EDB Committee

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MAUI FOOD HUB
FEASIBILITY STUDY [1]

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[1] Prepared by Linda Love, Kula, Maui; research and editing assistance by Mike Williams, Kula, Maui; November 2018.

EXECUTIVE SUMMARY

Background

Since European contact disrupted centuries of food self-sufficiency by the Polynesian natives, plantation agriculture, not family farms, has characterized these islands. As a result, the state lacks the agricultural infrastructure necessary to serve local small and medium sized farms. When surveyed, Hawai'ian farmers placed a high priority on the formation of a food hub to help them with processing and distributing produce.

Maui County has about 170,000 residents, and on the average day, about 65,000 visitors. Maui imports about 85% of its food from the mainland and other countries. Meanwhile, consumers increasingly demand local food and are willing to pay more for fresh local produce. At the same time, many residents on Maui are food insecure.

A food hub could address these issues of supply and demand. It would: (1) provide more fresh local produce to local consumers, particularly to low income residents, but also to the visitor market; and (2) help farmers and growers efficiently sell more produce.

Under the Hawai'i State Constitution, the state and counties have a duty to protect all natural resources including land and water, and to foster Hawai'ians producing food for themselves. Accordingly, local government should play a proactive role in fostering and protecting community-based food systems—as a public trust—and public funding should be used to help private efforts to support food hubs on Maui.

Findings

Nationally and in some parts of Hawai'i, food hubs are doing well. Based on the recent membership survey prepared by Hawai'i Farmers Union United (HFUU), there is good evidence that local farmers would welcome a nonprofit food hub and would participate. That survey also identified many challenges small and mid-sized farmers face in marketing and distributing their produce. As said by Saleh Azizi, the preparer of the HFUU Membership Survey, having a food hub on Maui is a "no-brainer."

A recent report funded by USDA SNAP through the Hawai'i Department of Health entitled "Hawai'i's Food System: Food for All" recommended that community based food systems such as food hubs should be considered a public trust under the Hawai'i Constitution, and that the state and and its political subdivisions are required to play a proactive role in fostering and protecting these systems.[2] The Hawai'i State Constitution, Article XI: Agricultural Lands, Section 3, states:

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[2] Hawai'i's Food System: Food for All, Meter and Goldenberg, July 21, 2017; p. 112; https://www.crcworks.org/hifood.pdfj.

> The State shall conserve and protect agricultural lands, promote diversified agriculture, increase agriculture self-sufficiency and assure the availability of agriculturally suitable lands.

Furthermore, this USDA report concluded:

> Our overarching recommendation is that community-based food systems should be considered part of the State's Public Trust, as outlined by the Hawai'i Constitution. In a state that wishes to regenerate a cultural heritage that revolves around food, land, and water, and where land, water, energy, and other natural resources are already within the Public Trust, it only makes sense to incorporate community-based food systems as well. Food systems are intimately linked with these Trust resources.[3]

A strategic plan was prepared in 2012 by the State of Hawai'i Office of Planning, Department of Business Economic Development & Tourism, and Department of Agriculture entitled "Increased Food Security and Food Self-Sufficiency Strategy." This report's recommendations include supporting multi-functional food hub facilities or food incubator facilities to handle aggregation, processing, treatment and distribution of the locally grown produce. To integrate agricultural infrastructure in regions with state agriculture lands, the strategy recommends identifying state lands to transfer to the Department of Agriculture, renovation and maintenance of agricultural irrigation systems, and the development of food distribution facilities, food hubs/food incubators. [4]

Normally, a feasibility study would include a survey of the farmers expected to participate in the food hub, including the volume of produce they expect to sell to the food hub. However, we do not have a survey of the farmers on Maui as a part of this study. Performing such a survey would be very difficult. Moreover, the survey results are likely not to be reliable. Informal surveys of local farmers found that farmers could not reliably estimate the amount of produce they could sell, when they could sell, or whether they would actually participate in a food hub when the time comes.

Accordingly, it seems that a pilot food hub project would be a low-risk way to determine the level of interest on the part of local farmers. And, a pilot project would also allow the food hub to grow incrementally. However, it may have to react to enthusiastic levels of supply and demand and be ready to ramp up quickly.

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[3] Id., p. 117.

[4] "Increased Food Security and Food Self-Sufficiency Strategy;" INCREASED_FOOD_SECURITY_AND_FOOD_SELF_SUFFICIENCY_STRATEGY.pdf; October 2012; pp. 25-30; http://files.hawaii.gov/dbedt/op/spb/.

Recommendations

First, a pilot project should be developed to assess the viability of a food hub facility in practice. The food hub policy committee should include representatives of HFUU, and members of the food hub should become members of HFUU and vice versa. Other such partners should be identified.

Second, the project should be nonprofit and dedicated to serve the interests of Maui farmers, local consumers, and low-income residents.

Third, the food hub should seek, and the state and county should provide, funds for some of the infrastructure of the food hub, such as land, buildings, refrigerated trucks and storage. The food hub will be an integral part of a local food economy and should be supported by public funding.

INTRODUCTION

Maui's potential for local food production and consumption is enormous and stands in stark contrast to the estimate that 85% of the food consumed on Maui is imported. Maui has plenty of land, water, and sunshine with which to produce food, but economics rules the day. On Maui, farm land, labor and energy are very expensive. Imported food is comparatively inexpensive.

Nevertheless, it seems likely that many farmers on Maui would sell more of their produce and value-added products if they had access to infrastructure for marketing and distribution. The demand for these local products, even when they are more expensive, appears to be strong.

Purpose of this Study

The purpose of this study to assess the capacity of Maui to support a local food hub, which is defined as a centrally located facility with a business management structure facilitating the aggregation, storage, processing, marketing, and distribution of locally produced food products. The siting of a food hub could provide the following systems: centralized facility for aggregation of products to be delivered to retail and institutional outlets; washing and packaging area; refrigeration; and intermediate refrigeration. The food hub would also need a refrigerated truck and a paid manager. Although the Maui Food Hub expects eventually to extend services to the Lahaina and Hana regions, the initial project will focus on the Central Maui, Haiku, and the upcountry regions.

