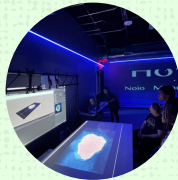


# Idigenizing Economic



Launa



# Kamuela Enos

Director  
Office of Indigenous Knowledge and Innovation



Launa



# Kari Noe

Indigenous Technology Specialist  
Office of Indigenous Knowledge and Innovation



- **Introduction** to the Office of Indigenous Knowledge and Innovation (OIKI)
- **Context** of the ChangeHI EPSCOR Project
- **Overview** of the Indigenous Data Hubs (IDH) Practice
- **Closing Reflections**
- **Thoughts and Questions**



Office of  
**Indigenous Knowledge & Innovation**  
UNIVERSITY OF HAWAI'I SYSTEM

The **University of Hawai'i (UH) Office of Indigenous Knowledge and Innovation (OIKI)** serves as a catalyst, convener, and pathway for UH students, faculty, and regional communities of practice to [utilize ancestral sciences and technologies in ways that optimize contemporary innovation and restore Hawai'i biosystems.](#)

Through facilitating equitable regeneration, we help catalyze social, ecological, and economic abundance at all levels on a local and global scale.

# The Pewa Framework



**Equity:** *A willingness to understanding the nature of the fracture;*

A willingness to acknowledge the history of dispossession, and a willingness to affirm the value of what was lost

**Reciprocity:** *A willingness build interventions that address the reason for the fracture, and are built to hold each side equally strong;*

to ID interventions that recognize historical injustice and ancestral efficacy and then create approaches that work on investments into restorative interventions.

**Transparency:** *the willingness to be clear and honest in intent, and to operate in a transparent way;*

Pewa are emphasized on the 'umeke, not hidden. They show that the carrier is now strong. We do not hide the fact that there was a fracture, but honor our work to mend it. And now we can have abundance.

**Pewa** - *n. rectangular patch or wedge used for mending bowls, perhaps so called because of a resemblance to a fishtail.*

**Regional Governance  
Ecologic,  
Economic and  
Spiritual  
systems  
integrated.**

**Community Agency  
Access to  
quality food,  
sustainable  
livelihoods, and  
direct influence  
in regional**

Collective  
Social Well  
Being

Ecology  
managed as  
economy

**Integrated  
Bio-systems  
Management**

Individual  
Integrated In  
Functioning  
System

Regenerative  
Food  
Production

**Regional Ecology:  
Regenerative  
land use is  
key directive  
guiding  
society.**

**Local Ecologies:  
Each parcel  
managed in  
context of its  
relationship  
with whole  
bio-systems**

**Original Context of Community Health**

# Hō'ike

**Governance:**  
External forces  
have removed  
local agency  
and decision  
making.

**Community:**  
Relegation of  
individual to  
conditions of  
poverty

Poverty

Imposed External  
Governance

Resource  
Depletion

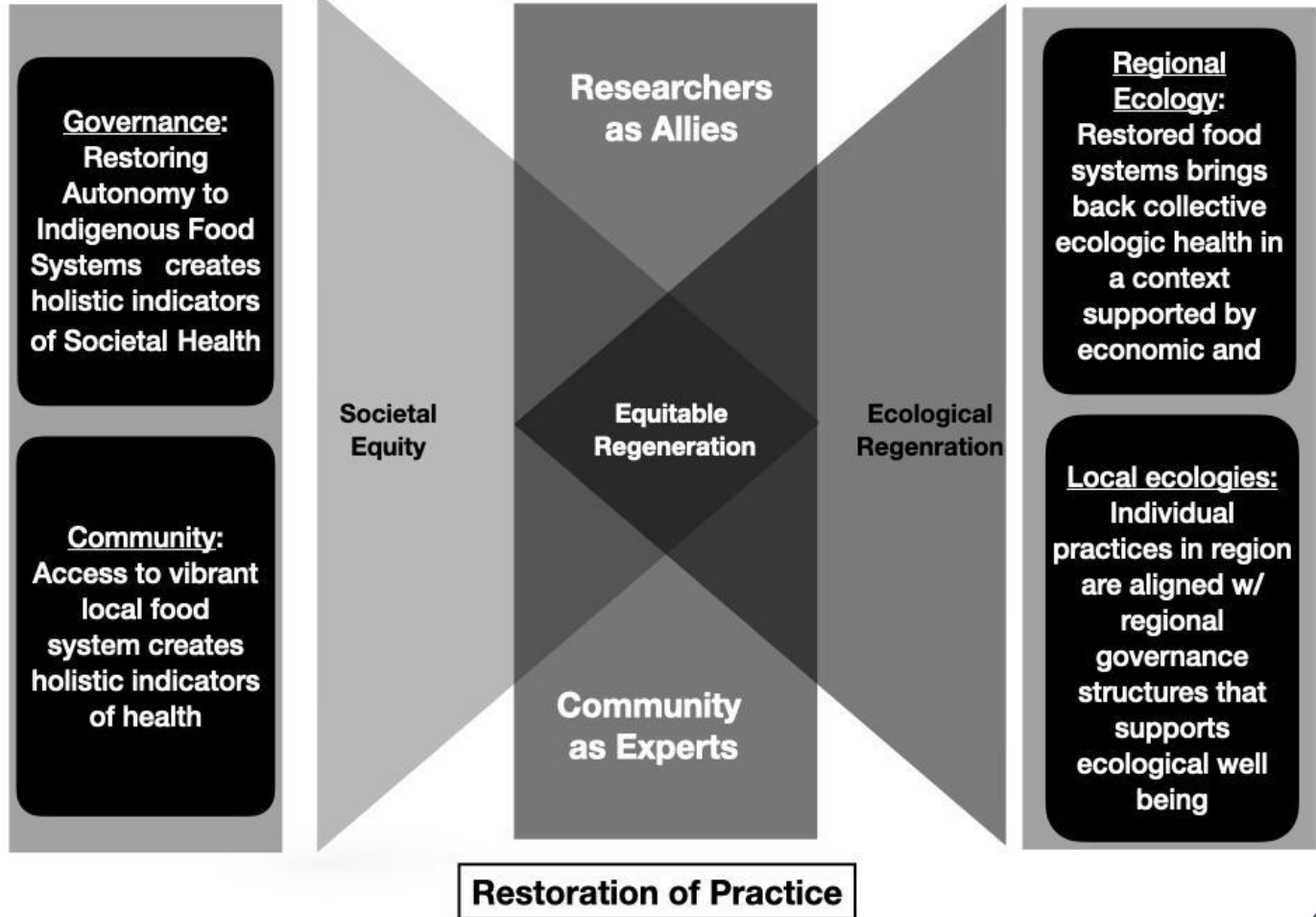
**Regional  
Ecology:**  
Regional land  
use focuses  
on extraction,  
use in global  
supply chain

