

County of Hawai'i Overarching Narrative

Background: Once a net food exporter with a thriving traditional Hawaiian agricultural system, the State of Hawai'i currently imports roughly 90% of its food, sending \$3 billion per year away from the local economy despite nearly ideal growing conditions. Redirecting just 20% of food import resources to local producers could retain over \$620 million in Hawai'i and create 4,600 new jobs.¹ On Hawai'i Island, diverse climates and growing conditions allow for a wide range of crops, yet despite local demand, produce aisles are dominated with imports.² Efforts to build a shared brand image have been inconsistent and export potential for value-added products remains underdeveloped. Most existing agricultural assets were developed during plantation-era agriculture and are outdated, with limited modern opportunities for producers to process, package, aggregate, and transport their goods while managing waste. These factors compounded with limited workforce development opportunities, underinvestment in R&D, and a dearth of baseline and market data undermine efforts to revitalize the sector. The State's Food Security and Self-Sufficiency Strategy³ outlines ambitious goals to double local food production. With a 41% increase in Hawai'i's food *insecurity* reported since 2019⁴, the potential benefits from the creation of an equitable economy and food system have never been higher. While challenges brought by the recent economic downturn, natural disasters (tsunami, volcano eruptions, wildland fires), and agricultural pests and disease have highlighted constraints to sector growth, they have also illuminated the partnerships and pathways to developing a more resilient local food economy. **Vision and Projects:** As a regional leader in agricultural diversity and export development, Hawai'i Island offers an ideal proof of concept for re-envisioning a regional cluster centered on an agricultural economy designed to optimize resilience, equity, and sustainability. Led by the County of Hawai'i's Department of Research and Development, the Hawai'i Build Back Better Coalition (HBBBC) has systematized key constraints and prioritized catalytic investments across value-chain and supply-chain domains. In collaboration with a diverse network of university, community, industry, philanthropic, non-profit, and government groups, coalition members and industry partners are rebuilding a cluster to deliver sustainable, cross-sector growth and high-quality jobs while protecting natural resources and fostering linkages to technological innovation. The overarching outcomes include: 1) producer support systems that are more accessible and enhanced, specializing in increasing productivity and market share for small and mid-sized farms through innovation and market diversification; and 2) an enabling environment for 4th sector or "for benefit" businesses to spur innovation, socially-responsible and green business solutions, and job opportunities that reach underserved communities and value place-based education and traditional ecological knowledge⁵. The strategy is threefold: 1) value chain development; 2) market development; and 3) research, extension, and workforce development. Each intervention is grounded in and guided by principles of equity and a coalition governance ecosystem active against the structural inequity produced by exploitative and extractive models of land use and labor. This ecosystem aims to proactively shift harmful models of land use and labor toward systems reflective of the wellbeing of place and people within the agriculture cluster and the broader economy. Equitable partnerships will honor and leverage the thousands of years of indigenous governance structures

¹Leung, PingSun. Loke, Matthew. "Economic Impacts of Increasing Hawai'i's Food Self-Sufficiency." Cooperative Extension Service: Economics Issues, EI-16, Sec. 2008, December. www.ctahr.hawaii.edu/oc/freepubs/pdf/EI-16.pdf

²*Local Foods, Local Places: A Community Driven Action Plan for Honolulu and the Kakaako District.* 2017, January www.ams.usda.gov/sites/default/files/media/LFLP2HonoluluHIAActionPlan.pdf

³*Increased Food Security and Self-Sufficiency Strategy* State of Hawaii, Office of Planning, DBEDT. 2012, Oct. files.hawaii.gov/dbedt/op/spb/INCREASED_FOOD_SECURITY_AND_FOOD_SELF_SUFFICIENCY_STRATEGY.pdf

⁴"Food Insecurity in Hawaii" *Feeding America* 2021: <https://map.feedingamerica.org/county/2018/overall/hawaii> Feeding America

⁵ "About 4SG" *Fourth Sector Group* 2022, March www.fourthsector.org/

and hundreds of years of multicultural R&D, knowledge, and practices to reflect a more balanced relationship between economic and environmental prosperity. Complementary projects that support the broader enabling environment for the coalition plan include renewable energy and zero-emissions transportation, enhanced child-care, and broadband projects as well as partners' work at Vibrant Hawai'i, 'Āina Aloha Economic Futures, Hawai'i Investment Ready (HIR), the 4th sector, and other partners to ensure equitable economies centered in Native Hawaiian values.