Methodology

In drafting this feasibility study, we have reviewed: studies of Hawai'i's food systems, production, and consumption; and, USDA publications and other food hub feasibility

studies, including the Central Oregon Food Hub Feasibility Study.[5] Also, we relied on the USDA 2012 Census of Agriculture - County Data and the 2017 Hawaii State Agriculture Overview.[6] In particular, we found very helpful the information in the Hawaii Farmers Union United (HFUU) 2018 Membership Survey Report.[7]

Mahi Pono and Maui Food Hub

Now that Mahi Pono has acquired cropland from A & B, many on Maui are hoping that Mahi Pono will invest in agriculture infrastructure, including a food hub, which will benefit farmers on Maui. Such a project would include a permanent farmers market selling fresh and value-added products, a commercial kitchen, fresh produce processing area, farm to table dining, farm education programs, native Hawaiian agriculture projects, an office hub for farm businesses, agro-tourism opportunities, and more. The nonprofit Maui Food Hub could be a part of this project and be supported by the cooperative.

For reasons discussed in this report, the food hub portion of this project is the first step. It should be organized as a nonprofit inasmuch as food hubs simply do not make a profit. In addition, the farmers will be selling their produce to a food hub at wholesale prices, which is less than what they can sell retail at a farmers market. Farmers will be much more agreeable to the pricing of their products if they know the food hub is nonprofit. Furthermore, the members of the farm community and natural supporters, such as HFUU, will be much more supportive of a nonprofit food hub.

Timeframe and Next Steps

We plan to complete the draft of this feasibility study by the end of 2018, and to complete the final version by the spring 2019. By the summer 2019, we plan to form a policy committee and supportive framework for the food hub pilot project. Also, by then we intend to develop a business plan and begin raising funds.

When the business plan and funding are in place, the project can find a storage facility, refrigerated truck, and a manager to begin the aggregation, processing, marketing and distribution of the produce. Perhaps this can be accomplished by the end of 2019.

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[5] Central Oregon Food Hub Feasibility Study; http://www.ngfn.org/resources/ngfn-database/knowledge/central-oregon-food-hub-feasibility-study2.pdf.

[6] USDA 2012 Census of Agriculture—County Data and 2017 Hawaii State Agriculture Overview; https://www.agcensus.usda.gov/Publications/2012/Full_Report/Volume_1,_Chapter_1_State_Level/Hawaii/hiv1.pdf. (The latest census was done at year end 2017 but the first reports will not be released until Feb 2019).

[7] Hawaii Farmers Union United (HFUU) 2018 Membership Survey Report, available in pdf format: https://hfuuhi.org.

1. FOOD HUBS

Development of Food Hubs

The USDA defines a food hub as a centrally located facility with a business management structure facilitating the aggregation, storage, processing, distribution, and/or marketing of locally produced food products. The purpose is to increase small and mid-sized producers' access to market channels. The core components are aggregation, distribution, active coordination, and a permanent facility. Other components include wholesale/retail space, social service assistance, community kitchens, and a community meeting space. The benefits include expanded markets for local farmers, job creation, and increased access to local food for consumers.

According to a 2013 USDA report, over the preceding 10 years there had been a surge in demand for locally produced foods.[8] Consumer decisions to buy local or purchase items for specific product characteristics have proliferated into new marketing opportunities for farmers and ranchers. The USDA report predicted that consumers would continue to demand local fresh produce and described the large percentage of consumers concerned with healthy food and supporting local farmers.

A 2018 USDA report describes the deterioration of the "middle" food market as the U.S. market increasingly resembles two systems: the mainstream market controlled by national brands and globally focused corporations; and, an expanding alternate market of hyper-local direct food sales.[9] Food hubs have expanded quickly across the U.S. in the last ten years, more than doubling since 2009 to nearly 400 today. [10]

Opportunities and Benefits

According to the USDA, the benefits of a food hub are many, including expanded marketing opportunities for agricultural producers and value-added products. A study at the University of Vermont showed that aggregation of resources, such as materials, storage, and distribution, can decrease a farmer's overhead costs and increase

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[8] "The Role of Food Hubs in Local Food Marketing," USDA Rural Development, Service Report 73; January 2013; https://www.rd.usda.gov/files/sr73.pdf.

[9] "Put Your Own Mask on Before Helping Someone Else: The Capacity of Food Hubs to Build Equitable Food Access." Journal of Agriculture, Food Systems, and Community Development; Hoey, L., Shapiro, L., & Bielaczyc, N. (2018) 8(3), pp. 41-60. https://doi.org/10.5304/jafscd.2018.083.012.

[10] Id., p. 43.

profitability allowing farmers to "scale up" by combining products.[11] Furthermore, collaboration helps to reduce barriers to direct purchasing of products while preserving farm identity and traceability.

For a farmer looking to enter the market and increase farm profitability, a food hub would provide a space to aggregate products with other farmers, to use cold storage, and to cut, clean, and package vegetables/fruits before delivering them to restaurants, stores, and institutions. For a distributor, the food hub would provide one place to pick-up produce. For a food business owner, working with one point of contact about product deliveries, quantity and availability would increase efficiencies and provide direct feedback to producers. Other benefits include economic stimulus, decreased food miles and environmental impact, and increased access to affordable healthy food.

Ownership Structure

Food hub ownership models are highly variable and often depend on the initial investment from the community. For example, a strong producer cooperative may drive the type of ownership. Or, if the community lacks significant cohesion from producers or consumers, a nonprofit or a public entity may begin the process and determine the type of ownership: nonprofit, private/public, wholesale/retail, cooperative, and virtual.

Here are some ownership models currently used:

Private For-Profit Corporation: Sole proprietorships, partnerships, corporations including S-Corporations and Close Corporations, B-Corporations. Private corporations can more easily attract investors to fund the high start-up costs.

> Considerations: For-profit companies are ineligible for most grants, which generally help fund start-up costs, and are subject to high corporate tax rates.

Nonprofit Corporation: This type of corporation meets tax-exempt purposes under IRS Code 501 (c) (3) to benefit the public, a specific group, or the membership of the nonprofit.

> Considerations: Nonprofits are eligible for grants and loans connected to their beneficial purposes, and food hubs should be the natural objects of public funding.

