost its own interest. At the end of this process, 'auamo kuleana also meant: individual transformation through collective excellence. I love it when that happens!*

Radical collaboration is necessary for societal transformation

Radical collaboration means linking with people and places that are unusual, in ways that are different, within spaces that encourage (k)new thinking. At the heart of this idea is the belief that we can no longer accomplish the changes needed in society in the silos we have inherited. Our sorrows need healing, our resistances to each other must melt away. How does one 'break-out' of these structures – in mind and matter?

- *I remember the feeling we had sitting in the hale at*

Ka'ala Farm. Cultural practitioners, farmers, activists, social entrepreneurs, scholars, and beloved friends gathered to talk about the potential of 'Imi Na'auao. It was a loving exchange. We were each and everyone passionate about the healing of our community, our peoples, our lands. It felt like a moment to honor. Laughter, serious intention, and expanding/touching visions were shared with care and kindness. We held each other up. This meeting was a gift. We all felt it.

Indigenous research methodologies are needed in institutions

Placing the notion of 'Indigenous' within a racial category misses the point. Within 'Imi Na'auao, the idea of Indigenous meant Hawaiian, but that now must mean: Hawai'i. It is almost too obvious to herald healing through the values, priorities and practices of peoples found in a specific place. We have been over-colonizing ourselves to think that the "one-truth epistemology" will now open all doors, or that it has the power to teach us how best to understand ourselves. It was refreshing and vital to 'search for wisdom' and discover more about our own potential, and to see the function of 'ike kupuna within all aspects of research, shaped within a distinctly different methodology most of us found familiar and nourishing.

- *Mā'awe Pono, Kū Kahakalau's research methods, grounded in Hawaiian values, principles and understanding, inspired and guided our 'Imi Na'auao team. What I found to be most compelling was how Kū exemplified the ideas with her life stories and her own character. We listened to her actions, and I know we were encouraged with the kindness she gave us all in how best to infuse ideas within this compelling and empathic paradigm that places community as mutu-*

al causal agents in all processes within research planning, delivery, and outcomes. What a refreshing and vital idea!

True wealth is found in the quality of our relationships

It has been a reoccurring ideal to think through the purpose of conflict. These past two years have been suspenseful and challenging on some fronts, but mostly it has been inspiring and magical. I have learned that when people gather without an iron-clad agenda, they work to understand something (Why are we gathering?) together. It's a process without Learning Objectives. Amazing things happen when animating principles enter hearts! Amazing discussions were shared. Odd couples were formed, patience was rendered. Friendships formed.

- *Excellence is found within 'ohana. We hired a husband/wife team because of their magnificent capacity. Not hiring consultants because of "conflict of interest" became a topic of exploration because it remains a non-Indigenous paradigm. Integrity is a value and it is recognized. False ideas that do not offer rigorous self-reflection and practice of our own integrity then encourages mediocrity. Nepotism is a negative when it is inappropriate. Otherwise, affirming the excellence of 'ohana or honoring the integrity and quality of our relationships can be a strength to our social structure. We are an Island society and knowing people is fundamental to the quality of our own survival.*

Aloha is the primal source of our collective emergence

This 'Imi Na'auao process brought forth so many memories, stories, and exciting ideas! I am laughing thinking about the many false dualities it brought forth: Western/Hawaiian; Right/Wrong; Academic/Non-Academic; Soft/Hard; UHWO/Community. It is quite a discipline to

bear witness to the rigor and substance of aloha, especially within academic expectations, but it did indeed shape the gatherings, the discussions, the e-mails. Even when it went off the rails, it still felt like we were going to be OK. Aloha is our true intelligence. This one idea kept me in the game. It helped me find purpose again and linked me with those who would do this work forever within a Living Economy we know exists.

