Presentation on Agriculture in Hawai‘i

Initiatives to Ensure a Sustainable Workforce

State of Hawai‘i
Workforce Development Council
June 29, 2023

Agenda

- Agriculture in Hawai‘i
- *Ulana Nā Leo* Hawai‘i Agriculture Systems Analysis
- Bright Spots

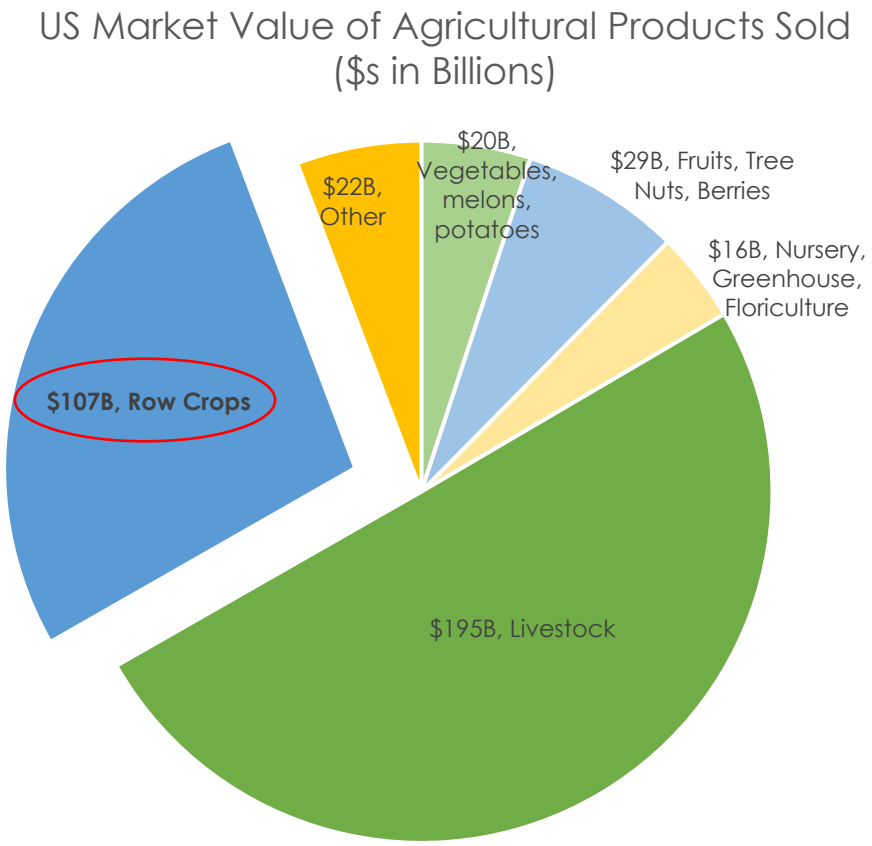
Agriculture in Hawai‘i

- Total agricultural sales have declined with the exit of sugarcane and pineapple plantations
- Hawai‘i has more idle cropland than harvested cropland
- A key factor in stagnating productivity is Hawai‘i’s unusually high labor costs and associated low labor productivity
- High labor costs stem from lack of mechanization (relative to California and other highly-productive areas), not because wages are higher
- Agricultural production in Hawai‘i is increasingly concentrated on smaller farms, a trend that departs from other parts of the country—and also one that likely contributes to the state’s lower productivity growth

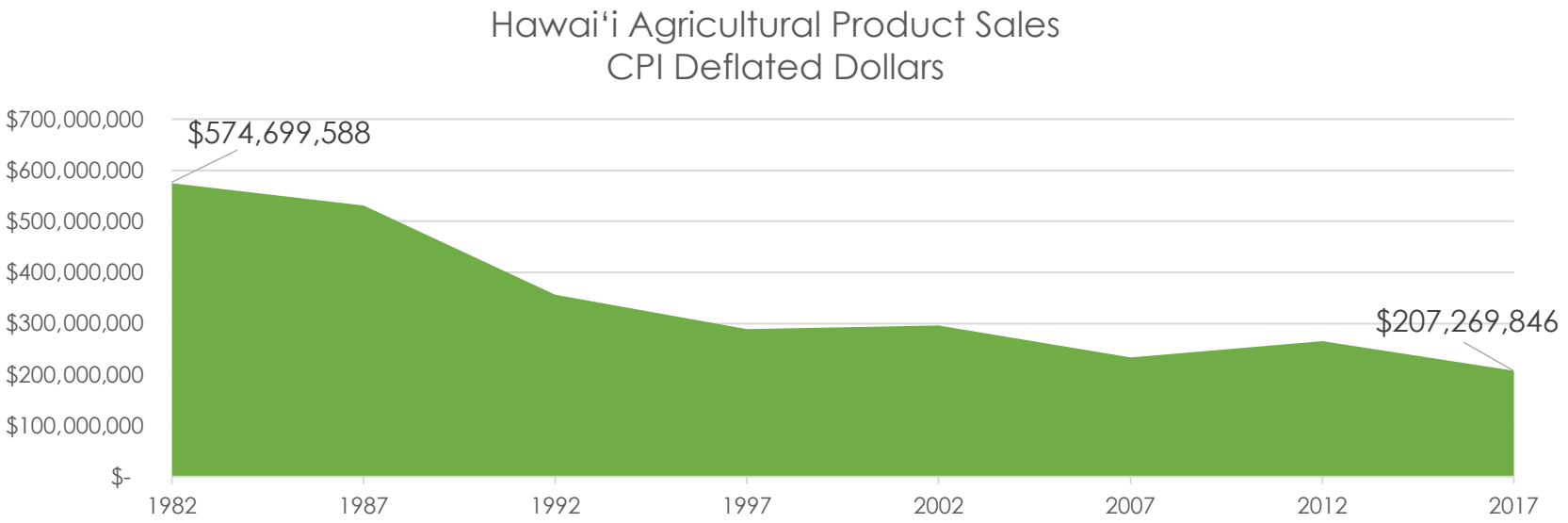
Source: “The Agricultural Economic Landscape in Hawai‘i and the Potential for Future Economic Viability” (University of Hawai‘i Economic Research Organization, June 2021)

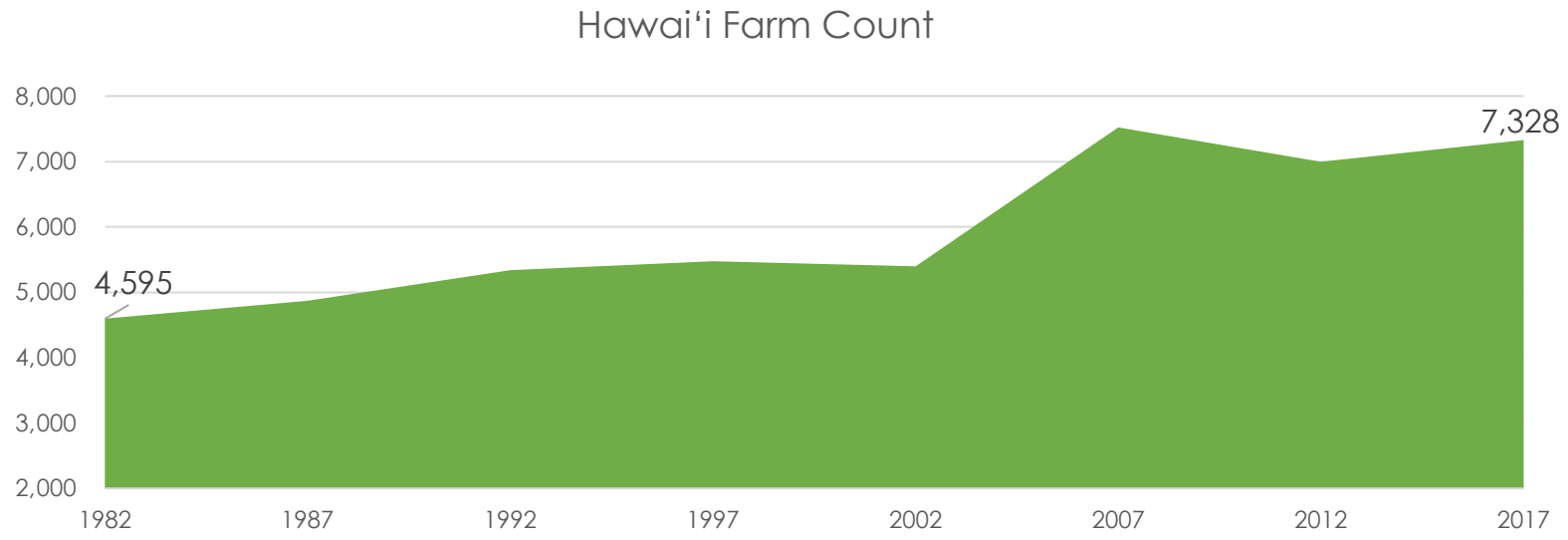
Mainland Crops Provide Massive Customer Bases

