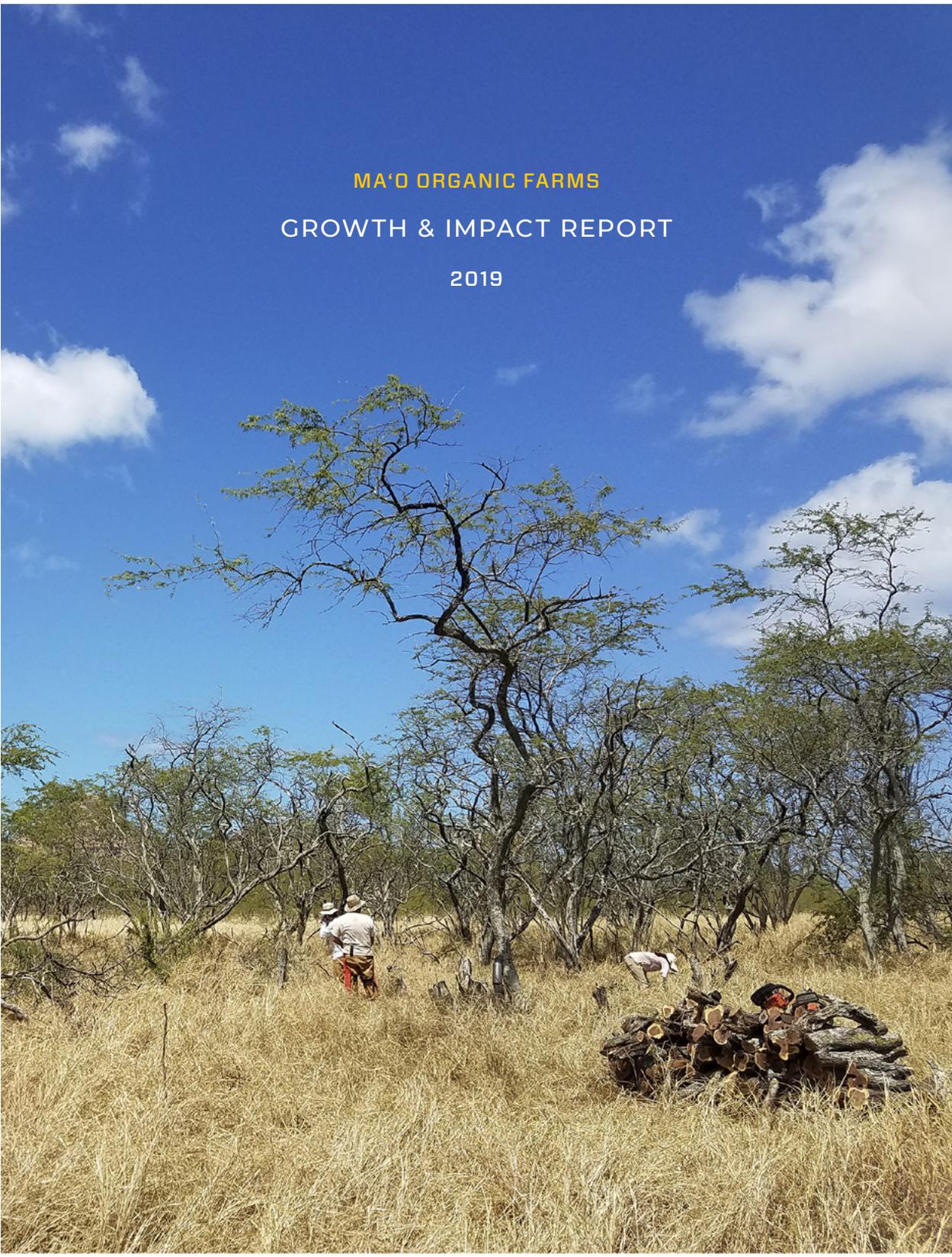


MA'O ORGANIC FARMS

GROWTH & IMPACT REPORT

2019

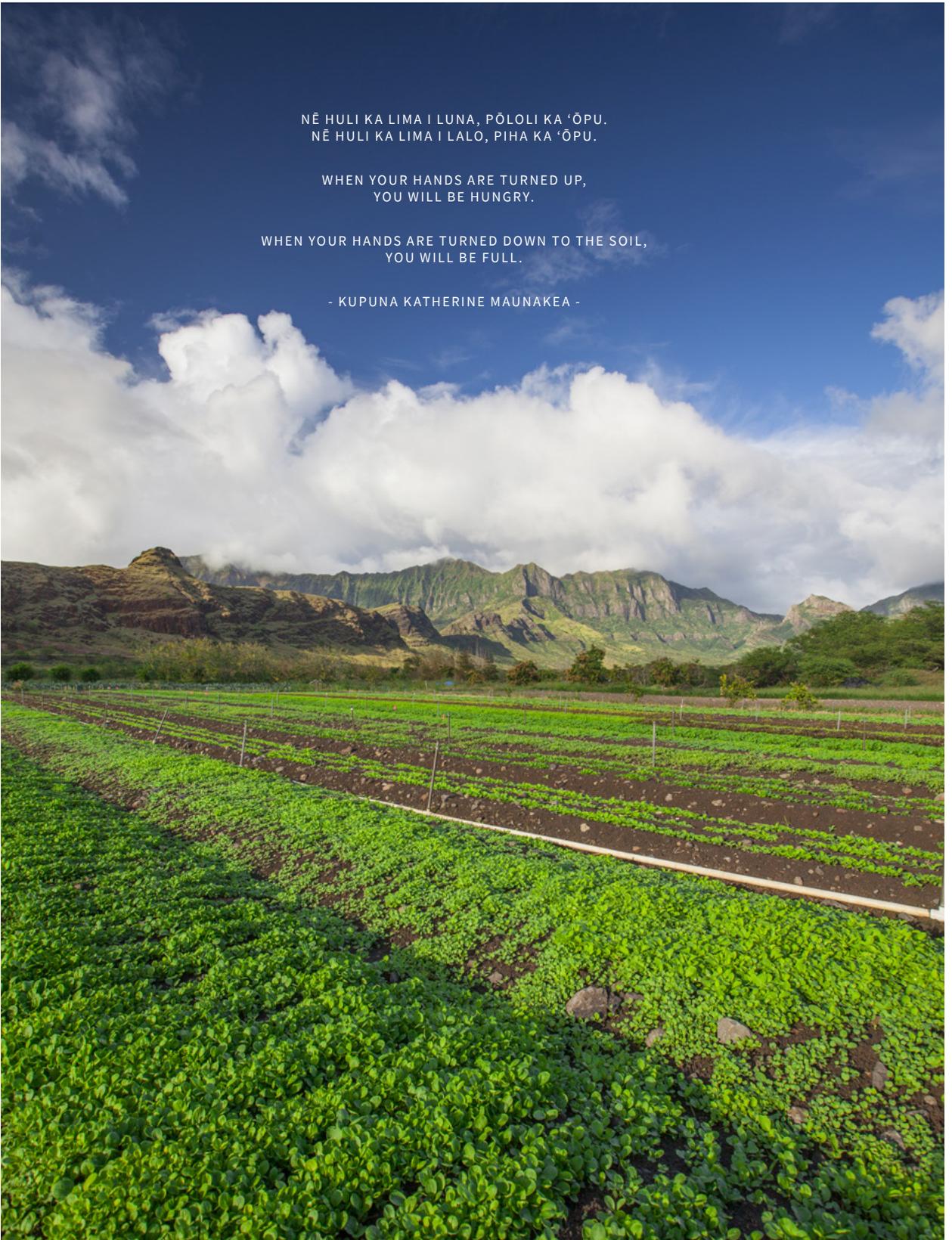


NĒ HULI KA LIMA I LUNA, PŌLOLI KA 'ŌPU.  
NĒ HULI KA LIMA I LALO, PIHA KA 'ŌPU.

WHEN YOUR HANDS ARE TURNED UP,  
YOU WILL BE HUNGRY.

WHEN YOUR HANDS ARE TURNED DOWN TO THE SOIL,  
YOU WILL BE FULL.

- KUPUNA KATHERINE MAUNAKEA -





**2019 GROWTH & IMPACT REPORT**  
**MA'O ORGANIC FARMS**

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## ALOHA KĀKOU,

At the cusp of the millennium, the Waiʻanae Community Re-Development Corporation was established with an educational mission to grow youth leaders and organic food for Waiʻanae and the pae ʻāina. Embattled, weary and vulnerable, our community had suffered from inter-generational cultural, social, economic and environmental trauma. Rejecting apathy and hopelessness, we took the opportunity to create greater collective well-being and resilience for our community.

Under the umbrella of the Mala ʻAi ʻŌpio Community Food Security Initiative, MAʻO Organic Farms and the MAʻO Youth Leadership Training program moved from concept to practice as we chose to honor our ancestral legacy of abundance and commit to the healing, restoration and sustainability of our ʻāina and one another.

**NOW, 20 YEARS LATER, MAʻO HAS PROVEN OUR THEORY** of change. When we invest in aloha ʻāina, in the connection of youth to ʻāina, and in the empowerment of youth leadership, we generate increased health,

sustainability and resilience with and for the community. Since then, we have scaled many times over, growing into a local and national leader in pono food production, youth education and community-based economic development.

**IN 2020 AND BEYOND, WE FIND OURSELVES AT ANOTHER** critical turning point when all of our efforts must be leveraged to meet the pressing challenges of our times - worsening food insecurity, ever-widening social and economic inequities, rapid environmental degradation and climate change - which endanger all of us in Hawaiʻi and beyond.