1. Value Chain Development Goal: Support producers, with a focus on small and mid-sized farms, to access improved levels of technical assistance and services to increase production, add value to their products, and connect to larger markets. **Projects:** Agricultural Innovation Park and Food Systems Campus (The Food Basket, Oct. 2022-Sept. 2027). Infrastructure Recovery for Floriculture and Tree Crops, (Synergistic Hawai'i Agriculture Council, Oct. 2022-Sept. 2024). Nā Waihona, Technical Assistance Initiative (The Kohala Center, Oct. 2022-Sept. 2025). Honalo Marshaling Yard Improvements (Hawai'i State Department of Agriculture, Oct. 2022-Sept. 2026). Resilience Through Cooperation: Transforming Hawai'i County's Agricultural Value Chain by Restoring Agroforestry Systems and Strengthening Farmer Networks (Big Island RC&DC, Oct. 2022-Sept. 2026). Closing Loops in Nutrient Management On Hawai'i Island (Big Island RC&DC Oct. 2022-Sept. 2024). Sustainable Resource Exchange, Management, and Education on Hawai'i Island (County of Hawai'i Department of Environmental Management, Oct. 2022-Sept. 2027). **Metrics:** # of infrastructure improvements, # of farmers served, % socially disadvantaged, average income of producers before and after upgrades, demographics of producers using facilities, # of new farmers using upgraded facilities, # of organic waste diverted from landfill, # local ag amendment sales. **2. Market Development Goal:** Increase the resilience of agricultural market systems by building and strengthening the cluster's capacity for collective action. **Project:** Market Systems Development Program (Hāmākua Institute, Oct. 2022-Sept. 2025). **Metrics:** total reported farm volumes, sales and profits; market share of local products within County and State; service revenues/# of TA providers; small and medium farm sales to institutional buyers. **3. Research, Extension, and Workforce Development Goal:** Increased availability of skilled farm labor, effective training and technical support. **Projects:** UH Agricultural Extension, Research, and Pathways (University of Hawai'i, Oct. 2022-Sept. 2027). Resilience for Floriculture and Tree Crops (Synergistic Hawai'i Agriculture Council, Oct. 2022-Sept. 2024). **Metrics:** # of agriculture and manufacturing technologies implemented; # of university students hired into the cluster; # of trainings; # trained. **Crosscutting-Equity and Sustainability Metrics:** cluster job creation (# and type); # of businesses started; % wage growth; % unemployment reduced; anticipated regional GDP growth; demographic data for clients and trainings; # of green build/energy projects; # of businesses implementing resilience strategies.

EDA Priorities and CEDS Alignment: Proposed projects address EDA's **Recovery and Resilience** investment priority by increasing the strength of the County's food supply and value-chains, thereby enabling the region to adapt to and overcome economic shocks, such as those created by the pandemic—which shut down the region's main economic engine of tourism. This experience highlighted the vulnerability of Hawai'i's economy and its overreliance on imports. Local communities have long voiced the importance of economic diversification through food and agriculture as a way to increase local resiliency. In addition, the projects meet the EDA priorities of **Equity** via investments that directly benefit underserved and socially disadvantaged populations; **Workforce Development** via investments creating well paying, quality jobs in underserved communities that enable sector growth; **Manufacturing** via job

creation, business expansion, technology and capital upgrades, and productivity growth in manufacturing that contribute to the competitiveness of Hawai‘i suppliers and the production of innovative high value products; **Environmentally-Sustainable Development** via investment in indigenous and regenerative agricultural practices that require fewer resources and mitigate climate effects, such as ‘ulu agroforestry plantings which sequester carbon and buffer against extreme weather events, and organic waste and fiber diversion from the landfill to develop healthy soils; **Technology-Based Economic Development** via investments that foster indigenous and regional knowledge ecosystems that support entrepreneurs and startups and link technology-driven businesses and high-skilled, well-paying jobs; and **Exports** via project activities that revitalize growth within Hawai‘i’s specialty crop export market. HBBBC projects support the prioritization of agriculture in both the State CEDS and Hawai‘i County CEDS⁶, and directly address the overarching County CEDS goal within agriculture to “build a sustainable agricultural industry that can provide a living that is satisfying and financially rewarding for island farmers and agriculture sector workers, and contribute to food self-sufficiency and mitigating imports.”