**Local  
Ecologies:**  
Local food  
producers  
traditions  
supplanted

Severance from Traditions



# Hō'ike



# Our “How Will We Know” if this Office is working?

- **At the Community Level:** *investment* is being driven to community organizations.
- **At the University Level:** *research* is co-designed with community and supports ancestral practices done in contemporary application.
- **At the Government Level:** Indigenous communities are *repositioned* as spaces of innovation and their practices and people are thriving.

# Articulating a process of Indigenization

Step 1: Retranslate

Step 2: Reframe

Step 3: Re-Enter

Step 4: Re-Establish

# Step 1: Retranslate

To move from  
“Hawaiian Culture”

to

“Ancestral Sciences and Technologies  
of Integrated Bio-systems  
Management”

# Step 1: Retranslate

## Policy

Bio-centric governance  
and sciences that  
positioned economy as  
ecology



# Step 1: Retranslate

## Practice

Family unit as mode of production: educator, employer, spiritual leader.

Landscape as sentient ancestor



# Step 1: Retranslate

## **Problem Statement:**

Ecological and societal degradation a function of the severance of symbiosis.

## **Working premise:**

Restoration as the intervention



## Step 2: Reframe

Provide frameworks to move from  
Decolonization  
to  
Indigenization



# Step 2: Reframe

A Framework for  
Indigenization

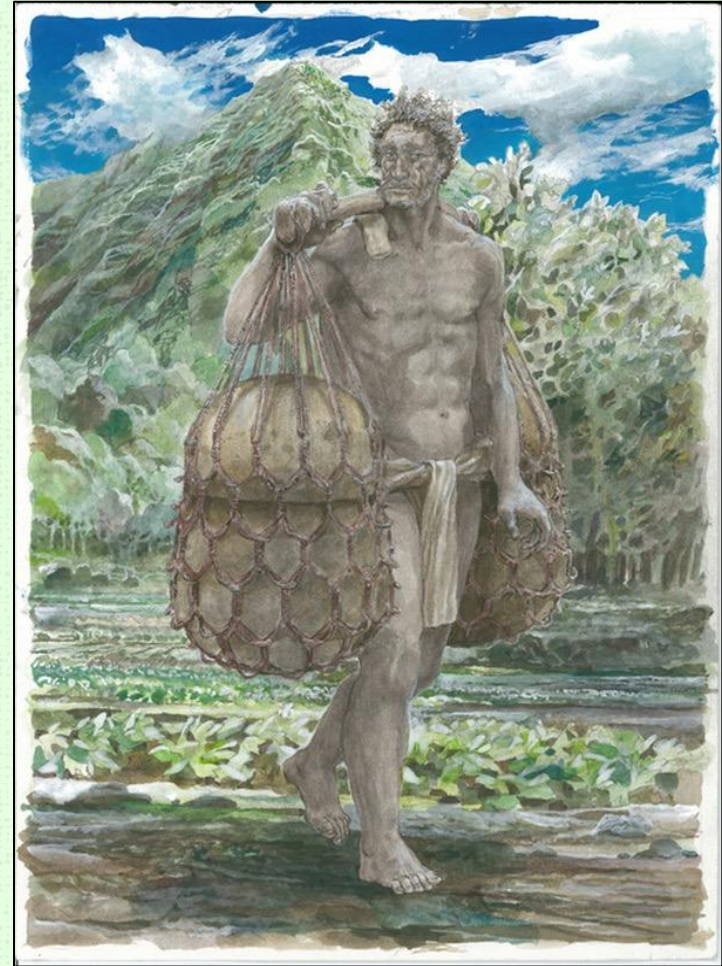
## Triple Piko Analysis



# Step 2: Reframe

Triple Piko Analysis

Piko 'Ō:  
Align with  
Ancestral  
Prerogatives



# Step 2: Reframe

Triple Piko Analysis

Piko 'Ī:  
Empower  
Contemporary  
Generations



# Step 2: Reframe

Triple Piko Analysis

Piko 'Ā:  
Provide a  
Foundation for  
Future  
Abundance



## Step 3: Re-Enter

# Re-Entering Into Contemporary Practices

From Grants and Business plans  
to

'Auwai Articulations

# Step 3: Re-Enter

## Social Enterprise That Produces Contemporary & Ancestral Outcomes

### ELDERS

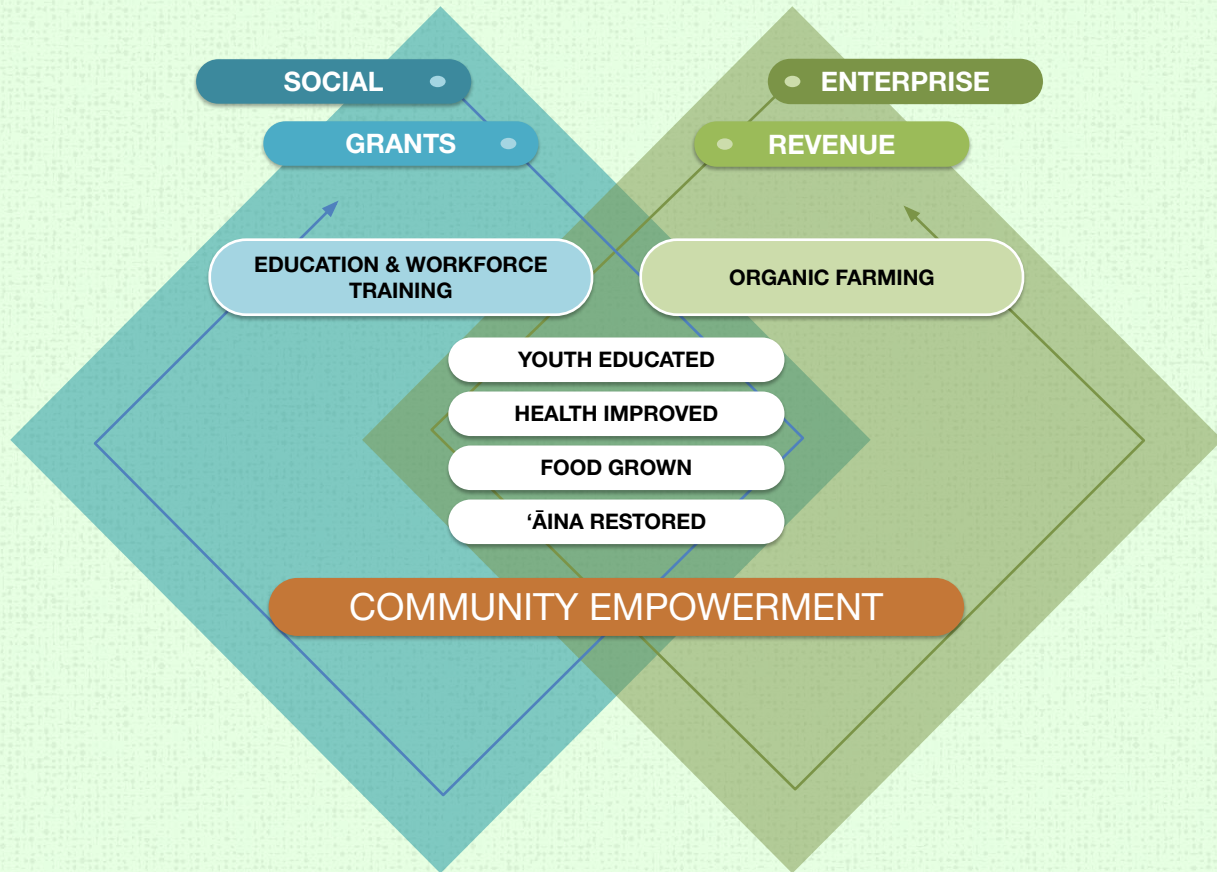
Generate revenue via  
**Enterprise** while being  
empowered by **Social** mission

### PROGRAMMERS

Generate revenue via  
**Enterprise** while being  
empowered by **Social** mission