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[11] "Increasing farm income and local food access: A case study of a collaborative aggregation, marketing and distribution strategy that links farmers to markets;" Journal of Agriculture, Food Systems, and Community Development; Schmidt, M., Kolodinsky, J., DeSisto, T., and Conte, F.; Spring-Summer 2011.

Public-Private Entity: Public entities are often interested in sustainable development of the economy and job creation. Intertwining this with the agriculture sector could provide start-up costs for infrastructure and economic development (including land, building, and equipment) through public ownership and oversight and management through a private company.

> Considerations: A local public entity must be invested in the local food system and the positive impacts of the food system on economic development. This type of relationship may be more likely to withstand price fluctuations and less than optimal profitability.

Entrepreneur/Consumer Cooperative: Cooperatives can be producer or consumer driven but are based on exclusive ownership by the members. The profits are distributed to the members based on their amount of usage. Hybrid cooperatives exist in which membership may include non-users. Cooperatives elect a board of directors and make major decisions through democratic voting. Funding structures can include: (1) direct contribution through membership fees or stock purchases, (2) agreements to withhold a portion of net earnings, and (3) assessments based on the units of products purchases or sold.

> Considerations: One of the advantages of a cooperative is that it is driven by the members, who can be agricultural producers. This model provides support from other members and more oversight with the project. Members create buy-in and a critical mass, but this may also limit the decision making processes such as marketing, operation, and financial decisions. Funding is a bit more difficult as cooperatives are not as easily able to generate capital to invest in infrastructure and are not typically eligible for federal and state grants. The collaborative process may be helpful or a hindrance, depending on the dynamics of the participants.

Business Risks

A food hub should focus on financial stability and buy-in from the community. The largest barrier and greatest risk for food buyers is engaging with producers to meet their need for consistent quantity and products, and meeting the demand and the price point for local producers and consumers. This is an inherent challenge with local food products and could be mitigated through aggregation and economies of scale. In a food hub study conducted for Southern Wisconsin,[12] the following strategies were suggested:

- Emphasize a strong relationship with growers
- Build a base of business with the highest end customers
- Provide financial gain for growers even if unprofitable at first

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[12] "Southern Wisconsin Food Hub Feasibility Study;" FamilyFarmed.org, Dane County UW Extension and WI DATCP; 2011.

— Establish a wide network of growers to meet the demands of the community
— Collaborate with other intermediaries and partners to strengthen the market
— Secure a management team with experience in marketing and sales
— Make it easy for customers to do business with the food hub

Services Provided

Core services: Depending on the model, core services include handling raw produce immediately after harvest, preparingit for delivery (washing, grading, sorting), combined with storage, packaging, sales, marketing, and distribution. Other options include fewer services. Distribution and transportation of food products may or may not be included depending on whether they are outsourced. Core services require a limited management or operating team. Key positions/tasks include:

— General manager oversees the operation and financial functions; bookkeeping included or outsourced
— Salesperson/buyer interacts with products, buying from producers, and selling to customers
— Warehouse manager oversees receiving, inspections, packaging, order processing, shipping and logistics

Ancillary services could include commercial kitchens, marketing aggregated products or private labels, waste programs including compost, and technical assistance.

Facility Location

The location of the facility depends on the proximity to supply, the size of the facility, the services offered, and ready access to customers.

Finance and Revenue Options

Grants and loans are the most likely funding sources for starting a food hub facility. The most difficult aspect of funding a food hub is the start-up costs. Working capital can be covered through grants for the first few years but will not be sustainable in the long-run.

Several revenue models generating income are possible. The food hub could charge the producer a flat fee for aggregation and packaging. Marketing and sales can be based on commission, or can be direct purchase. With a commission (ranging from 5-20%), the food hub does not buy the produce but facilitates the sale. With direct purchasing, the food hub buys the product and sells it to a customer, generating a profit margin of 18-20% or greater.

Typology of a Food Hub

According to the USDA, the archetypical food hub would be:

— Operating for five years with strong produce engagement and participation in both the establishment and operations of the food hub services and activities
— A socially driven business enterprise with a strong emphasis on "good prices" for producers and "good food" for consumers
— Employs six full-time or part-time staff and uses volunteers regularly
— Works with 40 regular food suppliers, many of whom are small and mid-sized farmers and ranchers

2. REPORTS ON FOOD SYSTEMS IN HAWAI'I: RECOMMENDED STRATEGIES

"Hawai'i's Food System: Food for All"

A report on Hawai'i's food system was prepared in 2017 by Meter and Goldenberg with funds provided by USDA SNAP education funds through the Hawai'i State Department of Health.[13] It focuses on food access by low income residents. The report concludes that community-based food systems (CBFS) must be put in place to ensure that all residents have proper access to healthy food. This includes low income residents, one-seventh of whom are food insecure and whom the commercial markets continues to fail. The report details low income Hawai'ians' food hunger and insecurity, cost of living, health and wellness, housing and homelessness, and use of SNAP.

This report's conclusions include the following:

— Agriculture in Hawai'i is vulnerable in that many of the state's farms report they are losing money, or earning a small margin. There needs to be policy discussions around food systems, not just about land and water. With a limited tradition of family farming, the state has little infrastructure supporting family farms;
— There is a strong market for local food on the islands;
— The infrastructure is lacking to connect family farms to consumers in ways that build community health, wealth, connection, and capacity,; and
— Small-scale models are just as important to constructing a resilient food system as fostering larger farms and businesses.[14]

Furthermore, the report *recommends that local governments support the formation of food hubs,* along with farmers markets and farm-to-school programs. And, the Hawai'i

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[13] "Hawai'i's Food System: Food for All." Meter and Goldenberg.

[14] Id., p. 110.

State Legislature passed Act 218 in 2015, which commits the state to purchasing local food for schools.