Defined Region: Known as the land of Keawe (moku o Keawe), Hawai‘i Island (Hawai‘i County, Congressional district HI-002, FIPS code 15001) is the newest and largest island in the archipelago. With abundant land and ocean resources and a variety of growing climates, Hawai‘i Island has historically played an important role in food production, from the fertile Hāmākua coast and Waipi‘o Valley to the ranch lands of Waimea. With some of the world’s most diverse ecosystems, Native Hawaiian agriculture adapted to a dense array of conditions, creating a sophisticated system of land management and ecological knowledge⁷. Starting in the 1800’s, the plantation economies built infrastructure to suit large-scale commodity production which have since been inadequately adapted to serve the proliferation of diversified farms that make up the current landscape. Taken together, this agricultural cluster represents a primary regional asset, yet Hawai‘i Island producers and support organizations face the challenge to equitably revitalize, re-envision, and transform this cluster to meet current needs and deliver more economic benefit. Additional physical, intellectual, social and economic regional assets include: **1. Environment: the natural, regulatory and built environment.** Hawai‘i Island’s natural resources provide the foundation upon which economic innovation is built. Pristine watersheds, rich soils, and ecological diversity combine with existing agricultural infrastructure such as marshaling yards, irrigation systems, warehousing, slaughterhouses, and agricultural parks. Specific resources in the built landscape that will be constructed, upgraded, or utilized in this project include the Hawai‘i Agriculture Innovation Park and Food Systems Campus, Hawai‘i ‘Ulu Co-op’s (HUC) leased HDOA Honalo Marshaling Yard and Kamehameha Schools Alae Post Harvest facilities, Synergistic Hawai‘i Agricultural Council facilities, the Miko Meats facility, COH DEM sustainable materials management infrastructure, and the ‘O‘ōkala Dairy. All are vital to the survival and growth of agricultural enterprises yet require stewardship, upgrading, and/or maintenance. **2. Knowledge: traditional ecological knowledge, research and development, and higher education institutions.** Native Hawaiians and Hawai‘i’s diverse peoples exemplify how past precedents continue to guide current and future innovations. Uplifting indigenous crops and traditional food preservation methods will help to revalue traditional ecological knowledge and foster connections to contemporary research and development. Existing university research,

⁶ 2016-2020 Hawai‘i County Comprehensive Economic Development Strategy (CEDS). Hawaii Island Economic Development Board, 2016, October 31. Accessed: March 2022 planning.hawaii.gov/spb/hawaii-statewide-comprehensive-economic-development-strategy-ceds-update/

⁷ "Buy local, revive ancient Hawaiian Farming" *University of Hawai‘i New*, 2020, November 04, www.hawaii.edu/news/2020/11/04/buy-local-revive-hawaiian-farming/

educational and workforce development infrastructure include the University of Hawai‘i System’s work to shape innovative strategies that contribute to regional growth and the bioeconomy. This is complemented by the work of the UH Office of Indigenous Innovation and project partners to reframe traditional practices as data science and recenter this knowledge within local communities to revitalize our economy by aligning it with local values and priorities. **3. Social and Cultural Connections.** Hawai‘i Island’s social and human capital grows from a diverse population and rural way of life that fosters the kind of collaboration and community needed to reinvigorate the industry. This diversity is evident in those who are operating farms, with farmers identifying as American Indian or Alaska Native (2.9%); Asian (40.66%); Black or African American (0.9%); Native Hawaiian or other Pacific Islander (19.6%); Hispanic, Latino or Spanish (8.15%).⁸ The plan uplifts these communities in all their heterogeneity by centering equity and collaboration in coalition processes, work plans, and outcomes. **4. Trade and Transport Networks.** Regional assets that link Hawai‘i Island to other places include critical infrastructure, which allows for both effective distribution of products and access to markets on island and beyond. Two Foreign-Trade Zone facilities allow local businesses to make use of valuable tariff savings programs that encourage export development. Transportation infrastructure in Hawai‘i County, including air and marine cargo facilities in Hilo and Kona, ensure import of equipment and machinery, as well as export of value-added Hawai‘i-made agricultural products. Two cargo seaports and two international airports also serve Hawai‘i County. In summary, the HBBBC Plan targets the competitive advantage and economic niche offered by Hawai‘i Island’s unique and interconnected environment, knowledge assets, social and cultural connections, and trade and transport networks.