**OUR RESOLVE TO CONTRIBUTE TO HAWAIʻI'S VIBRANT** future, and to be resilient in the face of these obstacles, challenges and doubts has manifested in MAʻO Māʻona, a 10-year plan of transformative scope, scale and impact. In the last two years, we have laid the foundation through the acquisition of 257 acres in Lualualei, ʻāina that we are now (re)developing to expand food production and to train a larger cadre of youth leaders.



“When we invest in aloha ‘āina, in the connection of youth to ‘āina, and in the empowerment of youth leadership, we generate increased health, sustainability and resilience with and for the community.”

MA’O continues to aspire to recreate a food and education system that is just, locally-led, community-enriching and abundantly productive for the continued health and vitality of the land and its people. We look forward to our continued partnership toward mā’ona, a vision of plenty, for all, for all time.

Me ka ha’aha’a,

KUKUI MAUNAKEA-FORTH  
CO-FOUNDER & EXECUTIVE DIRECTOR

GARY MAUNAKEA-FORTH  
CO-FOUNDER & MANAGING DIRECTOR

## HE MIHI

Kanu kākou, aia iā ‘oe ka ulu.  
*We plant and the growth is yours.*

We are living in mythic, vital and heart-breaking times. Our response to the needs of this moment helps us know who we have been, and who we are now becoming. Every thought then makes a difference, and every life matters as we learn collectively, and by example, how to inhabit our own deepest principles. This mihi touches the pono that is MA’O and kneels to kiss the soil it rejuvenates in us all. We are altered through this work, this vision, this excellence and intersection of people and place that affirms our greatest aspirations for ourselves, humanity, and for our beloved homeland.

MA’O, we know more of our own excellence because of what you teach us and what you hold out as examples of our collective potential. In Spirit we joy, honor and share in this vision, and lean into these winds of change to prepare for the work ahead.

Mau ke aloha no Waī’anae.  
Mau ke aloha no Hawai’i.

MANULANI ALULI MEYER

OUR MISSION

We are building a future of mā'ona, of plenty, by connecting youth and land through the daily practice of aloha 'āina, empowering youth to succeed in college and secure sustaining careers, and growing organic produce that yields individual and communal vitality.