The market value of agricultural products sold in Hawai‘i is ~$560MM, around ½ a percent of the size of the row crop industry



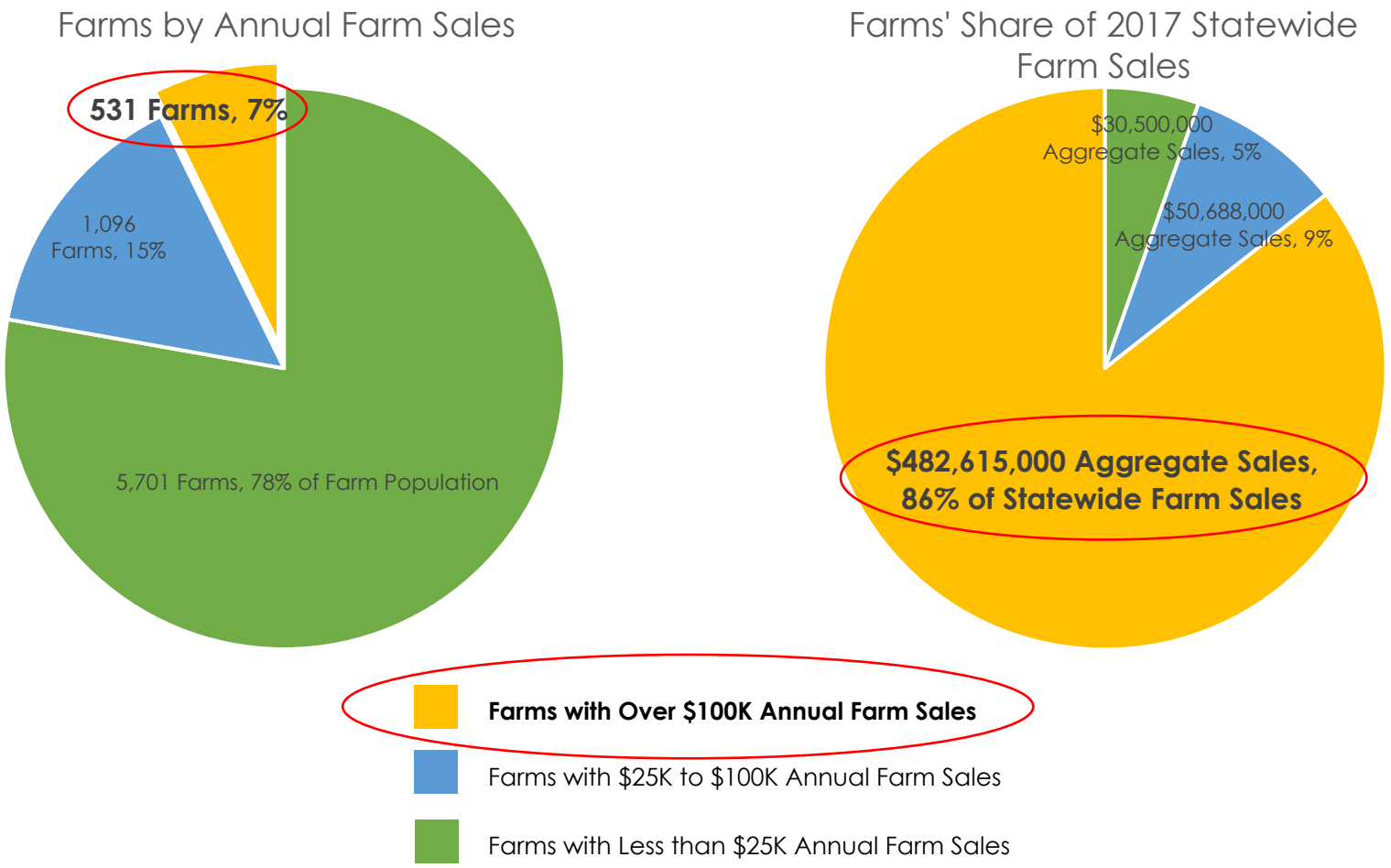
Decreasing Agricultural Sales & Increasing Farm Count





78% of Hawai‘i Farms Make Less Than $25K in Annual Sales

At the same time, the largest 7% of Hawai‘i farms generate more than 86% of industry sales



2017 USDA Census: **Hawaii farm owner average age is 60+**

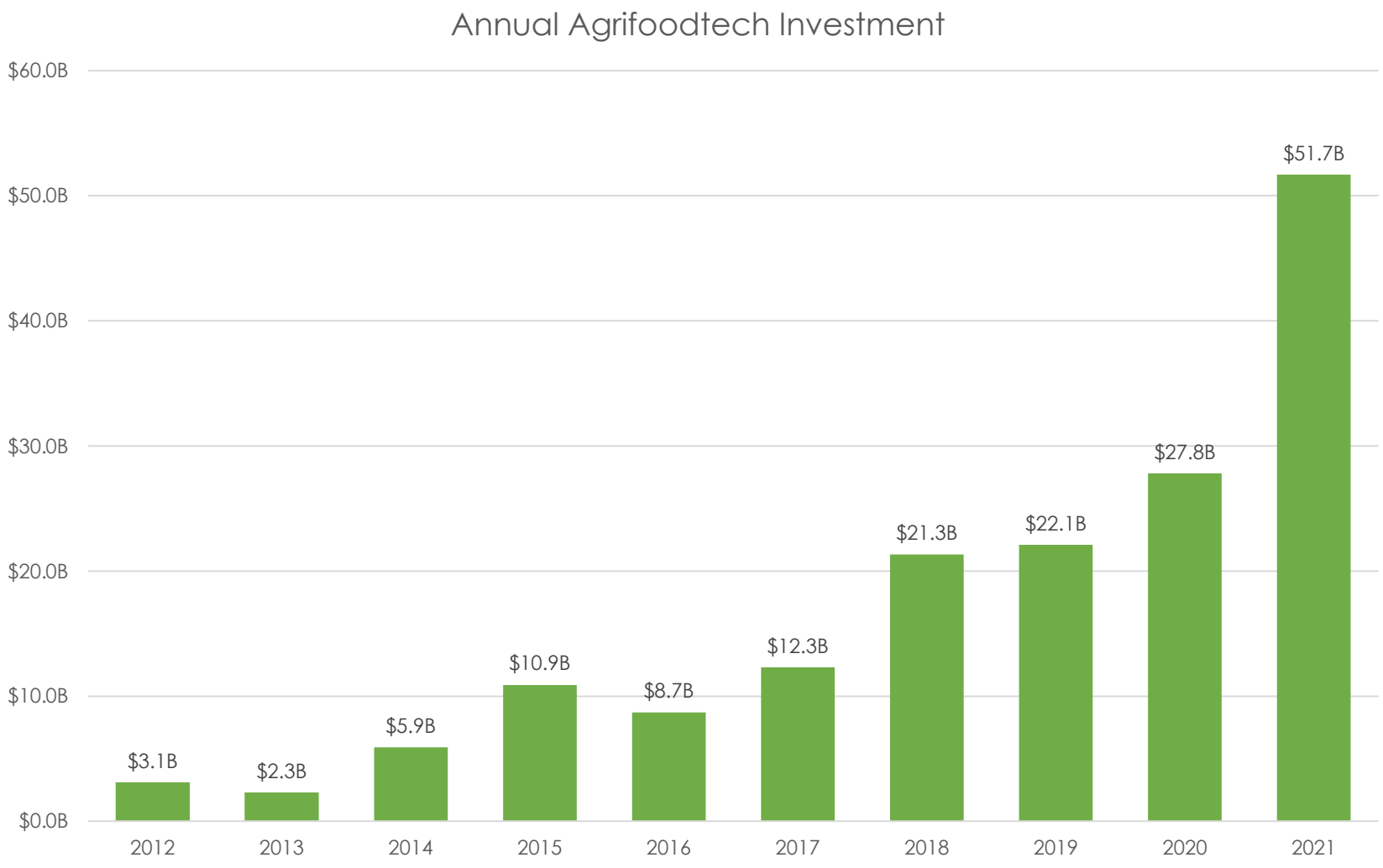
Table 52. **Selected Producer Characteristics: 2017 and 2012**

[For meaning of abbreviations and symbols, see introductory text.]