Private-Sector Engagement: HIAP was established in 2019 with broad participation from industry, government, academia, and the nonprofit sector. Its purpose is to help people and organizations throughout the island’s agricultural cluster work together to overcome the constraints that limit growth and to serve as an innovative new mechanism for identifying and aligning public and private interests in the cluster. The recommended strategies that emerged from HIAP’s participatory process of industry engagement, analysis, and joint planning represents an innovative approach to agriculture cluster development, enabling multiple disjointed efforts to work in coordination to develop synergies and leverage economic impacts. Funding from the Phase 1 award is being used to strengthen HIAP’s capacity to serve as a cluster-wide platform for multi-stakeholder collaboration. This has involved engaging industry in the planning and development of the component project applications within each of the three coalition strategies. HIAP is a long-term effort and a unique opportunity to infuse this growing commitment to collaboration with the resources and projects necessary to institutionalize the partnership as a sustainable mechanism for equitable cluster growth. In addition, the Hawai‘i Island Clusters of Opportunity (HICO) initiative represents a coalition of industry leaders and nonprofits envisioning how collaborative economic development can improve employment opportunities and generate growth potential on Hawai‘i Island. Philanthropy continues to be a crucial part of the support for County of Hawai‘i’s collaborative efforts to develop robust rural economies centered around agricultural production and food processing. Ulupono Initiative intends to invest \$10 million in for-profit and nonprofit initiatives including infrastructure, technology, and job creation over the next five years, including committed project funds of \$1 million to The Food Basket (TFB), \$400K to The Kohala Center (TKC), and \$60K to UH

⁸ 2017 Census of Agriculture, Race/Ethnicity/Gender Profile: Hawaii County. United States U.S. National Agricultural Statistics Service NASS. 2017 www.nass.usda.gov/Publications/AgCensus/2017/Online_Resources/Race_Ethnicity_and_Gender_Profiles/Hawaii/cpd15001.pdf

GoFarm. Kamehameha Schools (KS) intends to invest \$10 million in agriculture initiatives on KS lands; has pledged to purchase 50% of its food from local producers for its campuses; and has committed \$85K to the Hāmākua Institute and \$100K to TKC. Hawai‘i Community Foundation has committed \$75K to UH. The Harry and Jeanette Weinberg Foundation committed \$1 million to TFB. Stupski Foundation committed \$1 million to TFB and \$350K to TKC.

Sustainability: The HBBBC’s Plan addresses sustainability through the **agricultural cluster businesses level** and the integration of cooperatives, industry associations, and other producer groups into the planning and development of coalition strategic interventions. After initial interventions have been completed and introduced benefits documented, these industry bodies will continue to expand and replicate the benefits across their membership and amongst related producers. HIAP serves as a platform for public-private partnership and is a key part of the coalition’s sustainability plan. As HIAP engages partners throughout the cluster to increase access to information, analysis, and services, businesses in the cluster will be able to organize themselves in ways which access economies of scale previously unattainable. The growing alignment of shared interests through HIAP is not dependent on federal funds to continue and is expected to scale up as new collaborations demonstrate their value. At the **coalition level led** by the COH R&D and HIAP, structures and processes for **effective collaboration and strategic cohesion** amongst the diverse breadth of stakeholders in the island’s agriculture and food cluster will be sustained. The progress towards a more collaborative and integrated approach to cluster development amongst all of the coalition partners aims to set a new standard for the state and to be integrated into anchor institutions. The BBRC has enabled the coalition and partners to embark on a level of strategic cohesion previously unimaginable and all are committed to ensuring the collaborative projects and mechanisms established under this grant continue into the future. The Phase 2 investment into the COH R&D builds the long-term capacity and expertise within the County to support the ag cluster and adjacent clusters with governance and regional competitiveness well beyond the project period. Additional complementary initiatives with partners that increase long term project sustainability include: **Hawai‘i Foodservice Alliance** is the largest employer of food distribution professionals and largest distributor of perishable products and logistics provider within the state. Their partnership represents access to scaled aggregation and distribution to meet the coalition’s goals to increase local food purchasing by 20% within the state. They have committed to participate in collective processes to ensure critical value chain infrastructure meets the best use of the local community and is economically viable to increase local food production, aggregation, and distribution into local markets. **Food Hub Hui** is a statewide local food value-chain coordination system, and they are working closely with HFA to support food safety compliance and logistics to support producers to scale. **The Hawai‘i ‘Ulu Cooperative** with support from **Hawai‘i Investment Ready**, has a well-developed, 10-year plan showing breakeven at 450,000 pounds of ‘ulu. By 2030, they anticipate 1,000,000 pounds of breadfruit per year and a similar amount of other staple crops, and all profits are reinvested in the operations and shared amongst their farmers. **The 4th Sector Initiative** will support a community of practice within the cluster to combine market-based approaches of the private sector with the social and environmental aims of the public and nonprofit sectors. **The Transforming Hawai‘i’s Food System Together (THFST)** initiative is a parallel process leading the collaborative development of policy and planning recommendations to build Hawai‘i’s statewide capacity for a more economically robust, sustainable, equitable, and resilient food system.