A SOCIAL ENTERPRISE

MA'O's social enterprise structure allows us to use the activity and revenue generated by our organic farming business, as well as outside funds, to pursue our mission of community empowerment. Building capacity and well-being in a region undermined by decades of under investment requires a commitment of approaches and resources that would not be viable for a traditional for-profit company. The social enterprise model allows us to take a systemic view and work with partners to make critical investments that will benefit youth, their future employers and the broader community.

**20 YEARS OF IMPACT**

Taking stock of MA'O's cumulative impact from 2000 to 2019, we celebrate the mutual flourishing of youth and land.



**HOW MANY YOUTH HAVE BEEN EMPOWERED THROUGH MA'O'S CORE INTERNSHIPS?**

**387**

COLLEGE STUDENTS

**508**

HIGH SCHOOL STUDENTS



**HOW HAVE MA'O YOUTH FARED ACADEMICALLY?**

**108**

ASSOCIATE'S DEGREES

**31**

BACCALAUREATE DEGREES

**3**

MASTER'S DEGREES

**142**

TOTAL DEGREES CONFERRED  
REPRESENTS A 41% GRADUATION RATE\*



**HOW MUCH FOOD HAS MA'O GROWN SINCE 2000?**

**1,400,000 LBS**

PRODUCE GROWN

**\$6,680,497**

PRODUCE SALES

\* YLT interns who have graduated with an AA/AS or transferred to a baccalaureate program with sufficient credits for an associate's degree.



This internship is an opportunity to do better for myself, my family, and community, and to be a role model to my younger siblings. Throughout the program I've gained many life skills that opened my eyes to the bigger picture of our 'āina and people. I've grown to love what we do here and how much change we are doing for our families and the community.

**TIARE TOETU'U-AIPA,**  
YLT COHORT 13, CURRENT HYLIT INTERN



I've been working in the ag industry for more than 8 years and am committed to creating an agriculturally sustainable future for Hawai'i. My experience at MA'O fostered my leadership drive and now I am the Business Manager at Hawai'i Meats, a local beef producer and ranch operator working with more than 70 Hawai'i ranchers. My passion is bringing healing to my community through employment opportunities and local sourcing. Now I complement MA'O's work and together we are improving the vitality of our community.

**KAMUELA BARR, YLT COHORT 4**  
BUSINESS MANAGER, HAWAII MEATS  
LIBERAL ARTS AA AND CERTIFICATES IN FOOD SECURITY AND HAWAIIAN STUDIES - LEEWARD C.C.  
SOCIAL SCIENCES BA - U.H. WEST O'AHU



When Gary and Kukui started MA'O 20 years ago, social enterprise was not yet a well defined concept. Now, it's taught in business schools, and communities and foundations are all trying to find a way to make it work. MA'O is one of the few organizations nationally that truly grounds social entrepreneurship in the community. They show us what's possible when we collectively support a group of committed, courageous and creative people who are culturally grounded and engaged in improving their community.

**KELVIN TAKETA**  
HAWAII COMMUNITY FOUNDATION,  
(PAST) PRESIDENT AND CEO 1998-2017

## HO'OUULU 'ĀINA, HO'OUULU LĀHUI NOURISHING OUR LAND, GROWING OUR PEOPLE

### KAUHALE: GROWING ECOSYSTEM PARTNERSHIPS

MA'O collaborates with many community allies and thought partners as we empower young people to successfully navigate college and secure sustaining careers. We love learning and working alongside our fellow educators and youth-serving organizations. We have developed particularly deep pilina (relationships) with the Wai'anae moku high schools, and co-created courses and even whole degree programs with University of Hawai'i Leeward Community College Wai'anae Moku, LCC Pearl City, and UH West O'ahu.

### 'AUWAI: GROWING EDU-PENEURIAL PATHWAYS

Core to this ecosystem work are periodic convenings of the 'Auwai Consortium, composed of educational organizations serving high school and college youth. In 2019, MA'O hosted two gatherings of the 'Auwai Consortium, through which we highlighted the experiences of youth and teachers. We explored topics including: improving college preparedness; building student skills for key transition points from high school to community college, to four-year degree programs, and finally to workforce; reinforcing student stamina and perseverance; and providing sustained place-based experiences that make curriculum relevant. These convenings strengthen our collective commitment and spark ideas and projects to improve the matriculation, retention and graduation rates of our shared youth community.

### 'IKE 'ĀINA: GROWING LEARNING BEYOND THE CLASSROOM

One of the strategies identified at the Spring 2019 'Auwai convening was the engagement of high school students in 'āina-based education at MA'O, above and beyond our usual week long Spring and Fall Break Internships. This idea came to fruition in Fall 2019, when Wai'anae High School biology teacher Sayles Day brought her students to MA'O for a morning of open-air instruction focusing on the relationship between physical health, nutrition, the microbiome and diabetes prevention. This project is now serving as the model for additional high school class engagement on the farm.

### 'IKE KUPUNA: GROWING KNOWLEDGE BEYOND HAWAII

As MA'O's work has become known across the pae 'āina and beyond, partners have sought us out to illuminate and inform the work in their own communities, too. A recent example of partnerships flourishing beyond Hawai'i is the Indigenous Noho (interactive workshop) MA'O hosted in summer 2019 for participants from the Osage Nation, Oklahoma State University (OSU), and Ngai Tahu in Aotearoa. Through this experience our visitors learned about MA'O's origins, evolution and practices, and explored the resonance and applicability of this experience to their own organizations' aspirations. They left with fresh perspectives, renewed commitment and profound inspiration to deepen their work on behalf of community.