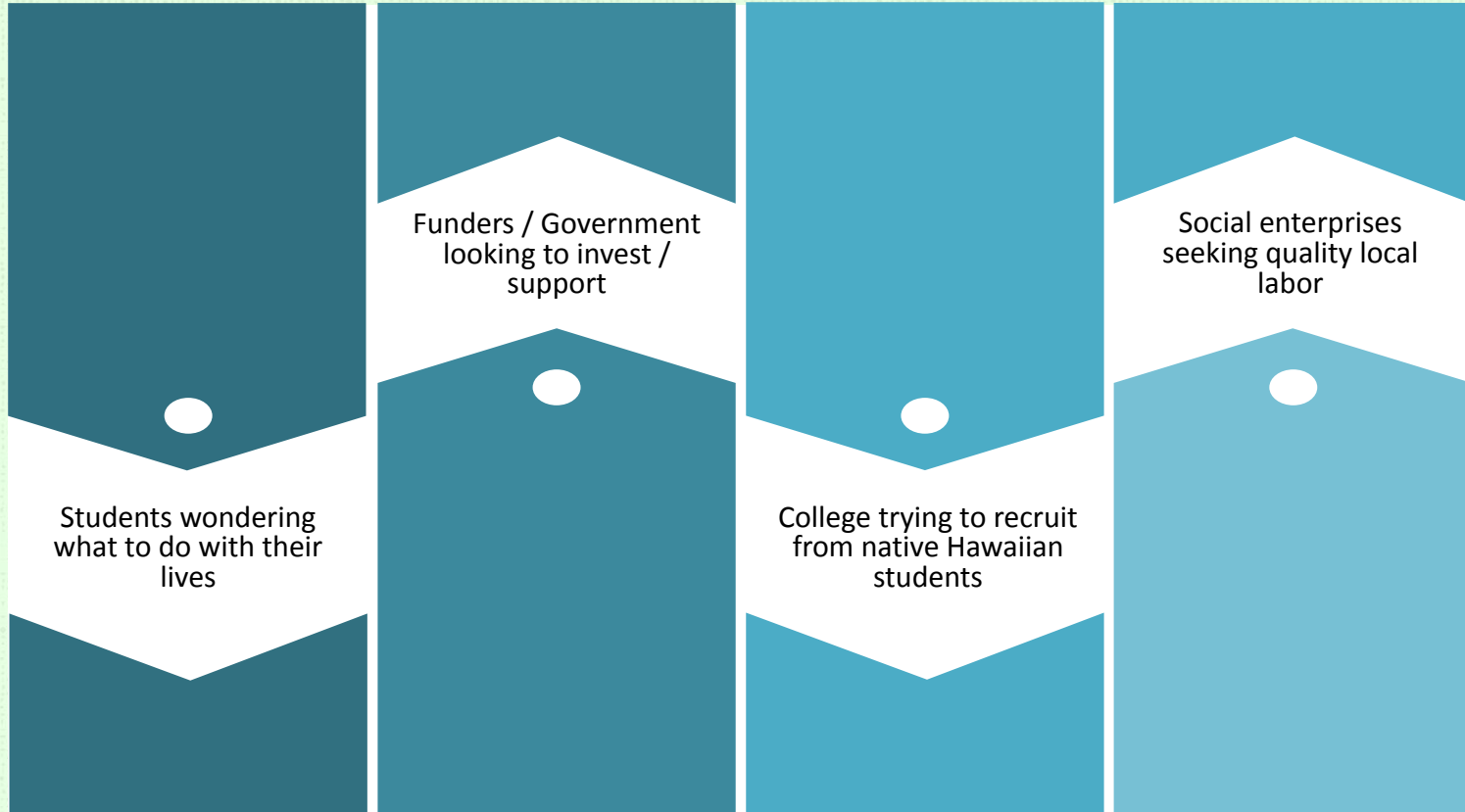
### SWEAT EQUITY SCHOLARS

Generate revenue via  
**Enterprise** while being  
empowered by **Social** mission



# Step 3: Re-Enter

## OUR ALIGNMENT: FROM SILOED...



# Step 3: Re-Enter

## OUR ALIGNMENT: ...TO ALIGNED

Student preparation with family as partner, teachers as mentors, and ancestry as asset.

Post Secondary institutions work with schools and Ag sector to ensure matriculation into and out of college.

Workforce provides internships, on-campus entrepreneurial support to build seamless entry points into sector.

**Students, Family, Community & Ancestry align to restore our community**

SCHOOLS

COLLEGE

WORKFORCE

COMMUNITY

Family education  
Community input  
Internships  
Teacher P.D.

ACTIONS

Internships  
In-school engagement  
Advising/ recruitment

ACTIONS

Internships  
Technical support

ACTIONS





## Step 4: Re-Establish

### Re-establish our Agency

Hitting their metrics using our model.

Presenting community derived metrics of  
agency/resilience/abundance

# Step 4: Re-Establish

## YOUTH OUTCOMES

### MA'O Intern College Degree Attainment

MA'O interns graduate at more than double the rate of their peers at Leeward Community College, while Native Hawaiian interns triple their chances of achieving their degree.