Moreover, the report recommends that CBFS should be considered a public trust:

> The State of Hawai'i has put excellent protections in place to safeguard natural resources as a public trust. The state Constitution requires the State to play an active role in protecting all natural resources including land, water, access to beaches and fishing areas, energy sources, Hawaiians producing food for their own relatives and neighbors, and much more.
>
> Since producing food requires access to land, water, and energy, food systems are intimately connected to public trust resources. Given one original meaning of the Hawaiian word for land — 'aina is "that which feeds us" — the natural resources used to feed the population of Hawai'i are held in trust for the state's people and should be used , in the words of the Constitution, "to increase agricultural self-sufficiency." This applies especially to lands owned by the State, yet the State also has trust responsibilities over any land that produces food for Hawai'i residents.
>
> Agricultural self-sufficiency is impossible unless social, commercial, and physical systems are in place to support farmers.
> Thus it would seem that the State of Hawai'i is required to play a proactive role in fostering and protecting *community-based food systems* as a public trust.[15]

The Hawai'i State Constitution, as amended in 1978, defines the State's public trust:

> Article XI: Conservation, Control and Development of Resources
> CONSERVATION AND DEVELOPMENT OF RESOURCES
> Section 1. For the benefit of present and future generation, *the State and its political subdivisions shall* conserve and protect Hawai'i's natural beauty and all natural resources, including land, water, air, minerals and energy sources, and shall *promote* the development and utilization of these resources in a manner consistent with their conservation and in furtherance of the *self-sufficiency of the State*. All public natural resources are held in trust by the State for the benefit o the people.
> AGRICULTURAL LANDS
> Section 3. *The State shall* conserve and protect agricultural lands, *promote diversified agriculture, increase agriculture self-sufficiency and assure the availability of agriculturally suitable lands.* (Emphasis added.)

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[15] Id., p. 112.

Finally, the "Hawai'i's Food System: Food for All" report stated:

> Our overarching recommendation is that community-based food systems should be considered part of the State's Public Trust, as outlined by the Hawai'i Constitution. In a state that wishes to regenerate a cultural heritage that revolves around food, land, and water, and where land, water, energy, and other natural resources are already within the Public Trust, it only makes sense to incorporate community-based food systems as well. Food systems are intimately linked with these Trust resources. [16]

"Increased Food Security and Food Self-Sufficiency Strategy"

This strategic plan was prepared in 2012 by the Office of Planning, Department of Business Economic Development & Tourism, and the Department of Agriculture, State of Hawai'i.[17] Its purpose is to increase the amount of locally grown food consumed by Hawai'i's residents, and it describes objectives, policies, and actions to that purpose.

Its recommendations include, "Support multi-functional food hub facilities or food incubator facilities to handle aggregation, processing, treatment and distribution" of the locally grown produce.[18] To integrate agricultural infrastructure in regions with state agriculture lands, the strategy recommends identifying state lands to transfer to the Department of Agriculture, renovation and maintenance of agricultural irrigation systems, and the development of food distribution facilities, food hubs/food incubators.[19]

The strategy report found the following:

> One area which has been cited as a significant challenge on the Neighbor Islands is the lack of distribution infrastructure for small farmers on the Neighbor Islands. Currently, most Neighbor Island small farmers have to take their own produce to grocery stores, negotiate sales, and/or spend mornings at farmers markets to sell food. This can be an insurmountable barrier in terms of time, willingness, and cost of fuel for distributions.[20]

Furthermore, the report noted that buyers cannot deal with dozens of individual suppliers. Therefore, improving "market channel infrastructure is important" and can take many forms:

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[16] Id., p. 117.

[17] "Increased Food Security and Food Self-Sufficiency Strategy."

[18] Id., pp. 27-30.

[19] Id., p. 25.

[20] Id., p. 26; citing Page, Christina, Lionel Bony and Laura Schewel. *The Island of Hawaii Whole System Project Phase 1 Report.* Rocky Mountain Institute, March 2017, p. 46-48.

—distribution services: collects, aggregates, delivers to large end-users
—cold storage facility
—CSA channels
—larger-scale direct produce delivery service
—development of existing farmers markets: available to more people, more days
—clearinghouse/information exchange
—negotiation with grocery stores to make shelf space for local produce more affordable [21]

The reported determined that an important strategy to accomplish many of these objectives is to provide support to multi-functional food hub facilities or good incubator facilities.[22]

3. PROFILE OF MAUI

Demographics

In 2018, Maui County had about 170,000 residents. The U.S. Census Bureau estimated there were 166,500 people living in the county at the end of 2017, with a growth rate of 2.6%. [23] On the average day, about 65,000 more people visit Maui,[24] for a total of 235,000 people to feed every day.

Agriculture: Farm Production

The 2012 USDA Census of Agriculture reports that Maui had 1128 farms totaling 229,000 acres. The average farm size was 203 acres. But the median farm size was five acres—half of the farms on Maui are smaller than five acres. There were:

—711 farms sized 1-9 acres,
—293 farms sized 10-49 acres, and
—125 farms sized greater than 50 acres.[25]

These acreage numbers will be much smaller in the 2017 Census because the sugar cane "farms" in the 2012 Census stopped operating in 2016.

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[21] Id.

[22] Id., p. 27.

[23] NEED CITE!

[24] http://dbedt.hawaii.gov/visitor/ni-stats/

[25] USDA Census of Agriculture 2012; https://www.agcensus.usda.gov/Publications/2012/Full_Report; County Data, 208-209 Hawaii.

In 2012, 852 farms were growing crops on Maui. The number of vegetable farmers in 2012 (including white, red, and sweet potato) was 266, with over 1800 acres in production. Orchards numbered 481, with 2264 acres in production.

The Hawaii Farmers Union United (HFUU) 2018 Membership Survey Report gathered its data in 2017. (See full discussion below; report attached as App. A.) HFUU had 1359 members then, with 17% affiliated with the Maui Mauna Kahalawai Chapter (meets in Waikapu) and 32% affiliated with the Maui Haleakala Chapter (meets in Ha'iku/Makawao). Forty-nine percent of HFUU members belong to one of these two Maui chapters, about 666 members, which includes Central Maui, Haiku, and upcountry. Another 2% belong to the Lahaina Chapter and 9% belong to the Hana Chapter. Therefore, 60% of HFUU members, about 815, reside on Maui.

4. HAWAI'I'S FOOD SYSTEM

Food Consumption

Most analysts agree that Hawai'i currently imports 85% or more of its food from the US mainland and other countries.[26] Some analyses focus specifically on imports and local production of fresh fruits and vegetables.[27] Hawai'i is more self-sufficient in food production than most states. Nationwide, the typical state imports about 90% of its food. However, food costs in Hawai'i are 61% higher than the rest of the U.S.[28]

Low Income Residents' Access to Healthy Food

Hawai'i workers have the lowest average income in the U.S., so the high cost of food weighs heavily on the low income residents. Fourteen percent of state residents are food insecure, meaning they do not necessarily know where or when their next meal may be. In addition, the costs of health related issues related to food are shared by all residents. For example, diabetes costs the people in Hawai'i $1.1 billion per year.[29]

The Maui Food Bank distributes more than $1 million of food annually through 120 agencies on Maui, Molokai, and Lana'i.