AOTEAROA (NEW ZEALAND)  
Hua Parakore  
Ngāi Tahu  
Wakatū

MOKU HONU (N. AMERICA)  
Osage Nation  
Oklahoma State University  
University of California, Santa Cruz

KA PAE 'ĀINA (STATE)  
Kamehameha Schools  
Hau'oli Mau Loa Foundation  
Hawai'i Good Food Alliance  
Hawai'i Alliance for Community  
Based Economic Development (HACBED)  
Hawai'i Investment Ready  
Institute for Native Pacific Education and  
Culture (INPEACE)  
Kōkua Hawai'i Foundation  
Johnson 'Ohana Charitable Foundation

KONA (O'AHU)  
John A. Burns School of Medicine  
University of Hawai'i Mānoa  
University of Hawai'i Economic  
Research Organization (UHERO)  
Town Tribe  
Kaka'ako Farmers Market  
University of Hawai'i Mānoa Educational  
Talent Search (METS) Program

KO'OLAUPOKO (O'AHU)  
Windward Community College  
Ho'okua'āina

'EWA (O'AHU)  
University of Hawai'i West O'ahu (UHWO)  
Sustainable Community Food  
Systems program  
Leeward Community College

WAI'ANAЕ (O'AHU)  
Kamehameha Schools Community Learning  
Center at Mā'ili  
Leeward Community College,  
Wai'anae Moku  
Mākaha Studios  
Hoa 'Āina o Mākaha  
Kahumana Organic Farms & Cafe  
Searider Productions  
Wai'anae High School  
Kamaile Academy  
Wai'anae Mākeke  
Mālama Learning Center  
Wai'anae Mountains Watershed  
Partnership

HILO (HAWAII)  
EA Ecoveristy, facilitated by Kū-A-Kanaka



KO TE PAE TAWHITI,  
WHAIA KIA TATA;  
KO TE PAE TATA,  
WHAKAMAUA KIA TINA.

THERE IS A BOND BETWEEN THOSE THAT HAVE SHARED THE TSUNAMI OF COLONIZATION, WE LOOK TO EACH OTHER NOT AS VICTIMS BUT AS EXAMPLES OF WHAT WILL BE ACHIEVED AS OUR WHAKAPAPA DEMANDS OF US. PROOF OF THIS JOURNEY IS IN THE EYES OF MA'O YOUTH. THE WAY THEY MOVE, ASSOCIATE WITH EACH OTHER, MUTUAL RESPECT, KNOWING WHO THEY ARE AS MANAWHENUA. IT HAS BEEN A PRIVILEGE, YOU HAVE MY RESPECT.

PETER TE RANGI HIROA RAMSDEN  
TE RŪNANGA O NGĀI TAHU



We have always seen MA'O as an older sibling/mentor organization to us. They have both inspired and encouraged us to continue our pursuit of growing young leaders and community through the cultivation and production of food. So many of our values align with theirs. We are blessed journeying together with them in Aloha 'Āina.

DEAN & MICHELE WILHELM  
CO-FOUNDERS, HO'OKUA'ĀINA



The UHWO SCFS partnership with MA'O is a leading model of university-community collaboration. We have created a culturally meaningful and community-grounded pathway for youth to pursue higher education in food systems and sustainability. Together, we are training food system leaders to think critically and across disciplinary boundaries to actively solve real-world problems through work in agriculture, policy-making, planning, business, research, health sciences and education.

ALBIE MILES, PH.D  
ASSISTANT PROFESSOR, SUSTAINABLE COMMUNITY  
FOOD SYSTEMS, UNIVERSITY OF HAWAII'I, WEST O'AHU



The relevance of MAO's youth-driven, land-centered social enterprise to communities global and local speaks to an inherent human need and desire to reconnect to land, community, and a just livelihood. This is why communities as diverse as Oklahoma, New Zealand, Chicago, and Canada have found resonance in MA'O's practice, policymakers have found inspiration in the organization's model, and funders have chosen to share risk by investing in land and youth through MA'O.

KAMUELA ENOS  
DIRECTOR OF INDIGENOUS INNOVATION,  
UNIVERSITY OF HAWAII'I  
(FORMER) MA'O DIRECTOR OF SOCIAL ENTERPRISE, 2008-19



**MA'O TIMELINE  
2000 - 2020**

**2000**  
Wai'anae Community Re-Development Corporation incorporated

**2001**  
WCRC recognized as a 501c 3 nonprofit organization

MA'O - Mala 'Ai 'Ōpio (Youth Food Garden) formed

5 acres leased at Pūhāwai Road

**5 ACRES**

Kōkua Market becomes MA'O's first co-producer

\$5,000 in annual farm sales

10-Month Workforce Development Program started in partnership with the Office of Continuing Education & Training at Leeward Community College

**2002**  
Intern moves into first Farm Co-Manager role

Staff & youth development trip to Aotearoa

**KIA ORA**

**2004**  
Academic Subject Certificate in Community Food Security established in partnership with Leeward Community College

MA'O wins Chaminade University's Hogan / Bank of Hawai'i Nonprofit Business Plan competition

**2005**  
30 Staff & youth development trip to Aotearoa, including attendance at the World Indigenous Peoples Conference on Education

MA'O places second in the national Yale School of Management - Goldman Sachs Foundation social enterprise business plan competition

TOWN restaurant opens - taking MA'O farm to table in Honolulu

**2006**  
Youth Leadership Training (YLT) program Cohort 1

**2007**  
First intern Associate's degree

**1ST DEGREE**



8



10



9



11

1. *The courtyard takes shape in 2008.*
2. *The beloved Aloha 'Āina Cafe (RIP), 2006.*
3. *Learning on the farm.*
4. *An early cohort makes their mark.*
5. *Vintage Kauai & Derrik, 2008.*
6. *Uncle William Aila, Sr. - our original kupuna.*
7. *Kukui at the 2008 'āina blessing.*
8. *Co-producers for life: Gary & Dave Caldiero from the TOWN tribe.*
9. *The ultimate CSA box.*
10. *Ho'omaka'i 2010 graduates!*
11. *The courtyard ... now full of youth, 2018.*

**2008**

11 acres purchased at Pūhāwai

**16 ACRES**

**Catalytic donation:**

Pam & Pierre Omidyar  
\$750,000 to fund land acquisition

Farm Apprenticeship program established

**2009**

Kauhale partnership established with Wai'anae Searider Productions & Mākaha Studios

MA'O CSA subscription box service established

**CSA**

**Catalytic grant:**

W.K. Kellogg Foundation  
\$3,000,000 to support Kauhale expansion

**2010**

First intern Baccalaureate degree

\$500,000 in annual farm sales

**2011**

8 acres purchased at Pūhāwai Rd.