Characteristics	2017 [1]				2012 [2]	
	All producers (see text)	All principal producers (see text)	All non-principal producers (see text)	Primary producer (see text)	All operators	Principal operator
Age group:						
Under 25 years	112	17	95	10	72	8
25 to 34 years	645	414	231	272	487	184
35 to 44 years	1,037	689	348	506	855	486
45 to 54 years	1,675	1,353	322	1,005	2,223	1,390
55 to 64 years	3,540	2,928	612	2,113	3,712	2,534
65 to 74 years	3,705	3,176	529	2,432	2,096	1,505
75 years and over	1,456	1,274	182	990	1,210	893
Average age	60.1	61.4	54.6	61.8	58.7	60.4
Young producers (see text)	852	504	348	316	(NA)	(NA)
Producers of Hispanic, Latino, or Spanish origin	767	629	242	458	568	383
Producers by race:						
American Indian or Alaska Native	56	33	23	28	57	32
Asian	3,219	2,648	571	2,092	4,077	2,824
Black or African American	22	19	3	10	22	18
Native Hawaiian or other Pacific Islander	1,121	884	237	667	999	689
White	6,302	5,193	1,109	3,726	4,348	2,749
More than one race reported	1,450	1,074	376	805	1,152	688
Military service (see text):						
Never served	10,597	8,428	2,169	6,232	(NA)	(NA)
Served	1,573	1,423	150	1,096	(NA)	(NA)
Number of persons living in producers' households (see text)	22,338	19,845	2,493	15,677	21,184	18,115
On farm involvement in decisionmaking (see text):						
Day-to-day decisions	10,470	9,103	1,367	7,032	(NA)	(NA)
Land use and/or crop decisions	9,534	8,297	1,237	6,402	(NA)	(NA)
Livestock decisions	4,678	4,103	575	3,243	(NA)	(NA)
Record keeping and/or financial management	8,512	7,454	1,058	6,132	(NA)	(NA)
Estate planning or succession planning	6,243	5,529	714	4,285	(NA)	(NA)

[1] Data were collected for a maximum of four producers per farm.
[2] All operator data are for a maximum of three operators per farm; principal operator data are for one operator per farm.

Global Agrifoodtech Investment



Agrifoodtech Categories

Ag Biotechnology
On-farm inputs for crop & animal ag including genetics, microbiome, breeding, animal health.

Agribusiness Marketplaces
Commodities trading platforms, online input procurement, equipment leasing.

Bioenergy & Biomaterials
Non-food extraction & processing, feedstock technology, cannabis pharmaceuticals.

Farm Management Software, Sensing & IoT
Ag data capturing devices, decision support software, big data analytics.

Farm Robotics, Mechanization & Equipment
On-farm machinery, automation, drone manufacturers, grow equipment.

Midstream Technologies
Food safety & traceability tech, logistics & transport, processing tech.

Novel Farming Systems
Indoor farms, aquaculture, insect, & algae production.

Innovative Food
Cultured meat, novel ingredients, plant-based proteins.

In-Store Retail & Restaurant Tech
Shelf-stacking robots, 3D food printers, POS systems, food waste monitoring IoT.

Restaurant Marketplaces
Online tech platforms delivering food from a wide range of vendors.

eGrocery
Online stores and marketplaces for sale & delivery of processed & un-processed ag products to consumer.

Home & Cooking Tech
Smart kitchen appliances, nutrition technologies, food testing devices.

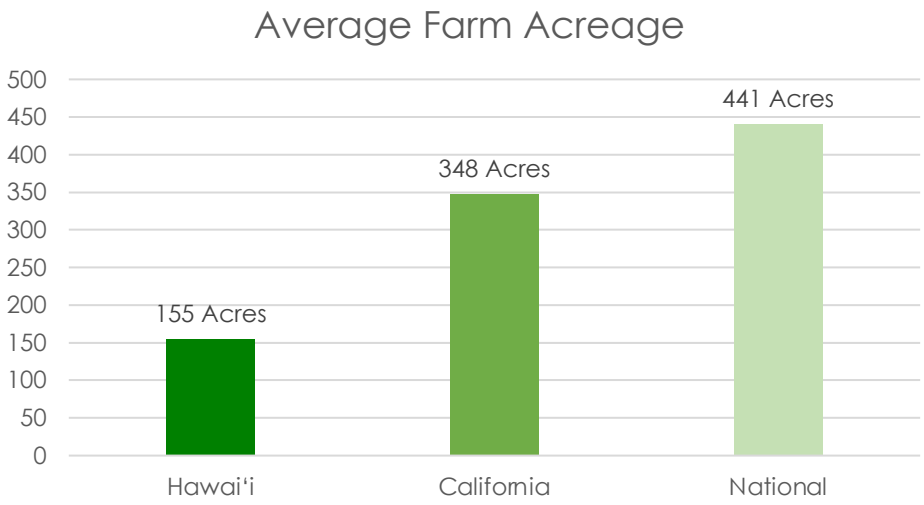
Online Restaurants and Meal Kits
Startups offering culinary meals and sending pre-portioned ingredients to cook at home.

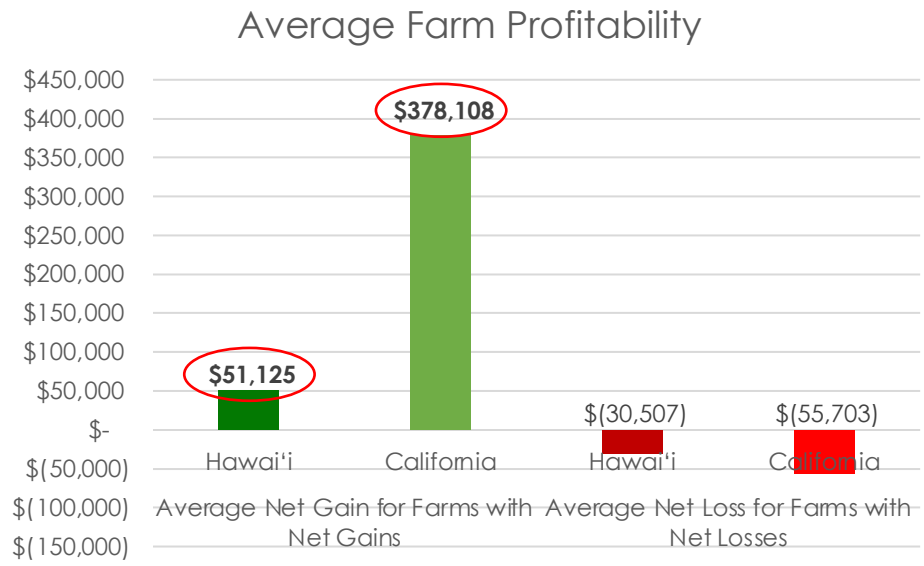
Miscellaneous
e.g. fintech for farmers

Upstream
Downstream
Upstream+Downstream

Smaller Farms Have Less Capital Available for Investment

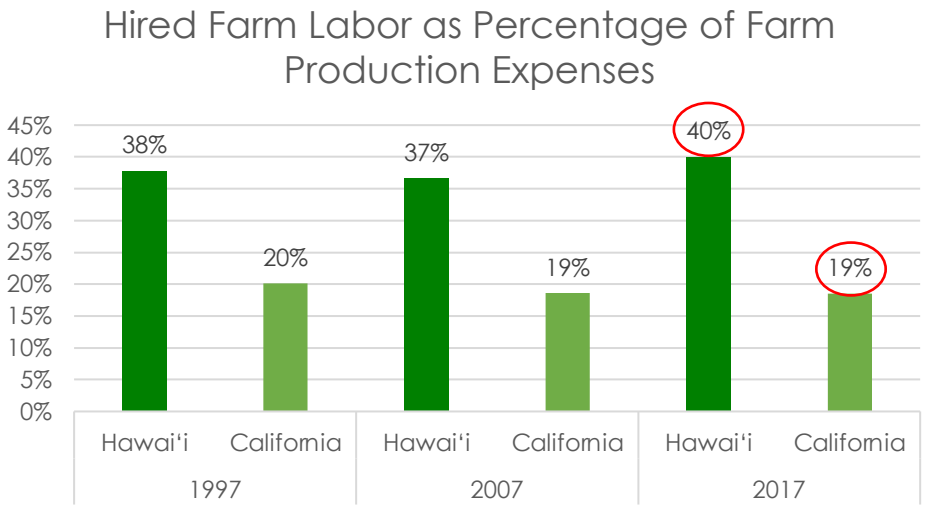
- The average size of a Hawai'i farm is 1/3 the size of the national average
- The average net gain of a profitable Hawai'i farm is less than 1/7 the net gain of a profitable California farm
- In general, smaller farms have less capital available to invest in equipment and technology