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[26] "Economic Impacts of Increasing Hawai'i's Food Self-Sufficiency;" Leung, PingSun and Matthew Loke; *Economic Issues.* EI-16. College of Tropical Agriculture and Human Resources, University of Hawai'i, December 2008; p. 2.

[27] "Food Security in Hawai'i;" Kent, George; http://www2.hawaii.edu/~kent/FOODSECURITYINHAWAII.pdf, citing: Lee and Bittenbender 2007; Southichack 2007.

[28] Id., page 3.

[29] Id.

Existing Infrastructure

As a result of the state's history of plantation agriculture, the state lacks an extensive history of family farming. Accordingly, there is a shortage of storage, distribution, and marketing facilities geared to internal food trade.[30]

Food Production in Hawai'i: Supply and Demand [31]

In 2012, 58.4% of the farms in Hawai'i had annual sales of under $10,000. The net farm income was estimated at $329,964 (USDA 2014), which means the 7,000 farms had an average income of $47,138. The income levels for small farms were much lower than this average (Gomes 2011; USDA 2014). Much of the farm revenue is for nonfood products such as seeds and ornamentals for export.

Hawai'i's farm revenue attributable to food consumed within the state is about $400 million per year. Hawaii's total food imports are roughly $2 billion per year. On this basis, in terms of monetary value, Hawai'i farms produce 20% of the state's food supply. Probably about 80% of the imports are from the US mainland. A substantial portion of the food produced and consumed in Hawai'i goes to military families and tourists.

Barriers and Opportunities to Growing and Buying Locally

The erosion of regional food systems and the continued loss of midsize farms across the country, especially since the 1980's, has been widely documented.[32] Technological innovation in production methods and vertical integration of the food industry played major roles in shifting production to larger farms. But, many other complex processes are implicated as well, including agriculture policy and trade, farmer debt, commodity price fluctuations, shifting demographics, localized economies, and more. [33]

Today, midscale agricultural producers are both too large to operate in direct markets and too small to compete in the commodity market. At the same time, other changes in the food system have created new business opportunities for small and midsize producers. Consumer demand has been shifting to include other values beyond price, such as locality and transparency in reaction to health, environmental, and social concerns associated with the food system.[34]

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[30] Id., page 14.

[31] Id., p. 32.

[32] "Put Your Own Mask on Before Helping Someone Else: The Capacity of Food Hubs to Build Equitable Food Access;" p. 42.

[33] Id.

[34] Id., page 43.

Hawai'i enjoys exceptional climate conditions for growing food year-round. Traditional farming once supported a population similar in size to the current count of 1.4 million people. [35] The end of the plantation era in Hawai'i may provide opportunities for diversified agriculture in the state.

As for opportunities on Maui, in 2016 Alexander & Baldwin ceased sugar production on 36,000 acres of land. Now, its officials are formulating plans for converting the use of this land to smaller-scale farms.[36] The company lists the following priorities: energy crop research, raising grass-finished livestock, food and orchard crops. Company spokesman Jerrod Schreck said, "Our vision for diversified ag is to create a patchwork of smaller farms supporting a variety of crops by farming some of the land on our own, partnering with others, and leasing land to other farmers." [37] Maui County this year bought 260 acres of former sugar cane land from A&B to expand its Kula Ag Park, because of the demand for low cost agricultural land by Maui farmers. A&B is testing production of different pasture grasses on approximately 4,000 acres, primarily for beef production.

Schreck also stated that the firm believes the best and highest use of the land is agriculture and that they "stand ready to support the establishment of viable agriculture operations, recognizing that this requires a successful system from farmer to consumer."[38] A&B general manager, Rick Volner, broadened this statement at the 2017 Maui Energy Conference: "Food and energy. It's always been made out that there's competition because there's a finite amount of farmland. If you design agriculture systems correctly, they'll actually complement each other."[39]

Furthermore, Hawaii local food has a competitive edge even in a marketplace that efficiently ships fresh food items daily from the mainland, Mexico, and Chile. Local food enjoys the strength of consumer loyalty that farmers have built with buyers. The imported produce sells for a lower retail price. Nevertheless, Maui farmers can ask their consumers to pay a slightly higher price for food items that are likely fresher and from a known source. A 2011 study showed that Hawai'i residents are willing to pay more for

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[35] Hawai'i's Food System: Food for All; p. 14.

[36] Id., p. 108.

[37] Id.

[38] Id., p. 109.

[39] Id.

locally grown produce but that they have difficulty in identifying such products in the market.[40]

5. Economic Impact of Increasing Local Consumption of Local Food

In addition, the "Increased Food Security and Food Self-Sufficiency Strategy" report analyzed the economic impact of increasing local consumption of local food, thereby replacing imported food, and found the impact significant:

> Food expenditures of local consumers in 2004-2005 amounted to $3.7 billion. Assuming that 85% of the food we consume is imported, this translates to $3.1 billion leaving our state. Replacing just 10% of the food we currently import would amount to approximately $313 million. Assuming a 30% farm share, $94 million would be realized at the farm-gate, which would generate an economy-wide impact of an additional $188 million in sales, $47 million in earning, $6 million in state tax revenues, and more than 2,300 jobs. [41]

6. HFUU 2018 MEMBERHIP REPORT [42]

HFUU Background and 2018 Survey

Hawaii Farmers Union United (HFUU) is a statewide organization formed in 2010 as a nonprofit corporation. In 2017, HFUU became a Chartered State Division of the National Farmers Union (NFU). HFUU advocates for the sovereign right of farmers to create and sustain vibrant and prosperous agricultural communities for the benefit of all Hawai'i through cooperation, education, and legislation.

The HFUU 2018 Membership Survey Report is based on a survey of its membership in 2017. The purpose of the membership survey was to increase HFUU's understanding of its members' values, needs, challenges, and priorities. Although most of the data is statewide, much of it can be extrapolated to understand Maui's food picture.