**24 ACRES**

First Lady Michelle Obama visits

**F.L.O.T.U.S. VISITS**

**2014**

Sustainable Community Food Systems bachelors of applied science degree program established in partnership with UH West O'ahu

**2015**

Expansion to Pūnanue, North Shore O'ahu explored, seeding future scaling

**2017**

Shift growth focus to opportunities in Lualualei and initiate pursuit of a Legacy Land Conservation Grant for 'āina at Palikea

Mauli Ola health study initiated

**2018**

21 acres at Palikea leased from Trust for Public Land

100th intern Associate's degree  
First intern Master's degree

**100TH AA  
1ST MASTERS**

**2019**

236 acres purchased at Palikea

21 acres purchased at Palikea

**281 ACRES**

**Innovative financial deal:**

Kamehameha Schools \$3,500,000 loan guarantee and Central Pacific Bank \$3,500,000 bridge loan facilitate land acquisition

**Catalytic investment:**

W.K. Kellogg Foundation loans \$2,000,000 to facilitate organizational expansion

OLA Wednesdays integrate holistic health into internship programming

**2020**

\$1,000,000 in annual farm sales (projected)

YLT Cohort 15

PŪHAWAI - 24 ACRES

## MĀ`ONA

SATISFIED AFTER EATING, FULL, SATISFYING.

For twenty years, MA'O has brought 'ōpio and 'āina into relationship in the context of an organic farm and educational 'auwai. We now have a tremendous opportunity to scale the farm and our program ten-fold to spark truly transformational change for the region and beyond. To this end we have articulated MA'O Mā'ona, a 10-year plan to build a resilient future as we redefine our community through our strengths.

In 2018-19 we took the first step toward manifesting this promise with the acquisition of two parcels totaling 257 acres at Palikea, in Lualualei Valley. MA'O is now, on behalf of the community, the fourth largest private landowner in Wai'anae.

With both targeted parcels now acquired and moving into production, we anticipate future growth as youth, 'āina and the organization learn and flourish together.

YOUTH PROGRAM



FOOD PRODUCTION



CREATE JOBS



PROVIDE HOUSING





PALIKA - 236 ACRES

PALIKA - 21 ACRES

## USING ALL THE TOOLS IMPACT INVESTING IN 'ĀINA

In 2018-19 MA'O acquired the Palikea21 and Palikea236 parcels thanks to a set of unique partnerships. Through this collaborative effort, we deployed the full range of impact investing tools from multiple and diverse sources of capital, including: two traditional foundation grants, a recoverable grant to cover for funding timing alignment, a program related investment (PRI), a state government grant, an interim lease agreement, a loan guarantee, a conventional bridge loan, and a conservation easement. Teamwork!

### MAHALO FOR YOUR SUPPORT

- |                             |                                  |
|-----------------------------|----------------------------------|
| FREEMAN FOUNDATION          | CENTRAL PACIFIC BANK             |
| HAU'OLI MAU LOA FOUNDATION  | KAMEHAMEHA SCHOOLS               |
| HAWAIIAN ISLANDS LAND TRUST | STATE OF HAWAII 'I D.L.N.R.      |
| STUPSKI FOUNDATION          | LEGACY LAND CONSERVATION PROGRAM |
| TRUST FOR PUBLIC LAND       |                                  |

## PULE 'ĀINA UNITING LAND AND SPIRIT

In January 2020, friends and family gathered at MA'O Palikea to rejoice in the return of land to community. It was a joyful occasion - the first of many gatherings that will be held in this beautiful corner of Lualualei Valley. The ceremony reverberated with oli, mele and laughter, as the lele was heaped with ho'okupu anticipating the bounty that this 'āina will yield as it is brought once again into relationship with youth and community. Speaking for the kupuna, Aunty Lucy Gay recalled the work of the Elders of Wai'anae to prevent the loss of this special place to industrial development a decade past. She reminded us that the soil had been denigrated as nothing but a pile of rocks, and the land characterized as inhospitable and unproductive. Having never believed this self-serving story, she asked Gary Maunakea-Forth to show her the soil. Upon seeing it firsthand, she reassured us, "the soil - it is fine. It is deep, and it is dark."



**CAPITAL CAMPAIGN**  
**A COMMUNITY INVESTMENT OPPORTUNITY**

Having acquired the Palikea acreage in Spring 2019, MA'O initiated a \$6,500,000 capital campaign to fund the farm expansion underlying our MA'O Mā'ona vision. These funds will facilitate the accomplishment of two important goals:

- **\$3.25 MILLION TO TAKE OUT THE PALIKEA236 BRIDGE LOAN**
- **\$3.25 MILLION FOR IMPROVEMENTS TO PUT THE PALIKEA LAND INTO PRODUCTION**

One year later, as of Spring 2020, we have raised \$3,927,000 in an innovative blended capital stack composed of \$2,100,000 in mission aligned debt and \$1,827,000 in philanthropic donations. We invite individuals and foundations to participate in this work through a philanthropic donation, a Program Related Investment (PRI), or other concessionary rate lending instrument.