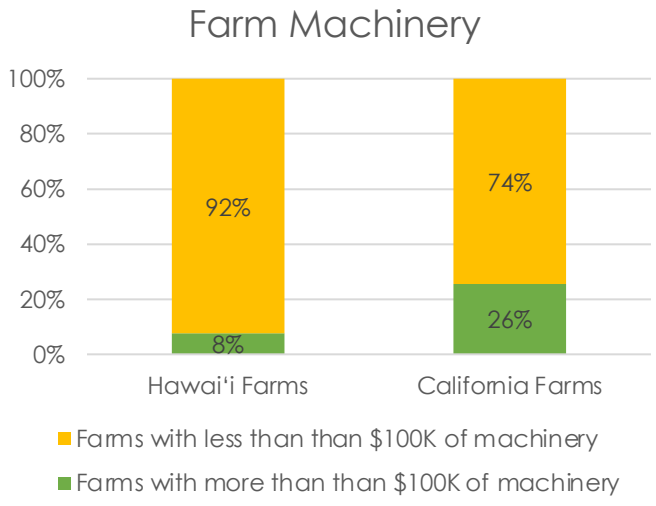


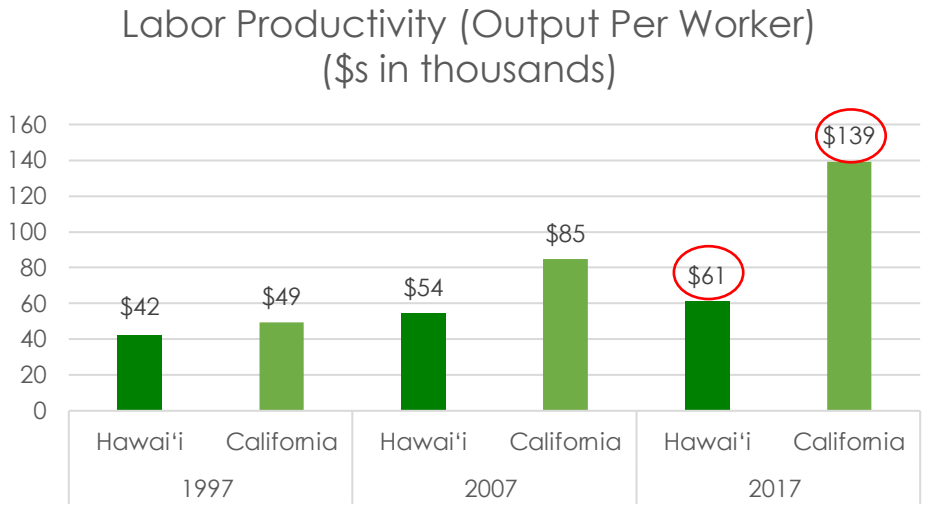


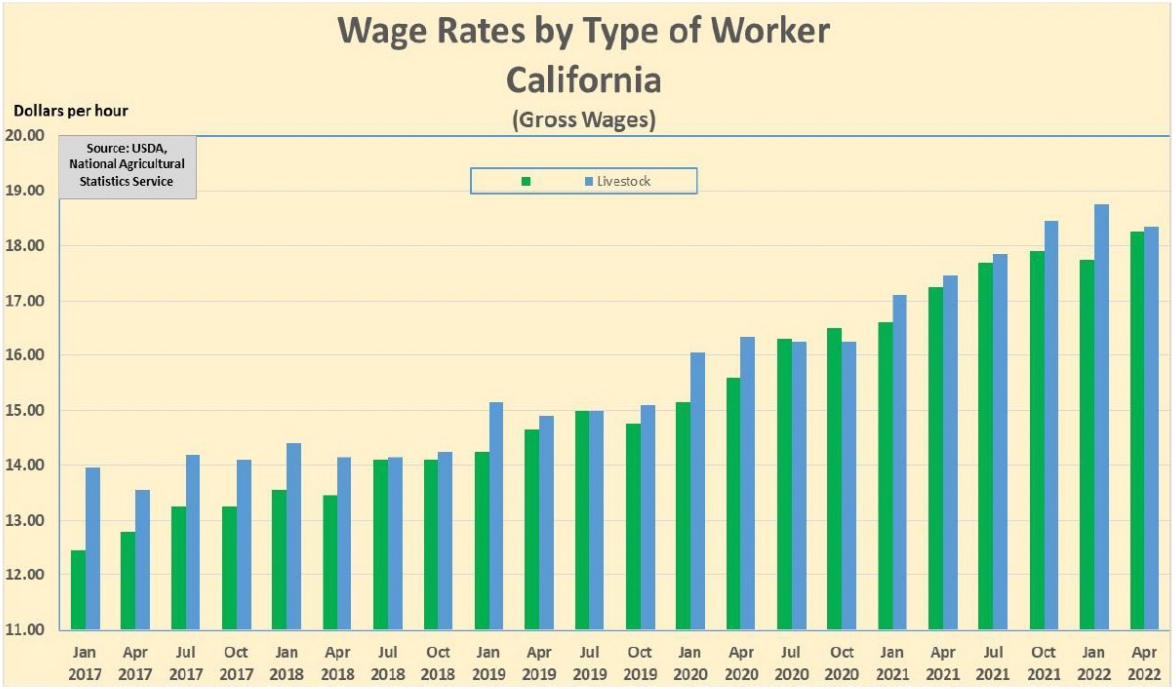
Evidence of Hawai'i's Low Adoption Rate

- More labor input implies less automation and technology adoption
- Labor productivity is calculated by dividing gross receipts of farms by hired workers
- Automation and technology adoption increases output per worker








Wage Rates by Type of Worker
California
(Gross Wages)
Dollars per hour
Source: USDA, National Agricultural Statistics Service
Livestock
20.00
19.00
18.00
17.00
16.00
15.00
14.00
13.00
12.00
11.00
Jan 2017
Apr 2017
Jul 2017
Oct 2017
Jan 2018
Apr 2018
Jul 2018
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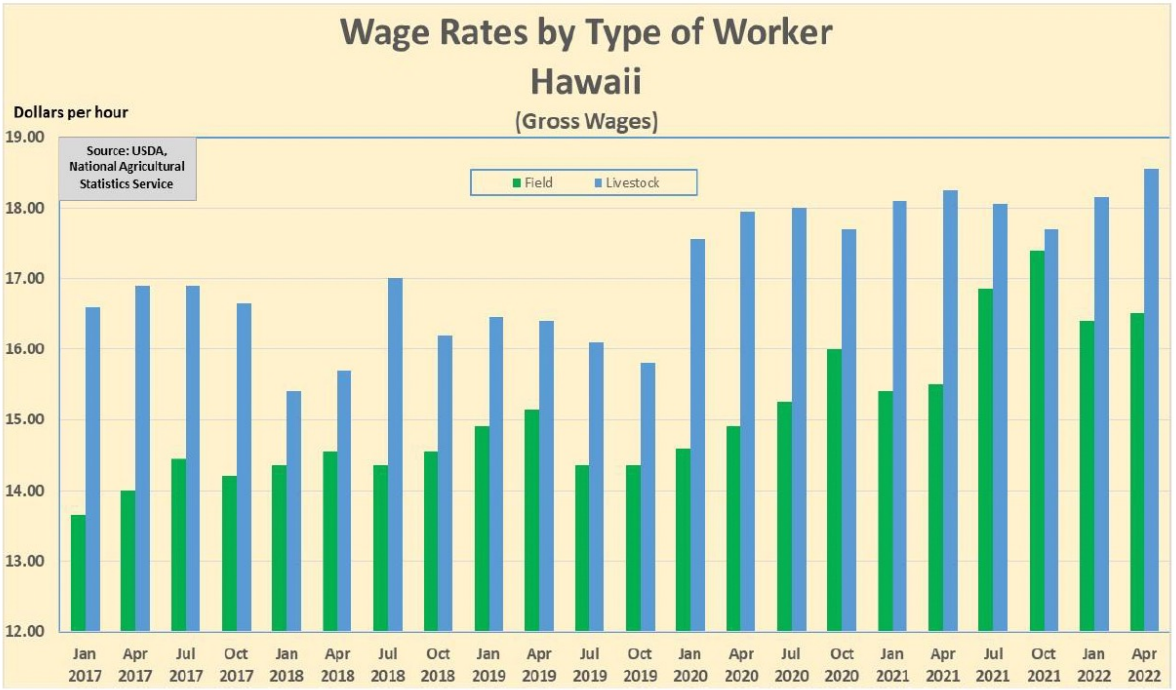
Wage Rates by Type of Worker
Hawaii
(Gross Wages)
Dollars per hour
Source: USDA, National Agricultural Statistics Service
Field
Livestock
19.00
18.00
17.00
16.00
15.00
14.00
13.00
12.00
Jan 2017
Apr 2017
Jul 2017
Oct 2017
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Apr 2020
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Jan 2021
Apr 2021
Jul 2021
Oct 2021
Jan 2022
Apr 2022