HFUU Membership and Maui's Members

At the time of the survey, HFUU had 1359 members. As discussed above, 60% of HFUU members, about 815, reside on Maui.

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[40] "Increased Food Security and Food Self-Sufficiency Strategy;" p. 18, citing Omnitrack Group. *Local Food Market Demand Study of Oahu Shoppers*, December 2011. The strategy recommends expanding the statewide "Buy Local/It Matters" campaign, expanding/improving the branding and labeling program to identify local food and farmers, and supporting campaigns to publicize farmers markets.

[41] Id., p. 2, citing Leung, PingSun and Matthew Loke, December 2008, p. 6.

[42] Report is available in pdf format: https://hfuuhi.org.

The HFUU report concluded that 79% to 95% of its members farm/grow food. That suggests, therefore, that 526 to 632 members of the two largest Maui HFUU chapters farm/grow food. Considering that the total number of Maui farms harvesting cropland in 2012 was 852 farms, and that 800 Maui farmers are HFUU members, the HFUU membership survey is relevant and helpful for purposes of this study.

Operational Characteristics, Membership Demographics, Marketing, and Sales

When asked whether they farm/grow food, 87% of responding HFUU members answered yes, which equates statistically to 79% to 95% of members who farm/grow food. But, only 41% (statistically 28-54%) own a registered farm operation. The report cites 2015 USDA data that roughly 3500 Hawaiian farmers participated in local food sales through CSAs, farmers markets, farm direct sales, stores, restaurants, and other institutions. HFUU members are also involved in two or more overlapping functions including: food production, organic focus; agri-tourism and farm tours; farmer education and training; food processing, marketing, and distribution; and restaurant and hotel operations.

The survey also asked members whether they have been farming for longer than ten years. Thirty-six percent said yes, so the report concluded that between 27-45% of members are beginner farmers, that is, they have been farming less than 10 years. Comparatively, 22% of all farmers in the United States are beginner farmers.

When asked where they grow food, the members responded:

My yard	32%
Someone else's farm	8%
My own farm, I own	32%
Friend/family land	8%
Other	20%

On average, members farm a little less than four acres. About one-third (statistically 26-44%) of HFUU members hire laborers and they hire an average of three people. Demographically, 12–32% of members are 40 years or younger and 14–34% of members are 70 years or older. Further, females outnumber males by a few percentage points. The majority of HFUU members are Caucasians, the second largest group are Asians, followed by Native Hawaiians.

The survey questioned members about marketing and sales and concluded:

Members who gross more than $30,000 per year	21—39%
Members who gross less than $30,000 per year	41—59%
Members who make less than 30% of income from farm	58—75%
Members who make 30—80% of income from farm	6__ 24%
Members who make 80% to all income from farm	9—24%

Furthermore, the survey asked about annual revenue from selling produce or other food related products. The report concluded that between 17% and 45% of members average $89,465 in annual revenue and contribute between $20 million and $54 million in local food sale annually. The USDA 2016 report on Local Food Sales in Hawai'i estimated local food sales in 2015 at $84.4 million, of which $22.8 million was direct to consumer sales and $61.6 million was to supermarkets, restaurants, institutions and wholesalers.

In addition, the HFUU membership survey determined where members make the most sales of their produce and food products:

Farmers Markets	21%
Stores (retail, grocery, natural foods)	21%
Other (Farm 2 School, etc)	14%
Friends and family	12%
Restaurants	7%
Internet/social media	7%
Farm hub/distributor	6%
Contract farming	6%
On farm/farm stands	6%

Members sell: vegetables, greens, herbs, flowers, fruits, meat, milk, dairy, eggs and value-added products, and education and training services. The product or produce which makes them the most money are mangoes, citrus, coffee, eggs, chicks, and microgreens. The product/produce that makes members the second most money are greens, vegetables, herbs, trout, value-added products, sauerkraut, kimchee, and more from the first group.

The survey also asked members to characterize their farm, and received these responses (raw data):

Permaculture	12%
Food Forest	12%
Conventional	8%
Organic	47%
Other	21%
(non-certified organic, orchard, and regenerative)	

From this data and other acreage data, the survey concluded that between 30% and 64% of HFUU members grow organic food, but they could not determine how many operations were certified organic.

Membership Point of View

The members were asked to explain their most important priority as farmers. Then the survey organized the comments into themes, Eight Focus Areas, along with the percentage of the membership that indicated the item was their first priority. The survey concluded that the three most important themes are statistically significant in that comments from those themes are prevalent enough that they represent the wider HFUU membership. The other priority areas reflect concerns of the survey respondents, but there were not enough responses to conclude they reflect the wider HFUU membership.

The most important concerns reflected in the survey are:

1. Living on Farms Focus (raw data: 24%). The report concluded that 13% to 35% of HFUU members feel that increasing farm workers' ability to live on farms is the single most important issue. Comments related to state and county zoning and codes, farm dwelling, labor retention problems, and the high cost of housing.
2. Food Hub and Marketing Focus (raw data: 15%). *The report concluded that 4% to 26% of HFUU members prioritize food hubs and marketing.* Comments related to the need for a marketing hub to help farmers with processing and distributing produce, certified kitchens to help with value-added products, and help with food safety certifications. Members asked that HFUU help with organizing a food hub.
3. Political and Legislative Focus (raw data: 13%). The report concluded that 2% to 24% of HFUU members prioritize political and legislative issues.

Membership Challenges

Next, the survey inquired whether the member needed help with marketing/advertising. The responses were Yes 24%, No 39 %, and N/A 37%. The report concluded that marketing assistance does not apply for 28% to 46% of HFUU membership, and that 30% to 48% of members do not need assistance with marketing perhaps because they have already addressed their own needs. *Most usefully, the report concluded that 15% to 33% of HFUU members would like marketing assistance.* If we assume there are 666 HFUU members in the two largest Maui chapters, then about 100 to 220 HFUU members on Maui would like marketing assistance.