Community Engagement: The **TFB Agricultural Innovation Park and Food Systems Campus (AIPFSC)** project strives to position their proposed multi-use campus to nimbly respond to the diverse and unique needs of the surrounding community. To accomplish this, TFB will engage the community it has served since 1989 through a thoughtful and thorough pre-development phase in which community feedback is intentionally solicited not only to build strong consensus around the proposed construction of its **AIPFSC**, but to inform, enrich, and enliven future programming on this community-facing campus. The **HDOA** project is designed and implemented in close collaboration with Hawai‘i ‘Ulu Co-op, which represents 116+ farmers that are located across all districts and representative cross sections of COH farmers (60% socially disadvantaged growers). The project will address their needs for aggregation, processing, and storage of staple crops grown in agroforestry systems. The Synergistic Hawaii Agriculture Council (**SHAC**) project is designed and implemented in close collaboration with the Floriculture and Nursery Association, Hawai‘i Coffee Association, Hawai‘i Macadamia Nut Association, and the Puna Flower Power Co-op. **Labor Standards and Jobs:** TFB, HDOA, and SHAC’s construction and expansion projects will create numerous jobs for the typical construction trades and all explicitly share the goal to fill as many positions as possible with local union labor, supplementing from elsewhere within the state, or beyond, only when necessary. During all phases of construction, these projects will comply, as applicable, with the labor standards required for federally assisted construction sub-agreements, including provisions of the Contract Work Hours and Safety Standards Act (40 U.S.C. Section 327-333). It is estimated that the average hourly rate, including benefits, for local wages for skilled construction trades on Hawai‘i Island will be \$78/hour, with \$55/hour paid for laborers, per local published wage determinations.⁹ For the **TFB AIPFSC** project, the total value of wages and benefits paid to laborers during the scope of construction will be established during the bidding period of Phase A in the first quarter of 2023. Interim estimates for Phase A based upon projects of comparable size and scope suggest: 1) Construction Management (Team of 5, 3 FTE and 2 PTE), 2) Architectural (Team of 6: 4 FTE, 2 PTE), 3) General Contractor (Primary, Team of 45, 30 FTE), 4) Sub-Contractors (all designations, 52 positions, blend of FTE & PTE), 5) On-Site Supports (security, administration, other: 12 PTE). For the **SHAC RFTC** project: Administration and Management (Team of 2: 0.10 and 0.12 FTE, 2 years), Field Days (0.3 FTE, 2 yrs), Material Development (0.5 FTE, 1 yr), Construction (Team of 10: 10 FTE, 2 yrs). For the **HDOA HMYI** project: Administrative and Legal (Team of 4: 0.30 FTE, 1.5 yrs), Architectural and Engineering (Team of 5: 0.62 FTE, 0.5 yrs and Team of 4: 0.23 FTE, 1 yr), Project Inspection (Team of 3: 0.38 FTE, 1 yr), Construction (Team of 4: 4.00 FTE, 2 yrs). **Equity is inherently at the center of the HBBBC proposal.** Each coalition member’s mission reflects their deep commitment to collaborating with and investing in our diverse community. Phase 1 revealed the inherent equitable components already taking place within the coalition network’s existing practices, goals, and metrics. The selection of proposed Phase 2 projects serves all geographic areas of the community, prioritizing historically underserved and traditionally disadvantaged communities. HBBBC seeks to maximize existing and new proposed infrastructure, regional assets, and leverage the systemwide investments for equitable distribution by geography, race/ethnicity, income, gender, etc. to advance inclusive and sustainable growth. To expand access to capital, translation and interpretation services in tandem with wrap-around services will remove barriers for producers to access workforce development opportunities, and