108

Associate's Degrees

25

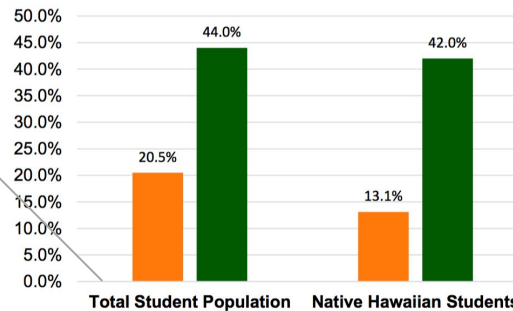
Bachelor's Degrees

1

Master's Degree

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

### Associate Degree Graduation Rate



Leeward Community College 2015

MA'O Youth Leadership Training (YLT) interns - cumulative

# Step 4: Re-Establish

## HEALTH OUTCOMES



### Maui Ola Study

#### Investigating the Gut Microbiome 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, all interns in MA'O Youth Leadership Training (YLT) program. Future study cohorts include additional interns and members of interns' social networks.

70%

Study cohort of Native Hawaiian ancestry

26

Median age of study cohort

50%

Reduction in lifetime risk of contracting T2 diabetes; measured after one year participation in the MA'O YLT internship program.

\$150,000

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

<http://mauiolanetwork.com>

Measuring the Health of Our Community Using Social Networks – preliminary research results