The last survey areas (for purposes of this study) questioned the members, do you need more of any of the following to help sell a food/food product? These top five responses were:

Labor help	27%
More time	27%
Equipment/harvesting	17%
Transportation	8%
Marketing	7%

The report concluded that members feel their biggest challenges are labor and time, and that 19% to 35% of members (258-476 members) need more labor and more time in order to help sell a product. Then, the survey asked the members for their most pressing needs related to this question. Among the top needs:

> Labor—skilled, part-time, marketing, weeding, living on-farm
> Transportation—truck, refrigeration
> Production—equipment, tractor, wash station, certified kitchen, value-added

Conclusion

Clearly, the HFUU membership survey indicates that many Maui farmers could use assistance from a food hub to help them sell their products. If 258–476 HFUU members need assistance meeting the labor and time challenges, perhaps 125-235 Maui farmers could use this help. Confirming this number, about 100 to 220 HFUU members on Maui would like marketing assistance. As said by Saleh Azizi, the preparer of the HFUU Membership Survey, having a food hub on Maui is a "no-brainer."

7. FOOD HUBS ON HAWAIIAN ISLAND NEIGHBORS

Big Island

FoodHubKohala.org was designed as an online "food hub" for North Kohala to organize resources and publicize events. The website is the home of and maintained by the North Kohala Food Forum, the umbrella organization for the North Kohala Eat Locally Grown Campaign and Community Harvest Hawai'i initiatives. The North Kahala community has a goal to produce 50% of the food it consumes by 2018. The website states:

> The farmers, schools, businesses, non-profits and residents of North Kohala are working together to build demand and increase access to locally grown food. Together we are developing a local, sustainable food system that will benefit the people of North Kohala. [43]

Adaptations Inc. sells produce under a Community Supported Agriculture (CSA) model, in which members pay in advance for the food they will receive. Adaptations offers its members a weekly "Fresh Feast" of certified organic produce grown on its two farms, one in Honaunau and the other in Captain Cook. They also source island grown crops from over 100 other growers on the Big Island. Their website states:

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[43] foodhubkohala.org/home/

> In fact, if you have extra fruit or veggies in your garden, consider selling to us so we can share your food with other CSA members. We can pay you by check or add the value to your Fresh Feast account balance. [44]

Oahu

Kahumana Farm in Wai'anae is the heart of a nonprofit community serving homeless families, people with disabilities, and youth.[45] It offers learning and vocational training through farming, transitional housing, and many other social services. Its programs are supported in part by selling its produce through a CSA program and to other buyers.

In 2017, Kahumana launched a USDA-supported food hub program. The farm's food hub buys fruits and vegetables from backyard growers and small farmers who may not have the capacity to market, deliver, process or expand their business. The hub already has about 30 members, averaging 8,000 to 10,000 pounds of produce a month. In May 2017 alone, Kahumana received more than 20,000 pounds of mangoes from local families and small farmers in the area.[46] "We're trying to empower farmers," farm manager Christian Zuckerman explains, "so there's more food grown locally, less food wasted and just more food in the system."

Saleh Azizi [47] manages the Kahumana Farm food hub and he described the structure and operation as follows:

> Kahumana Organic Farm has been growing vegetables and fruit since the 1970's as a part of a nonprofit center. The farm sells its produce to many restaurants and grocery stores. Accordingly, the farm already had much infrastructure in place to serve a food hub such as process facilities, storage, refrigeration, transportation, and buyers of their produce.
>
> Farmers who wish to sell their produce to the Kahumana Food Hub become members for a fee of $75, of which $50 is used to purchase the farmer an HFUU membership. The members can pay their membership from future sales of produce if the farmer cannot afford the fee up front.

Azizi discussed how the Kahumana Farm Food Hub dealt with some challenges. One, the farmer might be accustomed to retail prices they can fetch at the farmers market,

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[44] www.adaptationsaloha.com/fresh-feast-csa/our-csa.

[45] www.kahumana.org/organic-farm

[46] "Kahumana Organic Farm in Waianae;" http://www.honolulumagazine.com/Honolulu-Magazine/Biting-Commentary/October-2017/Farm-Friday-Kahumana-Organic-Farm-in-Waianae/#.W_hDwS-ZPow

[47] Azizi also is the HFUU Policy Committee Chair and preparer of the HFUU 2018 Membership Survey Report.

but the food hub must pay less. The farmers need to understand that the food hub has expenses including a truck, storage, fuel, etc. Two, to build trust and motivation, the food hub should pay the farmers in cash. This is very important to the success of the food hub. Third, a membership model and direct contact with the farmer is crucial to counter the problem of theft. If someone brings a load of produce to the food hub, the manager must be able to contact that farm to confirm that the farmer intended to sell that produce. Small farmers have indicated that agricultural theft is becoming an increasing problem in Hawai'i and Azizi suggests that, "food hubs can advocate for farmers security by working proactively with a community informed mechanism to report theft."

Other Food Hubs on Oahu:

> Oahu Fresh Food Hub in Honolulu connects households, offices, restaurants, hotels, grocery stores, and schools with locally grown produce. [48]
>
> Holoholo Food Hub is in Haleiwa on the north side of Oahu. It markets and distributes produce from local farmers to schools, restaurants and retailers.[49]
>
> Roots Food Hub serves Kalihi, near Honolulu, and it partners with local farms and small businesses to provide cultural foods such as cassava, breadfruit, kalo, and banana. [50]

Kaua'i

The Island of Kaua'i does not have a food hub for the benefit of its farmers and consumers. The County of Kaua'i was interested in knowing more about food hubs and hired a consulting firm, Claggett Wolfe Associates of Auburn, California, to perform a feasibility study. The survey of farmers, wholesalers, and end buyers was conducted in 2013 and 2014 and the study was released in June 2014. [51]

The study concluded that "there is simply not enough interest, need and/or volume at this time to support the idea of a centralized food hub on Kaua'i." [52] However, the description of the food hub as proposed to the surveyed farmers was hardly an inviting proposition:

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[48] oahufresh.com

[49] holoholostore.com/holoholo-farm/holoholo-food-hub/

[50] rootskalihi.com/overview-roots-kkv.

[51] NEED CITE!!

[52] Id., p. 1.

> [Food hubs] are built to meet the needs of growers who are willing to pay for the facility . . . . A food hub is a "shared" facility — where members make up the operating rules, contribute to operating costs out of revenues, and support a project manager who runs the program. [53]

On follow up questions, farmers expressed concern about how much it would cost to use the food hub. This description of a food hub and a model that requires farmers to agree to some unknown fees and costs starkly contrasts with the food hubs described in countless USDA publications and studies. No wonder the farmers were not very interested.