★ **\$6,500,000**  
GOAL

○ **\$3,927,000**  
TOTAL IN 2019

○ **SEPTEMBER 2019**

**\$2,000,000**  
W.K. Kellogg Foundation\*

**\$100,000**  
KL Felicitas Foundation\*

○ **JUNE 2019**

**\$750,000**  
Ulupono Fund at the  
Hawai'i Community Foundation

**\$500,000**  
Anonymous

**\$200,000**  
State GIA

**\$122,000**  
City GIA

○ **MARCH 2019**

**\$250,000**  
Maurice & Joanna Sullivan  
Family Foundation

**\$5,000**  
Jeanne Herbert Fund

\*Program related Investment (PRI)

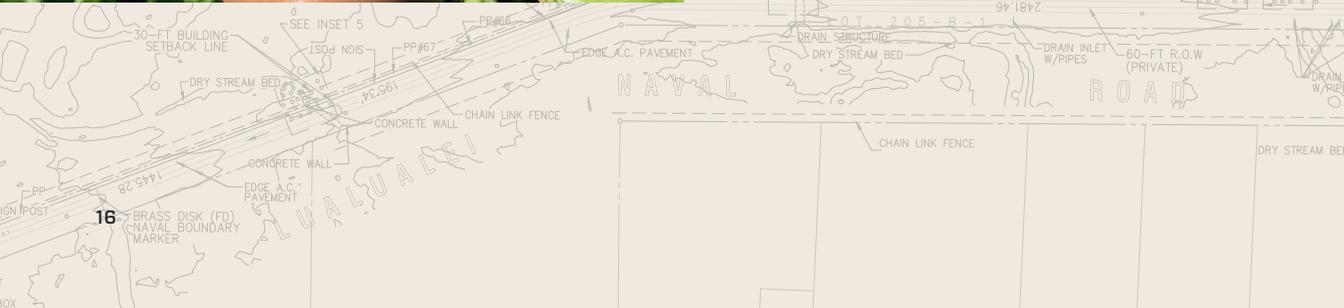


## PALIKEA PROGRESS

In 2019 we began the hana nui of incorporating the Palikea21 parcel into MA'O's farming operation. This 'āina was once a 'truck farm' growing onions, watermelons and other crops, but had lain fallow for more than 30 years. Work last year included removing and chipping kiawe trees and haole koa scrub, using the chipped material as mulch, and installing the main irrigation line and first tributary field irrigation lines. The first crops planted were kalo huli, 'ulu and citrus along the field perimeters. The first field block yielded a harvest in October, and has been fully integrated into the farm's production rotation since. Preparation of the second field block began in December, in anticipation of planting in Spring 2020.

## FARM EXPANSION EXPERIENCE

Installation of the irrigation system provided a great teaching opportunity for MA'O's Farm Apprentices and the summer Farm Expansion Experience (FE'E) interns, illustrating the integral role that youth are serving in the farm development. Evolution of the Apprenticeship and FE'E programs in 2019 reflects the growth of the 'auwai and our commitment to mentoring youth leaders, as well as a deepening of MA'O's agricultural vocational training programming.





## HO'ŌLA 'ĀINA, HO'ŌLA LĀHUI - HEALTHY LAND, HEALTHY PEOPLE

Over the years, we have witnessed the physical well-being of many interns improve during their time at MA'O. In 2017 we set out to investigate the connection between health and the MA'O experience, embarking on an incredible, ongoing learning journey.

In partnership with Dr. Alika Maunakea of the University of Hawai'i John A. Burns School of Medicine (JABSOM) and Dr. Ruben Juarez of the UH Economic Research Organization (UHERO), we initiated the Maui Ola study to assess MA'O's impact on interns' physical health, and to examine the relationship between 'āina and ola within social networks.

### INITIAL RESULTS

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Results thus far resoundingly affirm our lived experience that interns improve their health while at MA'O. Of the initial study cohort, 62% of youth were found to be diabetic or pre-diabetic at baseline (a particularly distressing finding for youth just 17-24 years old); by year's end this had dropped to 30%. In other words, 60% of interns reduced their risk of contracting Type II diabetes within a year at MA'O.

**THIS IS A POWERFUL ILLUSTRATION OF THE CONCEPT THAT FOOD IS MEDICINE - AND THAT THIS MEDICINE IS BEST ADMINISTERED IN AND BY COMMUNITY.**

Through the study's gut microbiome analysis, we have gotten a fascinating look into the biological mechanism of change underlying these significant health improvements. Simply put: MA'O interns consume more vegetables, which drives a change in their microbiome, particularly an increase in the population of butyrate-producing bacteria; this results in better glycemic control, which yields a reduced risk of contracting Type II diabetes.

Just as radically, it has started to reveal the social mechanism of change that underlies this physical transformation. While youth connect with each other and the 'āina at MA'O, they marinate in a culture where healthy food is celebrated, prepared and eaten together; together they exert a powerful positive influence on each other and their social networks, driving behavioral change that ripples through the community.

### THE CONTEXT

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#### TROUBLING HEALTH DISPARITIES

Chronic cardiometabolic diseases such as diabetes are far more prevalent in Wai'ānae than in other regions, and are particularly severe among Native Hawaiians and Pacific Islanders. For example, 15% of Wai'ānae residents suffer from diabetes, compared to 10% statewide. In a terrible self-perpetuating cycle, these health outcomes are exacerbated by and contribute to the community's intergenerational socio-economic disparities, including poor educational attainment and high rates of poverty.

### STUDY DESIGN

---

#### THE COHORT:

MA'O interns, staff, and their social networks, plus a control group. Participation from YLT Cohorts 12-13.5 cohort totaled 71 individuals, with a median age of 18 years old, 70% of whom are Native Hawaiian.\*

#### BIOMETRIC ANALYSIS:

Body mass index (BMI), A1C (blood sugar levels, a diabetes predictor) and gut microbiome composition.