# Step 4: Re-Establish

## Ka'ōnohi Farms

Hawaiian Cultural Practices Thriving  
in an Urban Ahupua'a

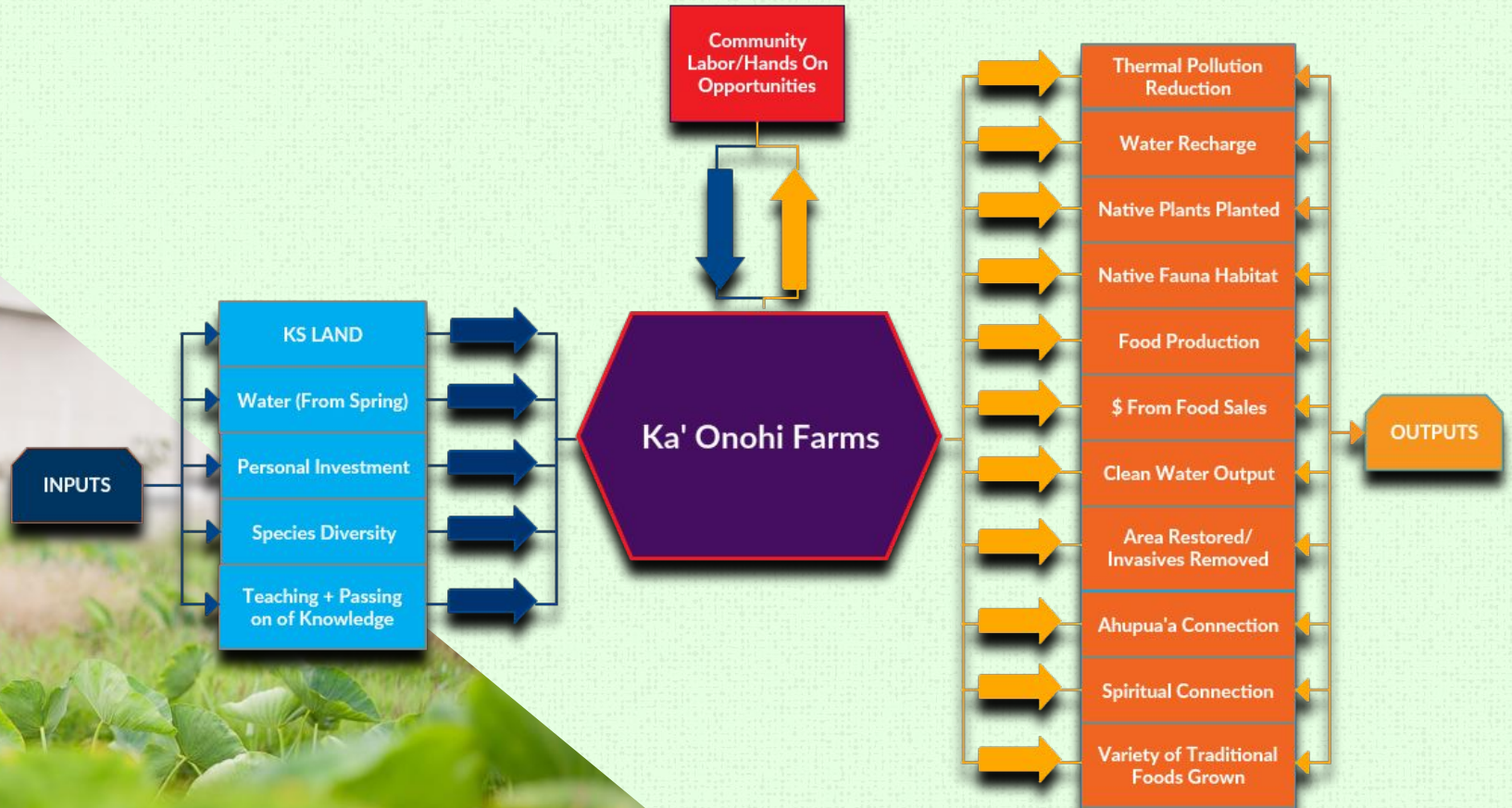


# Step 4: Re-Establish

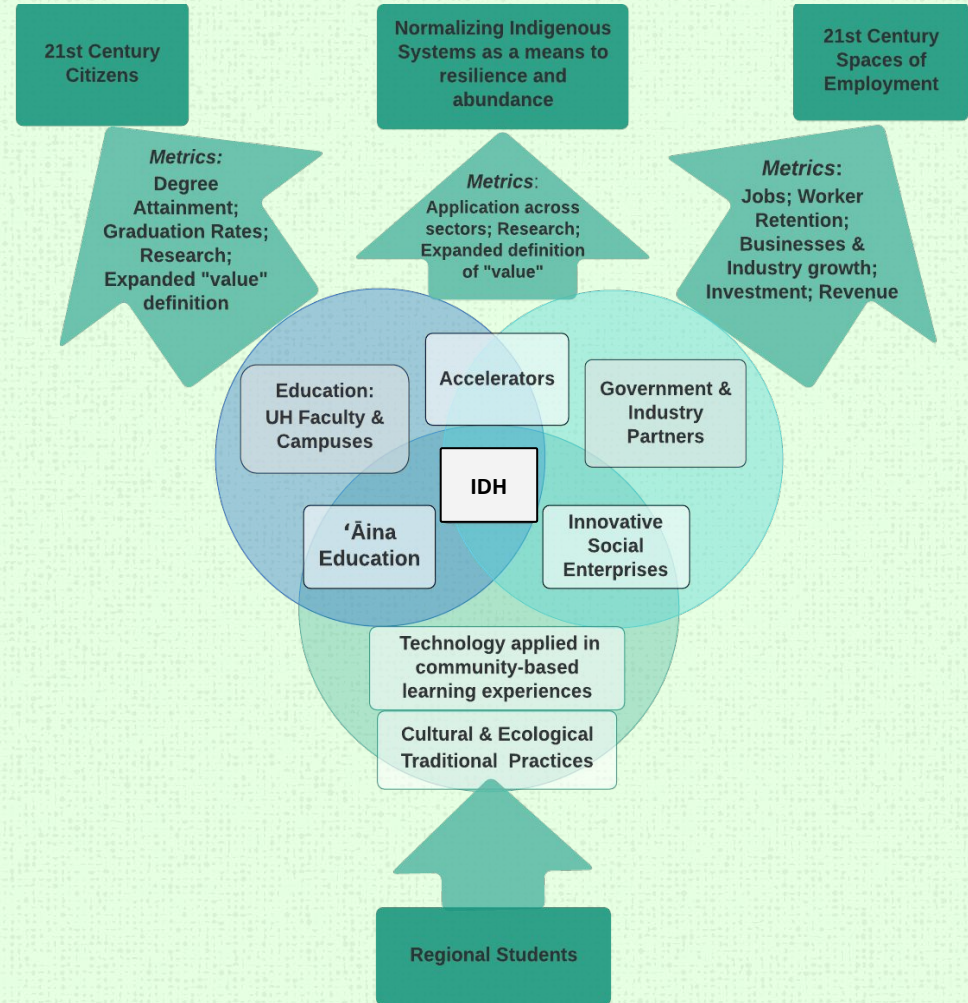
## The Stakeholders



# Step 4: Re-Establish