⁹ <https://sam.gov/wage-determination/HI20220001/3>

technical assistance, extension, and business services. Phase 2 project initiatives will further identify demonstrative outcomes with metrics incorporating the **five dimensions of equity: procedural, distributional, structural, transgenerational, and cultural**. Collective processes and practices will be facilitated to enable the coalition and its partners to move deeper into equity-centered demonstration of impact and further determine how it will be incorporated more explicitly in Phase 2. The coalition and partners will develop a collective definition of equity and theory of change, building off Phase 1 through deeper engagement with targeted populations prioritizing historically underserved communities. The coalition is committed to investing in capacity building centered on community-led decision making, data equity components, co-creating equity definitions and principles, determining equity-centered metrics, and a design process that prioritizes historically underserved and socially disadvantaged demographics within the population. Strategy and governance will be geared towards the increased guarantee of resources, fair treatment, access, opportunity, economic and health advancement through identification and elimination of systemic and institutional barriers that have prevented the full participation and achievement of historically underserved and socially disadvantaged populations. Additionally, since equity starts from within, all participating coalition members will conduct an internal organizational equity assessment, equity foundations professional development, and competency training (provided by the COH R&D Equity Program Specialist and external contractors) and incorporate data mapping that explicitly identifies socio-ecological, disaggregated demographics. **Equity nexus of 4th Sector:** The coalition is committed to partnering with the 4th Sector to develop a Community of Practice to imbed the foundations of equity within our local economy. Many of the social, environmental, and economic challenges we face are downstream consequences of outmoded economic systems and organizational models whose roots date back to the industrial age. The scale, urgency, and complexity of these challenges demand a fundamental upgrade to business-as-usual. The growing sector offers an opportunity to solve many of these challenges, while advancing inclusive and sustainable growth.

Expected Outcomes: The COH R&D as the lead applicant will add capacity to the coalition and support the integration of the 4th sector principles. Specifically, we will train 40+ coalition leaders and partners in: 1a) ‘Āina Aloha Economic Futures¹⁰ and the “Evaluation with Aloha”¹¹ to ensure continuous improvement of collective governance while honoring the place-based and culturally rich resources that define Hawai‘i’s communities; 1b) strategic economic evaluation processes for key measures to ensure accurate reporting on across component applications; 2a) equity foundations professional development and competency; and 2b) internal equity assessment, which will be conducted for all 8 coalition members’ entities. **Value Chain Development** projects will support producer access to improved levels of TA and services to increase production, add value to their products and connect to larger markets. **TFB Outcomes** include: the planning, design, and construction of a Hawai‘i Island Community Food Center & Food Bank supporting essential services (43,400 SF); an Agricultural Innovation Center with a value-added production facility (30,300 SF); and agricultural land for agroforestry and indigenous crop production and greenhouses (12,100 SF/ 16.4 acres). Approximately 3,000 farms are expected to utilize the site’s new infrastructure and/or connected services. 600 of the County’s small and mid-sized farms are estimated to increase revenues and profitability by 20% over 5 years, 125 new jobs will be developed, ranging from \$60K/yr-\$162K/yr. HDOA

¹⁰ ‘Āina Aloha Economic Futures Assessment Tool https://docs.google.com/spreadsheets/d/1ibnzR_ytvHVBtXnTcTjA2u7NbnYD74FczXu2WY_7bEI/edit#gid=0