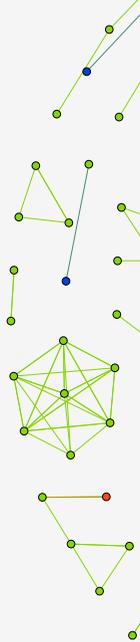
#### SOCIO-ECONOMIC ANALYSIS:

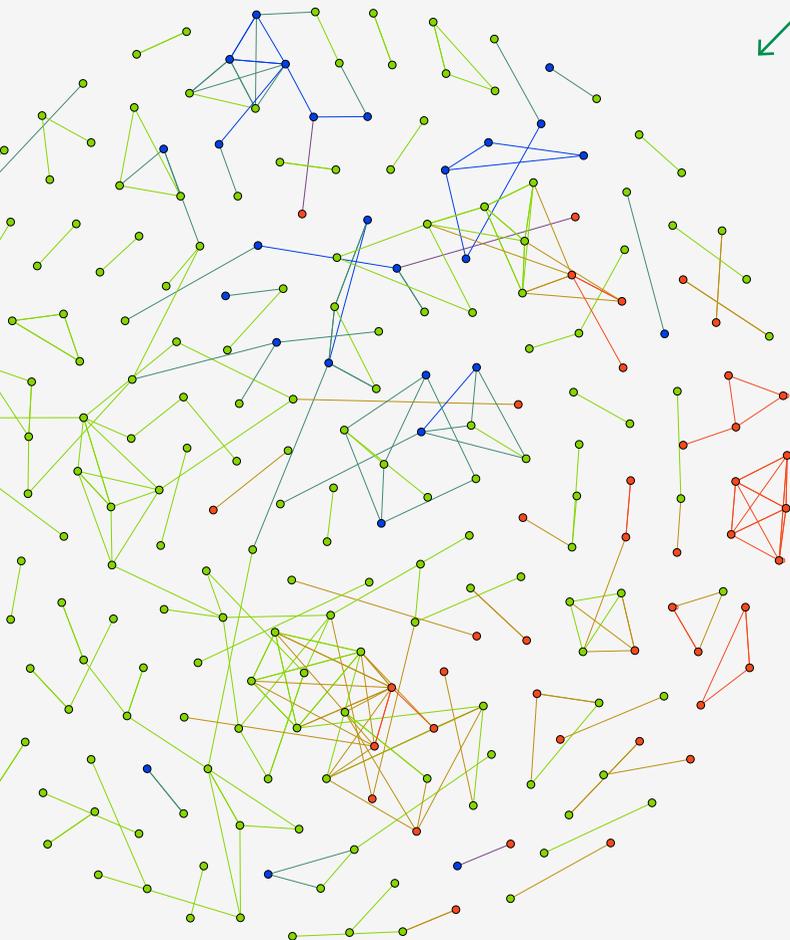
Demographics, social network relationships and influence, and health behaviors.

#### TIMELINE:

Comparing baseline and one year follow up results.

\* Intern participation is voluntary.





**CLUSTERING OF DIABETES WITHIN SOCIAL NETWORKS** ● ● ●

This is the first map of social networks and diabetes risk in Hawai'i, with links depicting the social relationships between individuals. The data illustrates the clustering within social networks by risk for diabetes.

**ECONOMIC IMPLICATIONS**

Individuals free of chronic disease earn more over the course of their careers, contributing to their families' economic well-being. They also cost society less: for every individual who avoids contracting type 2 diabetes, the healthcare system avoids \$11,135 per person per year of diabetes care costs alone.

**PROGRAM IMPLICATIONS: LET'S EAT!**

The Maui Ola data has inspired us to dig deeper, learn more and refine our programming to continue building youth and community well-being. All interns now engage in holistic health curriculum on the farm and visit the Maunakea lab at JABSOM to see this science in action. Youth and staff also cook and eat together every Friday - broadening our palates, learning new recipes, and partaking in the joy of shared meals.

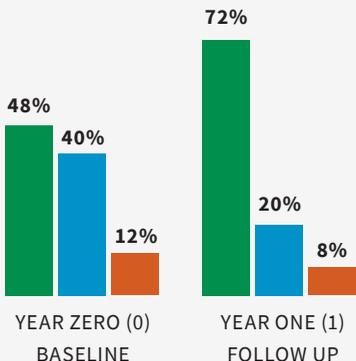
**POWER OF THE SOCIAL NETWORK**

The study is revealing much about the role that social networks play in behavior and health outcomes, and thus how MA'O influences both direct participants and the surrounding community. Initial results demonstrate the clustering of diabetes prevalence is particularly strong for individuals under the age of 25, friends and siblings, and Native Hawaiians. Study participants' self-reporting about their susceptibility to influence also highlights that youth are most likely to change their habits due to peer influence, affirming that youth are indeed powerful agents of change.

**MAHALO:**

*The Maui Ola study has been funded primarily by the Hawaii Medical Services Association, HMSA Foundation, and Kamehameha Schools, with initial seed funding provided by the Hawai'i Community Foundation.*

- HEALTHY
- PRE-DIABETIC
- DIABETIC



**MECHANISMS OF CHANGE**

- ↑ REDUCED DIABETES RISK
- IMPROVED GLYCEMIC CONTROL (HBA1C)
- MODIFIED GUT MICROBIOME (SCFA-PRODUCING BACTERIA)
- CHANGED HEALTH BEHAVIORS & CONSUMPTION OF MORE VEGETABLES
- MA'O HOLISTIC INTERVENTION

## FINANCIAL PERFORMANCE

2019 farming revenue was \$679,629, representing more than a 20% increase over 2018 revenue, driven by substantial increases in the grocery (39% of total sales) and farmers market (21% of total) sales channels. Sales were constrained by production capacity (demand continues to outstrip supply), as the organization balanced the management and labor demands of concurrently operating and expanding the enterprise. The farm's net losses resulted from the organization's investment in scaling farm operations onto newly acquired land.

Lessons learned in this early stage of expansion are informing ongoing scaling work. Notably, MA'O hired seven new full-time employees in late 2019, a 50% increase in FT headcount, to grow enterprise and total organizational capacity. The farm also began developing mitigation and adaptation strategies to contend with climate change-driven summer heat, which impacts core brassica crops, to be deployed in summer 2020.

2019 contributions, donations and grant revenue were substantial, reflecting partner investments in ongoing educational programming, as well as commitments to the organization's capital campaign to facilitate property acquisition and related expansion work.