# Indigenous Data Hubs (IDH)





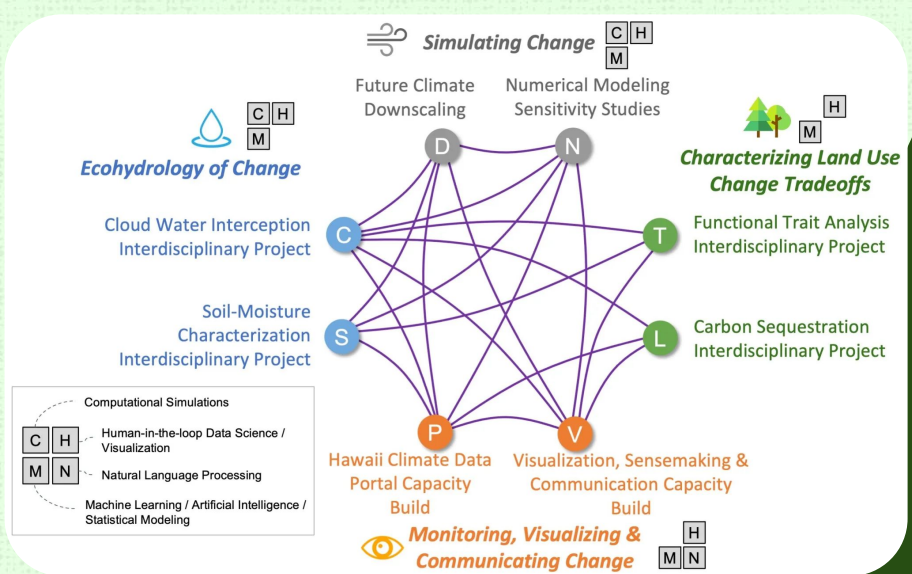
## Create(x)

is a living laboratory for students to develop and showcase their narrative works at the intersection of creative media, computation, culture, art and science @ the UH West O'ahu.