¹¹ Evaluation with Aloha: <https://www.creahawaii.com/aloha>

Outcomes: increase processing capacity of local, indigenous staple crops tenfold; increase processing capacity of breadfruit/‘ulu from 200,000 pounds/yr to 2,000,000 pounds/yr; and expand an integrated public-private system for efficiently managing facility waste streams. BIRCDC Project Outcomes: increase jobs from 50 to 150 (\$60K/yr) across Hawai‘i ‘Ulu Cooperative (HUC) and the co-op’s 100+ producers; increase production volume growth from 200,000 to 2 million pounds per year; grow sales revenues from \$1 million to \$5 million per year; increase ‘ulu yields, among small farmers, from 30 to 300 pounds per tree per year average; increase co-op membership from 116 to 200 small farmers; and expand agroforestry production systems from 100 to 1000 acres—through targeted farmer technical assistance by the end of year four. COH DEM Outcomes include: catalyzing the closed-loop system on Hawai‘i Island through establishing Sustainable Resource Districts in agricultural hotspots by leveraging a \$10 million COH bond; and diverting 20% of organics currently landfilled and 100% of the cardboard currently shipped to Asia for recycling into soil amendments and other products by the end of 48 months. SHAC Outcomes: address key market and infrastructure failures due to natural disasters through infrastructure, utilities, and training to better support its 1,000 members; construct 6 steel-frame greenhouse modules and a floriculture processing facility with an educational center and administrative spaces; and install a well and storage tank for partners and community ranchers to reduce potable water pressures on the surrounding community. The greenhouse operation and co-op expects a positive cash flow of \$262,376 in year 5, with a projected year 9 estimate of over \$3 million net per year and 30 100% FTE (\$52k/yr) jobs in this low income community (10 Construction and 20 Work-to-learn jobs). TKC will use collaborative approaches and technical assistance in the business services sector to support the growth and viability of agricultural enterprises, and manage Hawai‘i places of knowledge and exchange to propagate and share indigenous crop varieties along with their mo‘olelo (stories), seeds, production practices, and food preservation methods, strengthening seasonal abundance and community food resiliency. TKC Outcomes: support collaborative and equitable approaches to facilitate agricultural sector growth and viability (socially, culturally, ecologically, and economically); secure a minimum of \$15 million in investments for cluster entrepreneurs; provide business development consulting to 250 enterprises; provide over 500 individuals with indigenous planting material and place-based education; train over 150 island residents and enroll over 30 producers in ‘āina-based resiliency strategies to improve indigenous crop performance and ecosystem health. BIRCDC: Closing Loops on Nutrient Management will create a more conducive and equitable policy environment that enables a robust local soil amendment market on Hawai‘i Island. It will also enable evidence-based collaborative decision making and the systemic capacity of the organic resource management system. Outcomes: 1 island-wide resource management organization; 1 implemented permitting process; 1 organic data collection process; 0 to 12 permitted composting operations; 10% increase in locally-produced soil amendment sales. Market System Development will increase the resilience of agricultural market systems by building and strengthening the cluster’s capacity for collective action. The Hāmākua Institute (HI) will strengthen the agricultural market system to enable small farms to access improved support and services, add value to their products and connect to larger markets. Outcomes: over a five-year period within the targeted value chains, HI will target a 20% increase in small farm production, service revenues and local product sales, and operating plans and shared agreements through HIAP for value chain infrastructure. Research, Education, and Workforce Development will increase the availability of skilled farm labor, and effective training and technical support. The University of Hawai‘i (UH) system will

collaborate to develop integrated education and training programs to enhance agricultural sustainability through research, improved farmer technical assistance (TA), expanded invasive species training curriculum and workshops, expanded R&D and industry TA for the aquaculture industry, and a larger skilled labor pool. **Outcomes:** \$1.6 million per year farmgate value through invasive species control; \$4 million in annual tree crop value through propagule distribution; \$1.8 million increase in aquatic species production over current production level; increase in agricultural production value by \$500,000 through new agricultural practices; minimum of 240 program graduates secure jobs within the sector; \$5 million through new technologies; new agricultural entrepreneurs in generating \$900,000 in revenue. **SHAC Work-to-Learn Program** for orchid and nursery entrepreneurship will advance grower skills and market share. **Outcomes:** expanded labor pool of 20 certified orchid growers every two years; 120 established growers newly participating in the export market; \$375,000 in floral sales in years 1 and 2, increasing to \$755,400 in Year 3. **Proposal Evolution:** County of Hawai'i Research & Development (COH R&D) is the lead institution and initially did not plan to submit a project. However, through supporting our coalition and partners through Phase 1, we quickly realized that we needed to expand our internal capacity to support the network's current and future efforts to enable transformative change with the local economy. In Phase 1, County of Hawai'i Department of Environmental Management (COH DEM) identified the need to build internal capacity and establish new processes to: 1) enable increased resource diversion from the landfill and 2) work with Mā'ona to conduct feasibility studies and identify locations for strategic sustainable materials management infrastructure. University of Hawai'i (UH): The COH contracted with SSFM to conduct the Phase 1 Critical Investment Assessment. The SSFM conducted an online survey with 268 respondents, 22 interviews with UH and affiliated partners, and facilitated a two-day workshop with UH stakeholders to confirm short- and mid-/long-term strategies. The survey and interviews identified broad consensus on the need for direct extension and outreach to address plant diseases/pests and access to labor/talent, 68% and 55% of survey respondents respectively. During the facilitated workshop the expansion of direct farmer supports, and training of skilled labor were confirmed as the short-term priorities. Hawai'i Department of Agriculture (HDOA), New Coalition Member: HDOA joined the coalition to support and manage the improvements to their Honalo facility to enable their tenant, the HUC expansion of the indigenous crop production and consumption within the market. **BIRCDC:** In Phase 1, they expanded their scope as a result of collaborative discussions with coalition partners as well as internal completion of a comprehensive needs analysis by the HUC of their 116 farmer members that identified their primary needs and challenges. **BIRCDC Evolution:** The project evolved from an infrastructure and equipment project to a three-pronged approach spanning 1) production systems (Focus: farmer support program development and agroforestry scaling), 2) value chain expansion (aggregation and processing), and 3) market development to refine product mix and pilot additional product ideas identified through the value chain analysis. **BIRCDC** has committed to partnering with Mā'ona Community Garden (MCG): The Phase 1 Closed Loop System scope of work was finalized and COH R&D awarded a contract to Recycle Hawai'i to initialize a waste stream assessment. The initial results include identification of integrated, closed-loop waste management strategies which catalyze job growth and investment opportunities throughout the value chain. Mā'ona is working with Recycle Hawai'i to collect existing data and stakeholder feedback in Phase 1 to inform continued work. **MCG Investment:** MCG has identified \$145,300 in-kind matching funds, utilizing existing salaries, supplies, and volunteers. **MCG Evolution:** MCG decided to have their project under coalition member