## 2019 FINANCIALS (UNAUDITED)

### POSITION AS OF DECEMBER 31, 2019

TOTAL ASSETS	<b>\$7,499,811</b>
TOTAL LIABILITIES	<b>\$4,112,361</b>
NET ASSETS W/O RESTRICTIONS	<b>2,873,264</b>
NET ASSETS W RESTRICTIONS	<b>514,186</b>
TOTAL NET ASSETS	<b><u>\$3,387,450</u></b>
TOTAL LIABILITIES & NET ASSETS	<b><u><u>\$ 7,499,811</u></u></b>

### 2019 REVENUE

CONTRIBUTIONS & DONATIONS	<b>\$2,475,699</b>
GRANTS	<b>1,005,953</b>
EARNED FARM REVENUE	<b>679,629</b>
ENDOWMENT EARNINGS	<b>102,953</b>
NET ANNUAL FUNDRAISER PROCEEDS	<b>59,627</b>
WORKSHOPS & TRAINING	<b>64,045</b>
OTHER EARNED REVENUE	<b>35,780</b>
TOTAL REVENUE	<b><u>\$ 4,423,686</u></b>

### 2019 EXPENSES

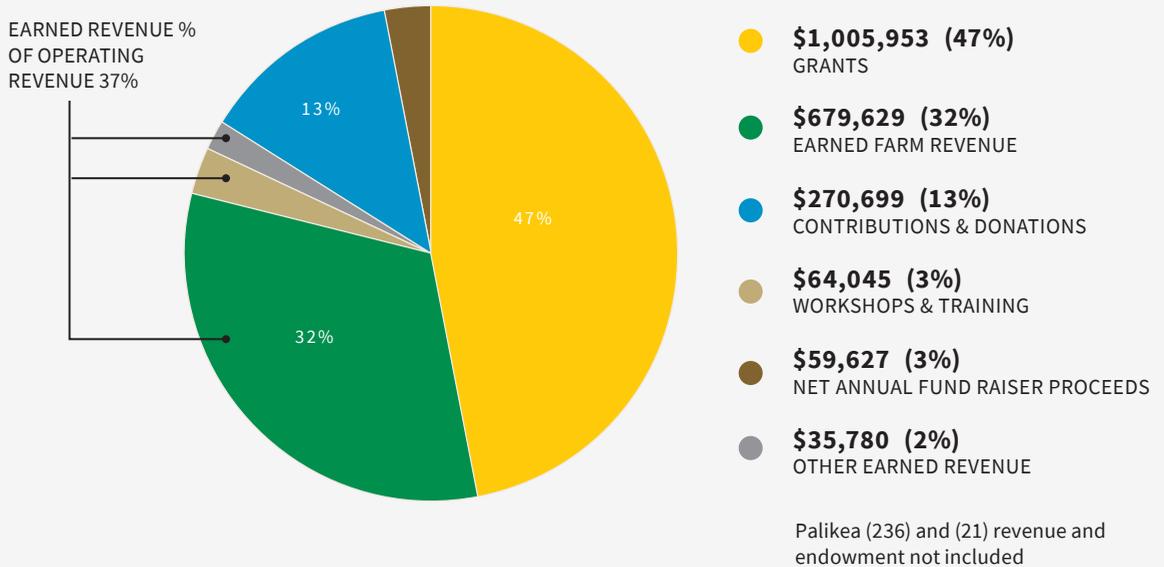
FARM OPERATIONS	<b>\$828,793</b>
EDUCATIONAL PROGRAMS	<b>811,065</b>
GENERAL & ADMINISTRATION	<b>416,338</b>
NEW LAND DEVELOPMENT	<b>524,967</b>
TOTAL EXPENSES	<b><u>2,581,163</u></b>
CHANGE IN NET ASSETS	<b><u>\$ 1,842,523</u></b>

### ADJUSTMENTS\*

CHANGE IN NET ASSETS	<b>\$1,842,523</b>
REPAYMENTS OF PALIKEA21 PURCHASE DESIGNATED FOR FUTURE LAND DEVELOPMENT COSTS	<b>1,100,000</b>
	<b>542,071</b>
CHANGE IN NET ASSETS AFTER ADJUSTMENT	<b><u><u>\$ 200,452</u></u></b>

\$ = U.S. DOLLARS

**OPERATING REVENUE SOURCES (2019)**



**FARM SALES (2000-2019)**

\$ - IN THOUSANDS



\* Adjustments to net assets reflect the commitment of assets to substantial 2020 expenditures: \$1,100,000 to pay down the recoverable grant used to acquire the Palikea21 parcel (accomplished in January 2020) and \$542,071 of funding committed to land preparation work at Palikea236 (spending planned for 2020).



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BOD PHOTO - AARON YOSHINO

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**MA'O ORGANIC FARMS  
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Founder and Executive Director

**Gary Maunakea-Forth**  
Founder and Managing Director

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Farm to Fork Coordinator

**Wei Fang**  
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**Joshua Fukumoto**  
**Nanea Keli'i**  
**Flame Porter**  
Farm Apprentices

**Luciann Ezell**  
**Ipo Kaina**  
**Michael Lopez**  
**Kamaha'o Spencer**  
Mahi'ai & Drivers



MAI HOPOHOPO...  
**E 'AI PONO!**

**LOVE, RESPECT & THE WILLINGNESS TO WORK.**

**UNCLE WILLIAM AILA, SR.**

Mahalo nunui to our MA'O Co-Producers, the many individuals, families, foundations and companies that have heeded our kāhea to join us in the restoration of our lands and our peoples. We are grateful to all of you, beloved community members, for your continued commitment to move forward in aloha, with respect, and with the willingness to work together for a Mā'ona future.

We dedicate this growth and impact report to our mentor, uncle and kupuna - William Aila, Sr.

It is the resonance of our kupuna's wisdom that guides the work of MA'O today and into the future.

E OLA!

**WCRC - MA'O Organic Farms**

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