It is co-led by Dr. Jason Leigh, and Kari Noe of the [Laboratory for Advanced Visualization and Applications \(LAVA\)](#), and is jointly funded by the [UH Academy for Creative Media System](#), and the [National Science Foundation](#).







## Project Goal

Harness the data revolution to confront climate change and support the state's transition to a digitized smart economy.

## Seed Funding

Responds to two priorities identified in Hawai'i's Statewide Science and Technology Plan:

Data science innovation and technology transfer and Native Hawaiian and Pacific Islander inclusion and equity in the Hawai'i data science endeavor.



# LCC IDH

## Goal: Developing an Create(X) type facility at LCC

- Year long planning process
  - Engage LCC admin to align with strategic plan
  - Engage faculty in utilizing the hub for curriculum/research
  - Identify space for IDH site
  - Developing a Fellows program
    - 5 students working on developing data visualization projects
    - Cohort Mentors: Kūha`o Zane, Solomon Enos, Mikiala Lidstone



UNIVERSITY of HAWAII®  
**LEEWARD**  
COMMUNITY COLLEGE

# Other future sites...

## **Kaua'i and 'Iole (Island of Hawai'i)**

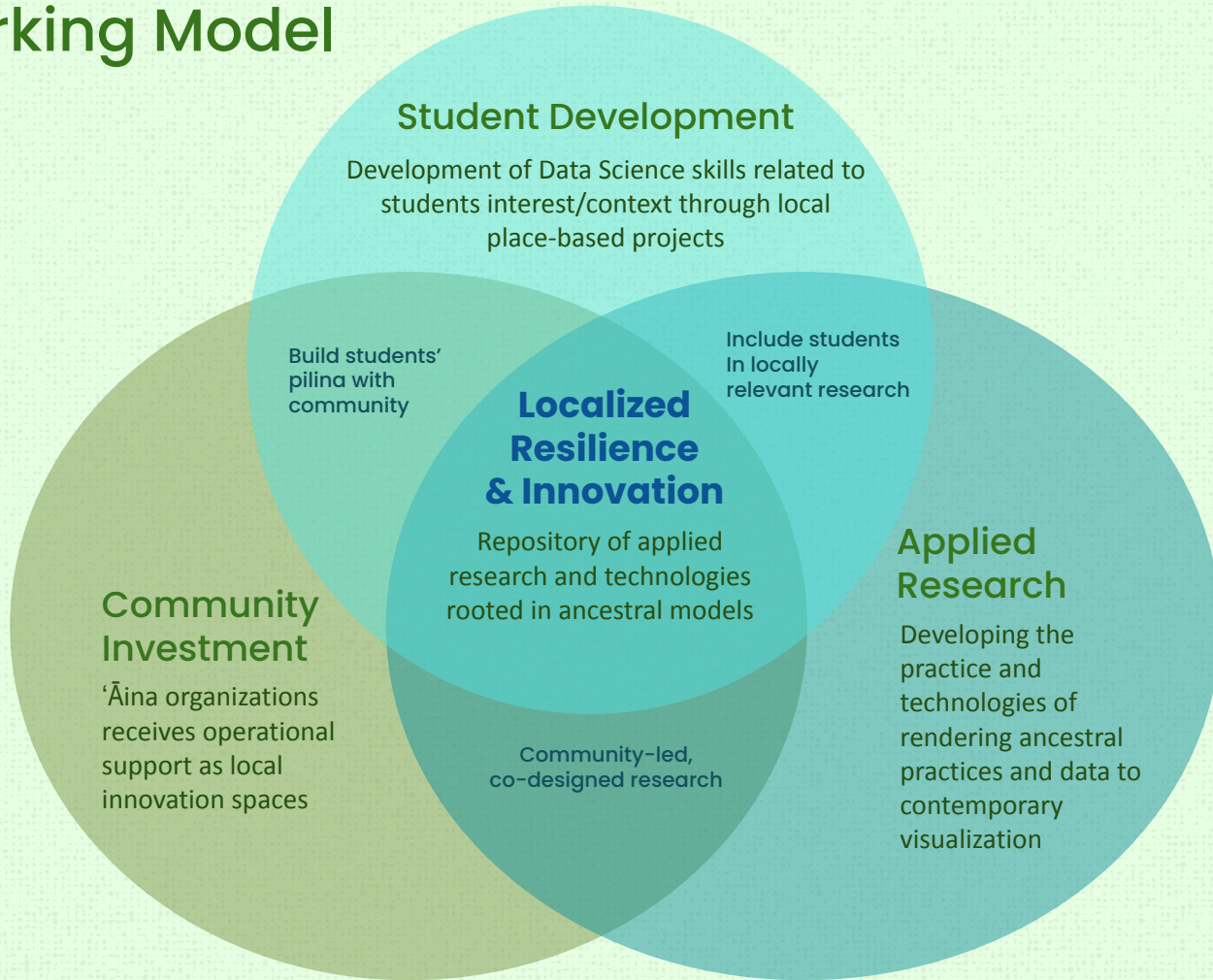
- Going through the same development process
- Developing practice of how to create network of remote sites
- 'Iole is DOE funded