Ulana Nā Leo (Weaving the Voices)

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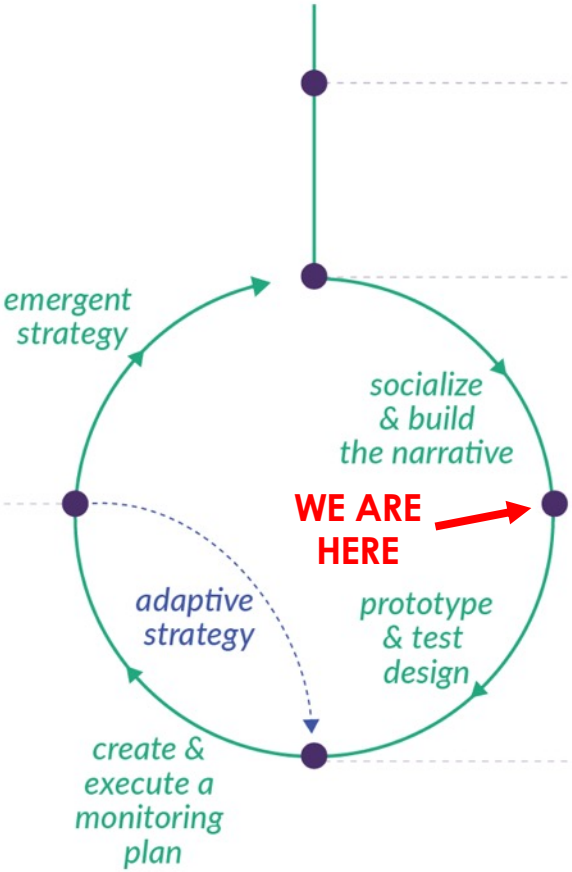
Hawai‘i Agriculture Systems Analysis

Our producers are the root of our agriculture system, but their voices aren't always heard

Hawai‘i Agriculture Systems Analysis

systems practice journey



launch
- build a hosting team
- frame challenge
- design your means of listening

gain clarity
- listen to the system
- focus on patterns
- build & socialize a map

find leverage
- listen for whatever the energy and opportunity is
- develop hypotheses for how change might occur

act strategically
- focus on overall system health (foster a platform for systems practice)
- build on known design insights
- connect across the system (key actors)

learn & adapt
- continuously search the system for what is emerging
- monitor expected outcomes
- be accountable to the integrity of your designs
- feed learning & insights back to the system

ENGAGING INQUIRY

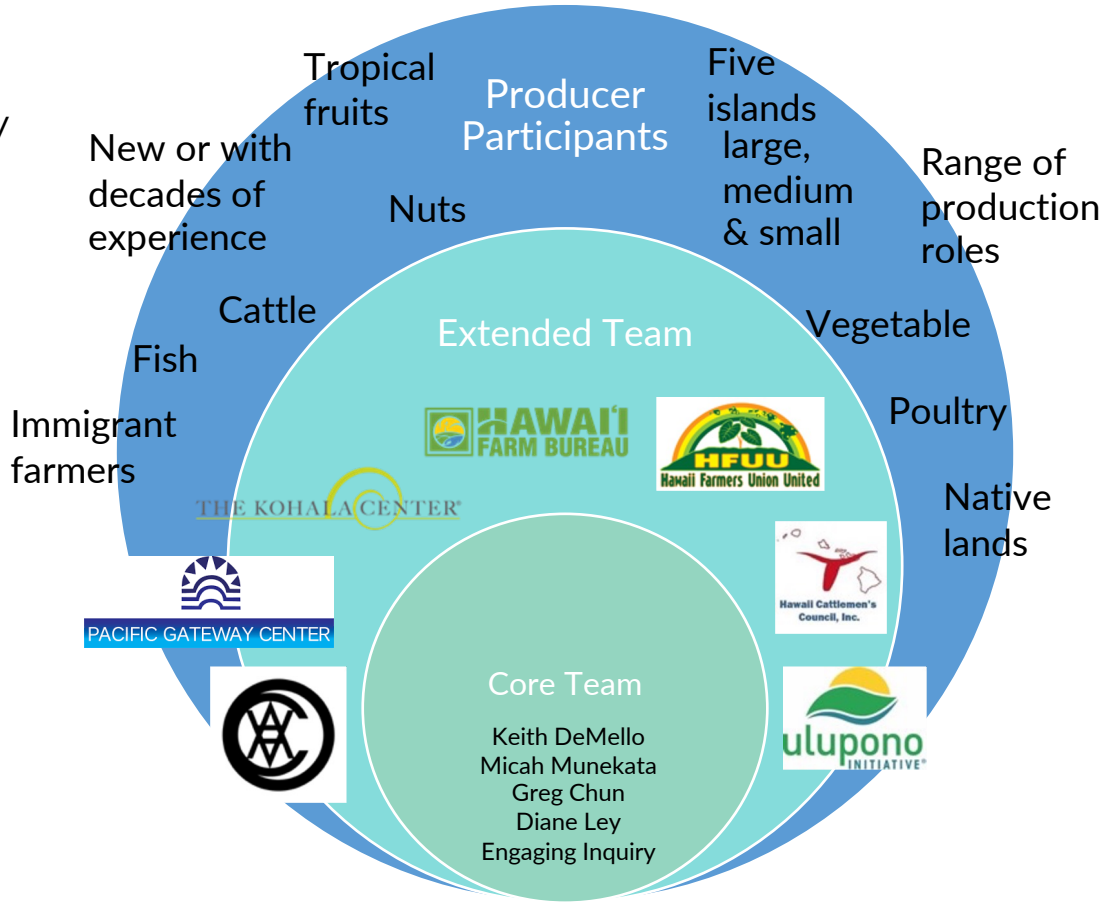
Hawai‘i Agriculture Systems Analysis

Guiding Star

- Hawai‘i food producers and processors are successful in making their products broadly available at competitive prices, reducing the islands’ over-dependence on imported food