- *Planning the final Hō'ike was joyful because we knew people wanted to share their insights and lessons, and that others wanted to hear them. That by itself made the process joyful. People stepped forward to assist in ways we all honored. By this time we knew each other's kuleana and affirmed our own by being prepared. Everyone had a role and we were encouraging and kind about it. I remember feeling that I was in a larger system that now knew more of its own capacity and thus could enter without anxiety or doubt. We were community for each other.*

Summary

So, now what? What are the lessons learned for future possibilities and intersections? How will we proceed from here? We have been thinking this through. Our UH West O'ahu Faculty would love for this to continue in some version. Our community is kanalua, of two minds, of how best to move forward. May I humbly suggest some ideas?

Idea One: Annual Events, Conferences, or Camps

No-one steps in the same stream twice. Let us evolve in this search for wisdom in multiple ways: yearly conferences on Hawaiian Research Practices, week-long camps on transdisciplinary approaches to curriculum infused with nā mea waiwai. We have developed relationships! Why not enjoy their self-organizing growth?

Idea Two: Develop transdisciplinary Concentrations for UHWO/Community

How do we ritualize time to develop new majors and ideas within a community and university? We started 'Imi Na'auao with a collective excitement around the potential function of such a collaboration. Why not continue to strengthen these collaborations around the following potential concentrations/majors:

- Living Economies and Hawai'i
- Indigenous Epistemology
- Urban 'Āina and Cultural Landscaping
- Indigenous Cartography + Healing
- Policy Practices for aTransformed Society
- Healing Paradigms in Social Sciences

Idea Three: Indigenous/Transformational Publication

How can we collect ideas that make authentic differences across all sectors of society? How can we truly infuse native essence within form so that homelessness is not seen as a separate issue, but rather a complex one embedded within a matrix of an unreflective modern system? How do we infuse kanaka paradigms in systems set up to assimilate them? We can do this with the support and encouragement of our own scholar-practitioners, and with allies who understand our shared purposes. Racial distinction was never the issue. Continuity is, and that is found in the values and practices of culture.

Mau ke aloha no Hawai'i.
Love always for Hawai'i.



Our work embraced transdisciplinary knowledge guided by the tenets of Mā'awe Pono. In today's age of anthropogenic climate change, research that seeks solutions to wellbeing must be open to new possibilities in which survival depends on honoring ancient wisdom for restorative efforts regarding sustainable land use. Healthy 'āina equals healthy people.

- Christy Mello, PhD, UH West O'ahu faculty

I came into this project as a relatively new faculty member to UHWO -- I had been trained in my disciplinary silo and did not engage community members or address community needs in my research. This project 'introduced' me to some of the needs of the community, how to work with others to address these needs, and how to plant the seeds for community change by sharing my research skills. This project, quite simply, transformed me -- it changed the reason why I do the research, changed my usage of pronouns from 'me' to 'we,' and created an appreciation for developing a community-based research agenda.

- Thomas Scheiding, PhD, UH West O'ahu faculty

The 'Imi Naauao hui is unique, it is special, it allowed me to be seen by those in the community and academia, and to be valued wholly as a Hawaiian academic. This journey has taught me that community research can be conducted in a team setting with Hawaiians as the focal point and leaders of inquiry. It has taught me that akua is watching out for us all; that love is our purpose, love is our well-being, and that our relationship with our environment is reflective of how well we think we know ourselves. Moving forward as a collective we know what we need to foster wealth health, and to foster financial fitness. We need to continue to invest in our communities, human and non-human, through reciprocal relationships. When the land is healthy so are we.

- Katie Kamelamela, PhD, UH Mānoa

We found the process humbling, engaging, and intellectually rewarding. For the two of us, there was the additional unique opportunity to work together in a scholarly space for the first time, after nearly a decade of marriage. We have committed to doing our best to say "hiki nō!" to any requests for talk story or kōkua that came from folks who were part of the hui or who attended the symposium. This has already included presenting before roughly a dozen Native Hawaiian serving and ally organizations, with follow ups scheduled for this summer. We are excited to share what we learned and make it useful to those who see potential in it.

- Lorinda Riley, SJD, UH West O'ahu faculty and Kāwika Riley, Queen Lili'uokalani Trust , PhD Candidate UH Mānoa