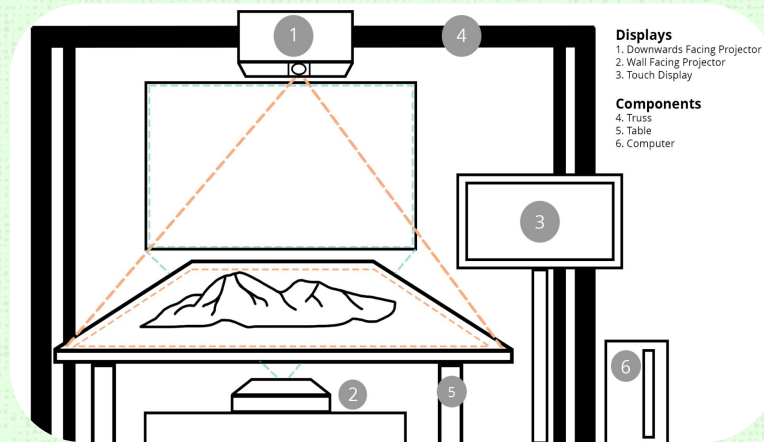
# Partnership for Pu'uloa

- Funding from a NOAA earmark, in partnership with Hui o Ho'ohonua
- Summer internship for incoming and first year students with strong ties to the 'Ewa Moku in:
  - Biocultural restoration
  - Self-actualization and restoration of 'āina as shared values
  - Data visualization
  - Building connections with other orgs/people doing the conservation work in their community

# IDH Working Model

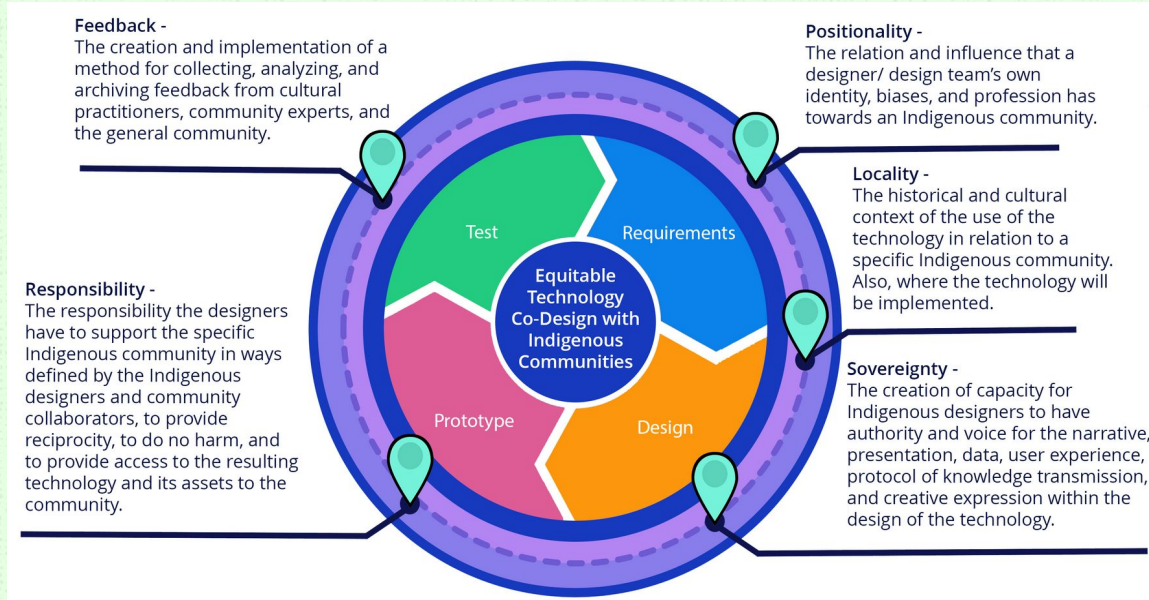


# Makawalu Visualization Environment



- Descended from the ProjecTable project\*
- Software to allow for the authoring of immersive visualization using the ProjecTable
- Back-end created in the Unity Game Engine (to align with students' curriculum)
- Research intends to produce a holistic design practice for co-designing immersive visualization technology with Indigenous communities

# Developing the Design Practice



This presentation engages with these generalized guidelines of co-design to present and discuss a method of developing customized practice to collaborate with specific Indigenous communities. We showcase the framework with our experience of developing a design practice for the Office of Indigenous Knowledge and Innovation's work.

The most ancient and powerful technology is the technology of community





# No'ono'o