Near Star

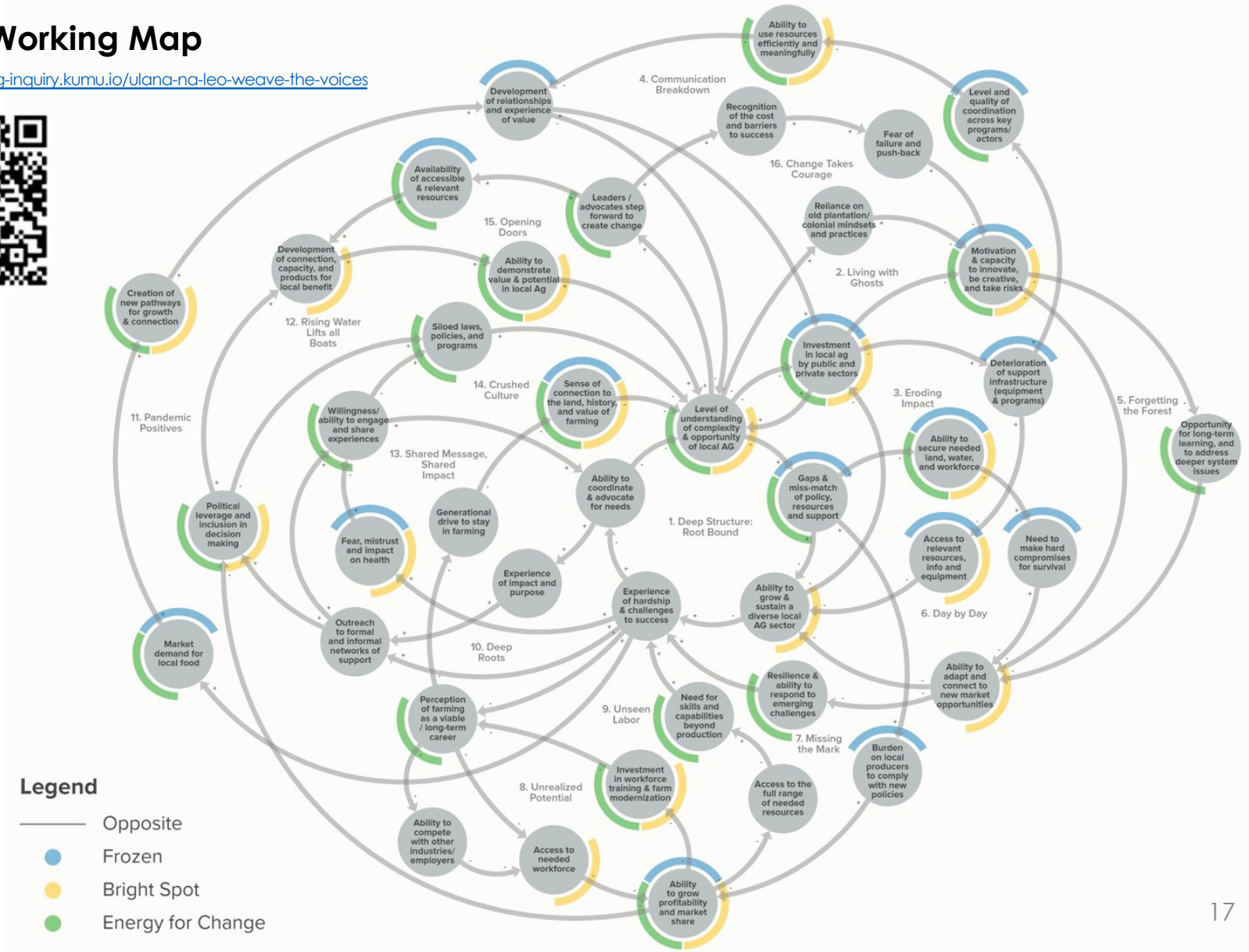
- By 2030, agricultural food production in Hawai‘i is growing as a sector, with purchases of locally produced food measurably increasing among consumers and institutions



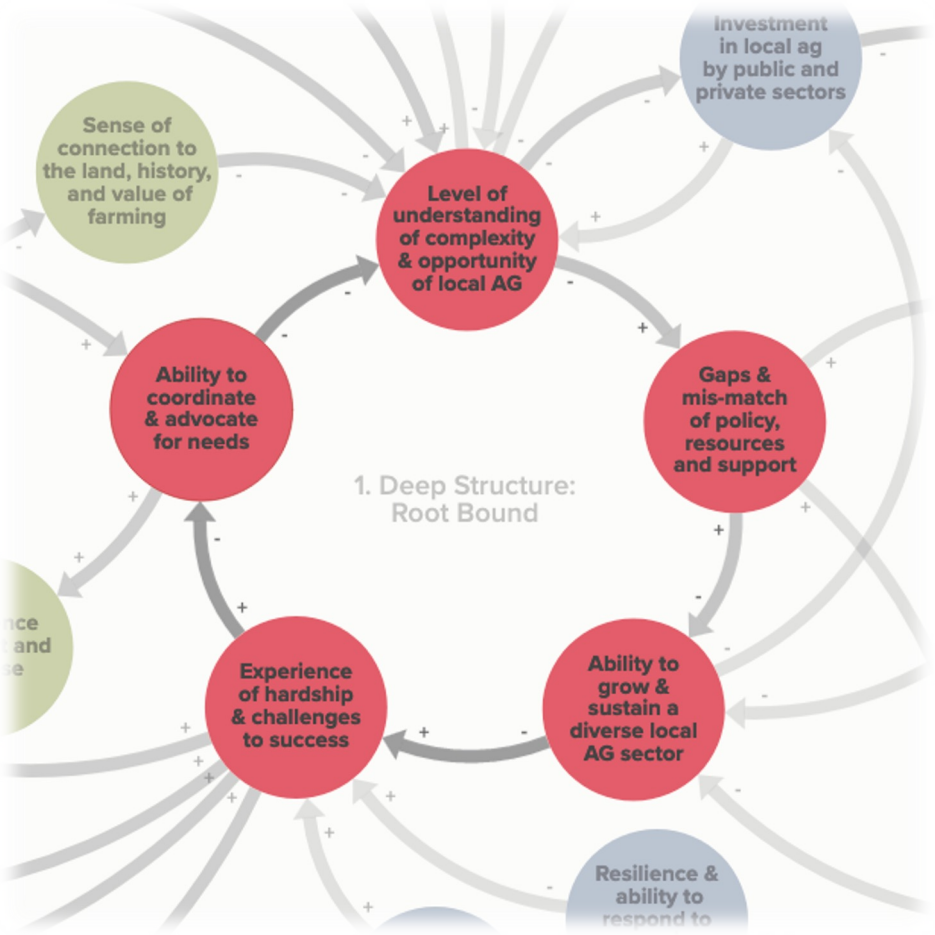
Hawai‘i Agriculture Systems Analysis

Link to Working Map

https://engaging-inquiry.kumu.io/ulana-na-leo-weave-the-voices

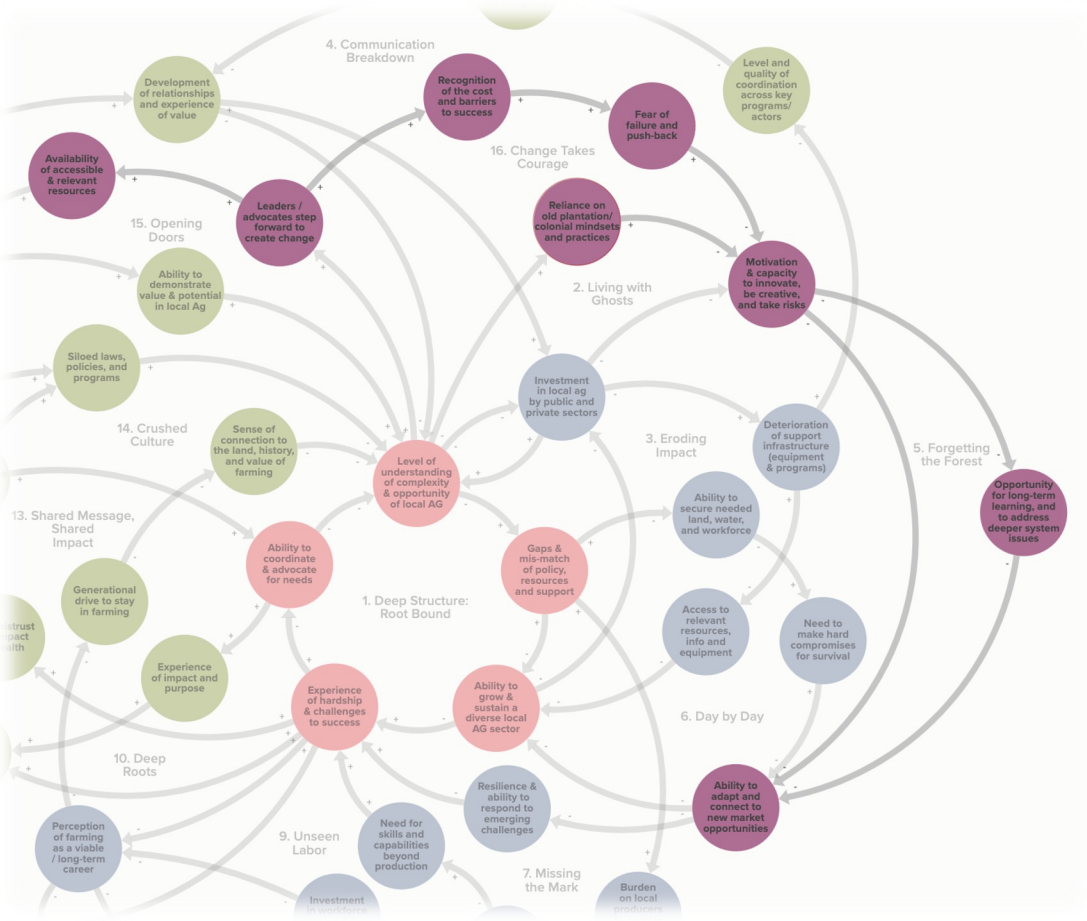


Systems Map — Deep Structure



- When the level of **understanding of the complexity of the local agricultural systems is low**, the likelihood of gaps and mismatches of policy, resources and support increases.
- The absence of these needed supports **reduces the ability to grow** and sustain a diverse local ag sector.
- When local ag is not thriving and robust, it increases the experienced **hardships and challenges** to success for producers, but also communities and the economy.
- As the experience of hardship increases, **it becomes more difficult to coordinate and advocate** for what is needed to support the ag sector.
- With low coordination and connectivity between and across key actors, the level of **understanding of the whole of the system remains limited**.