BIRCDC, since they have more experience managing federal awards. Mā‘ona clarified commitments with Hawai‘i Investment Ready (HIR) and TKC to develop and design a Circular Economy TA cohort. The Kohala Center: Phase 1 work involved identifying the needs and opportunities for collaborative TA with coalition members and community partners and mapping the landscape of indigenous and canoe crop providers that will inform Phase 2 activities. TKC Evolution: TKC, HIR, COH, and Fourth Sector Group (4SG) collectively identified a pathway to utilize HIR’s curriculum to support the growth and viability of circular economy entrepreneurs, while integrating 4SG’s approach with local priorities outlined by ‘Āina Aloha Economic Futures. In doing so, the TA cohort will hone skills in mission-aligned revenue generation, engagement with the private sector in cause-related, locally situated marketing and purchasing, and enlisting the public sector in market-based approaches. TKC Investment: TKC secured philanthropic investments for their Nā Waihona work from Ulupono Initiative (\$400K), Stupski Foundation (\$350K), Kamehameha Schools (\$100K), and \$297K cash and in-kind and \$50K cash match from HIR. Synergistic Hawai‘i Agriculture Council (SHAC), New Coalition Member: SHAC is a collaborative of four export-focused industry groups: floriculture, macadamia nut, papaya, and coffee. SHAC was added during Phase 1 to address priorities related to our value-added and premium brands within the cluster. SHAC had previously applied for their construction project to the EDA under the FY19 Disaster Supplemental, but by the time they secured their match, the EDA no longer had funding. SHAC Investment: Through their coalition, they have an in-kind match of \$924,870. Hāmākua Institute (HI): During Phase 1 they focused on developing strategies to support coalition building and increasing HIAP’s capacity to support public-private collaboration, specifically the identification of alignment through shared participation in value chain coordination teams. HI Evolution: HI revised their selection of agricultural value chains based on shared dialogue with coalition partners and industry participants to determine where interests and opportunities are most strongly aligned. HI Investment: HI secured philanthropic investments of \$85K from Kamehameha Schools and \$100K cash match from the COH. They anticipate additional cash match from industry during their Phase 1 activities, specifically around the Hawai‘i Island Clusters of Opportunity analysis work. The Food Basket (TFB): During Phase 1, they focused on the Agricultural Innovation Park and Food Systems Campus (AIPFSC) construction project to develop the Preliminary Engineering Report, the Environmental Narrative, and Business Development with various consultants, coalition members, and partners. TFB Evolution: TFB expanded their coalition member land use partnerships, including a UH GoFarm lease of 5 acres for their post-graduate farmer program and exploration of an 11-acre Polynesian agroforestry planting collaborative with the HUC. The HUC expressed interest in becoming an anchor tenant at the facility. TFB leadership decided to submit a COH Planning Dept. application to rezone 8 acres for Commercial Neighborhood designation. Media relationships are progressing to expand public engagement and fundraising opportunities. TFB Investment: TFB secured philanthropic investments from Ulupono Initiative (\$1 million), Stupski Foundation (\$1 million), and Weinberg (\$1 million). In addition, they purchased the land valued at \$2.4 million and had productive meetings with four banks regarding construction and project loans. They have been approved for a \$1.6 million loan from Central Pacific Bank and a credit line of \$250K and have been having ongoing meetings with venture capitalists to explore potential investment opportunities. The AIPFSC site is in an Opportunity Zone, and they will leverage this to attract additional public, private, and individual investors.