Systems Map — Regions



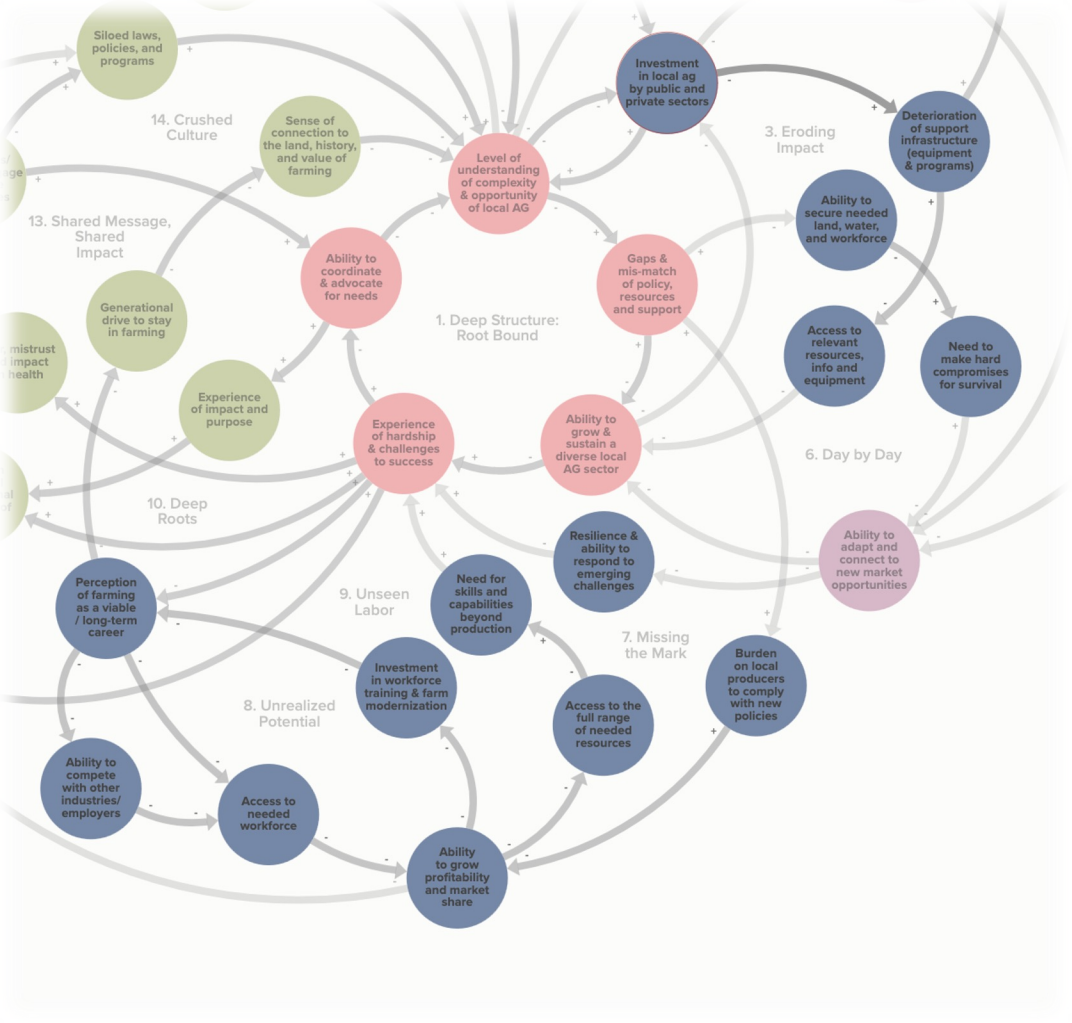
Plantation Hangover

(Purple Loops 2,5,15,16)

This section of the map contains stories that demonstrate how **the system still reflects and reproduces old plantation mindsets and practices, limiting the ability to adapt** and respond to new conditions.

Leadership shows **potential for opening doors to change**, but the complexity of the issue, and the cost of years of neglect, coupled with a fear of failure, **stifles innovation** and follow-through.

Systems Map — Regions



Living on the Edge

(Blue Loops 3,6,7,8,9)

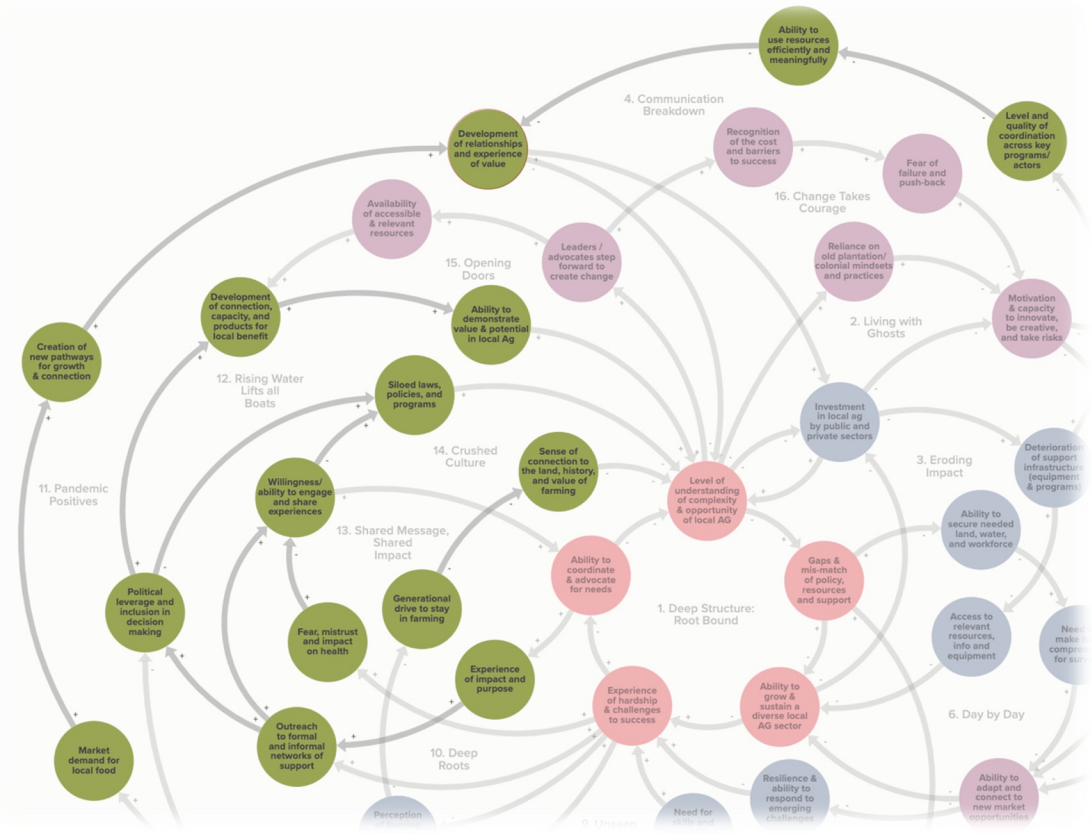
Low investment in agriculture over time results in the **deterioration of support services and basic infrastructure**.

Producers live on a fine edge of survival, needing to make hard compromises and develop new skills beyond production.

This **reduces resilience and profitability**, as well as the perception of farming as a viable long-term career.

As a result, **workforce limitations stifle the growth and vibrancy of the local ag sector**.

Systems Map — Regions



In Spite of It All

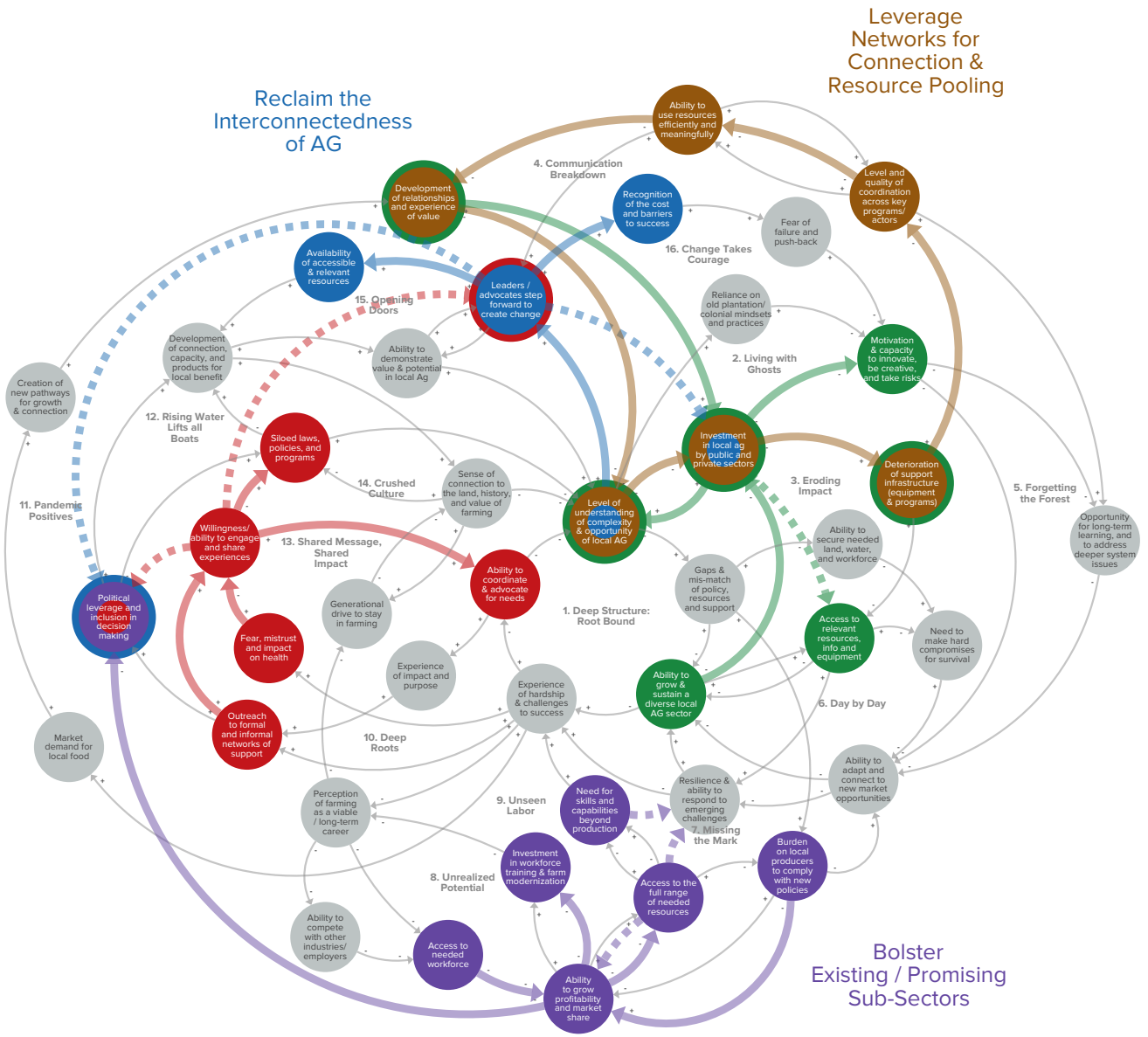
(Green Loops 4,10,11,12,13,14)

These stories describe the **loss of community connection to local agriculture**, land and culture and the impact of enduring hardship on mind and body.

Still, in the face of challenge, producers innovate and connect—finding new pathways of connection with each other, and the consumer.

These **connections increase the power of the producer's voice, building deeper understanding and investment**.

Systems Map — Emerging Leverage Opportunities



Bright Spots

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Opportunity and Momentum

Local Food — Outcomes

- **PASSED**
  - Funding for land/water infrastructure—partial wins
    - SB 833: $26 million for Wahiawa irrigation system
    - HB 300 (State Budget Bill): ~~$93.8~~ 5 million for water and irrigation infrastructure (Wahiawa wastewater)
  - Trust-funded Department of Agriculture grant writer
    - HB 300: established position with mechanism to accept funds up to $71,000
  - Land transfers from Hawai‘i Department of Land & Natural Resources to Hawai‘i Department of Agriculture, as well as extension of ag park leases
    - HB 300: $5 million to support land transfers
    - Promising commitment from Green Administration

- **Additional Outcomes**
  - Food safety
    - SB 1588: $1 million for GroupGAP food safety training and certification program Hawai‘i Department of Agriculture
  - Local food purchasing
    - HB 300: $950,000 over 2 years for Hawai‘i Department of Public Safety local food purchases

Recent Bright Spots

- **Hawai‘i Food Bank** from Q2 2020 to Q1 2023 purchased 7 million pounds of local food for $9.4 million
  - Continuation of “Farm to Food Bank” programs during the pandemic
- **Hawai‘i Good Food Alliance** in early May 2023 was awarded a $30 million USDA Regional Food Business Center grant
- **Hawai‘i Ulu Coop** in late May 2023 was awarded a $650,000 Small Business Innovation Research grant
- **Honolulu Office of Economic Revitalization** (OER) has begun releasing $3 million in ARPA grant funding to food producers on O‘ahu
  - Additional ARPA funding allocated to food system grants

GoFarm Hawai‘i

- **Statewide Farmer Training Program**
  - GoFarm Hawai‘i is a Statewide Beginning Farmer Training Program with sites on O‘ahu, Kaua‘i, Maui, and Hawai‘i Island.
  - Mission is to enhance Hawai‘i’s food security and economy by increasing the number of sustainable, local agricultural producers by providing hands on commercial farm and business training.

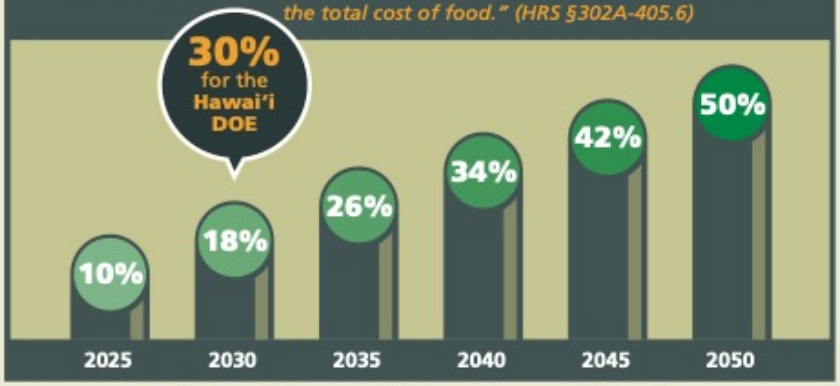
- **AgBusiness Services**
  - The GoFarm Hawai‘i AgBusiness Team helps new and existing agribusinesses strengthen their business models with technical support in areas of finance, marketing, business planning and resources.
  - Business assistance and consultations are available to discuss goal setting, business strategy, financial analysis, market opportunity and more.

HAWAI'I'S FARM-TO-STATE GOALS

Food purchased for public schools, youth campuses, public hospitals, public prisons, and any purchases made directly by the University of Hawai'i for use in its academic programs, as applicable, shall be "fresh local agricultural products and local value-added, processed, agricultural, or food products ..." (HRS §27-8)

By legislative mandate, five State of Hawai'i government institutions are committed to buying more locally sourced food to help **farmers and ranchers** increase production and access to **fresh, healthy products for the community** while improving overall **food security and resilience** throughout the Islands.

"By 2030, the (Hawai'i DOE) shall meet the local farm to school meal goal that thirty percent of food served in public schools shall consist of locally sourced products, as measured by the percentage of the total cost of food." (HRS §302A-405.6)



State of Hawai'i Department Goals

Institutional Purchasing

Act 175 (SLH 2021)

- Requires the State of Hawai‘i Department of Education (DOE) to buy more locally sourced food to increase quality of meals while helping strengthen Hawai‘i’s food production market and its resilience
- At minimum, **30%** of the **food served in public schools be sourced locally by 2030**

Why the Hawai‘i DOE?

- **287** schools—Hawai‘i state government’s largest department
- Pre-pandemic, served 103,000+ lunches and 32,000+ breakfasts daily
- Yet **currently less than 3%** locally sourced, based on available data

Mahalo & Questions

State of Hawai‘i
Workforce Development Council
June 29, 2023