Furthermore, the study opted to survey only commercial farmers who already had established channels of distribution such as: farmers markets; direct sales to retailers, restaurants, and wholesalers; and CSAs. No farm selling less than $5000 per year was interviewed for the study. [54] There could be a significant number of farmers who were not surveyed or considered, although such information cannot be determined from this study.

The study concluded that, "Few farms in this study report having excess produce, and while some do, it is unclear about the volume and condition of the unsold produce." [55] As the report states, this is a critical data point for the question a food hub. However, this is the data: "15 out of 22 respondents say they sell 100% of their (salable) crop (about) 100% of the time. Seven others reported selling, on average, over 70% of their crops." [56] Seven out of 22 is almost one-third of the farmers who have unsold produce.

One-third of farmers is not "few farmers" and the amount of excess produce, being unknown, could be significant. These farmers might have enough excess produce that they would gladly join a food hub for $75 and receive cash for their produce, whatever the amount. They might also find the food hub more attractive if it was not described as a project where the members have to make up the operating rules and cover all the costs. A nonprofit food hub supported with public funds and private donations is much more attractive to the many farmers who simply cannot add much in costs to their farming operation.

Kaua'i's farmers indicated that they wanted help with processing and distribution of their produce, but they also wanted facilities located close to their farms. Kaua'i has fewer residents and visitors than Maui, and they are geographically spread out, perhaps making it difficult for one food hub to work on that island.

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[53] Id., p. 7.

[54] Id., p. 5.

[55] Id. p. 6.

[56] Id.

8. CENTRAL OREGON FOOD HUB FEASIBILITY STUDY

Introduction

The Central Oregon Food Hub Feasibility Study[57] is well-prepared and contains much helpful information about food hubs generally. Furthermore, Central Oregon has issues similar to those we have on Maui, such as a large geographic area, need for infrastructure, and small farms. The study's assessments and conclusions seem relevant to the proposed Maui Food Hub.

Case Studies

The Central Oregon Food Hub Feasibility Study assessed six different case studies of food hubs throughout the US that have different ownership models.[58] The study assessed cases involving similar issues as those of Central Oregon such as a large geographic area, need for infrastructure, and small farms.

Following are the cases studied:

1. Food Hub, Portland, OR: Nonprofit (virtual) serves Oregon and Pacific NW

2. Local Food Hub, Charlottesville, VA: Nonprofit (wholesale) works with small farmers within 100 miles of the city; focuses on distribution, supply and access within a value chain model (enables producers and buyers to discuss planning and pricing

3. Farm Fresh Connection, Portland ME: LLC works with mostly small farmers around Portland; relies on sales to fund program, runs the business out of a farm barn, has one full-time employee and one truck driver

4. Okanogan Producers Marketing Association, Okanogan, WA: Producer Cooperative in the Okanogan Valley; group of six farmers aggregates their products and delivers to main buyers in Puget Sound area; farmers market collectively but keep individual farm's identity

5. Western Montana Growers Cooperative, Arlee, MT: Producer Cooperative was initiated through a Community Food System grant; from this project the

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[57] "Central Oregon Food Hub Feasibility Study;" http://www.ngfn.org/resources/ngfn-database/knowledge/central-oregon-food-hub-feasibility-study2.pdf

[58] Id., see pages 46-56.

cooperative food hub was formed with farmers from the Flathead and Bitterroot Valleys, a large geographic area providing marketing and delivery services

6. Immokalee State Farmers' Market, FL: Public (the only known publicly owned food hub that provides aggregation and processing facilities; the State of Florida runs the farmers markets and provides a physical hub for local food throughout the state).

Central Oregon Study's Conclusion

Based on assessing these case studies, the Central Oregon study concluded that overall, food hubs provide economic and social benefits to communities. Food hub members get services and employment opportunities that are otherwise limited or unavailable. Research shows that a main challenge with initiating a good hub is the financial component, but also the reliance on community investment and commitment. Recurring challenges were: demand exceeding supply, and buyer confidence that the volume and quality standards can meet their expectations. Although each case study was different, each food hub provides greater access to markets for producers and their products. The mission and goals are similar: to provide a dynamic marketplace, to strengthen the future of a healthy food supply, and to assist farmers.

The Central Oregon study found that a 2,500 square foot facility located in Redmond or Bend could serve 500 farm acres. Minimum services would include aggregation and minimal processing (washing, packaging), storage (cold and freezer), distribution, and marketing with at least one full-time employee with online management of wholesale services. To cover the costs of the project, membership costs and/or fee for services as well as grants or loans to assist with start-up costs. The hub will build on existing food businesses and marketing programs, and the likely ownership model would be a public/ private partnership with shared values and risk.

Central Oregon: Next Steps and Strategies

The Central Oregon study concluded that the evidence presented in its study demonstrated that a food hub facility developed and located in Central Oregon would be viable under certain conditions that include:

—Combined public and private support of a facility will provide social and economic benefits beyond the producer/consumer interactions (access to healthy food, opportunities for micro-enterprise, job creation, import substitution, preserve agriculture lifestyle)
—Capitalizing on farms and ranches ranging from $25,000 to $250,000 in annual sales could provide the volume of product necessary to meet demand; farmers benefit from commercial kitchen, processing facility, storage, distribution, transportation
—Increase access to healthy food with regular pick up and distribution of the product with adequate storage

—Meet consumer demand by facilitating partnerships between and among retail and institutional buyers
—The structure of the food hub with public and private support will maximize efficiency, pool resources, and leverage existing relationships; risk is minimized through an incremental approach. *To this end, a pilot project should be developed to assess the viability of a food hub facility in practice.*
—The following strategies were presented for the step-by-step framework to develop a regional food hub:

1. Develop a Policy Committee and Supportive Framework
2. Develop a Leadership Role, Enable Community Buy-in
3. Secure Financial Resources
4. Implement a Pilot Project
5. Support Balancing Supply and Demand

9. ASSESSING FINANCIAL VIABILITY OF A FOOD HUB

Wholesale Operational Periods

In March 2016 the USDA issued Volume 3, "Assessing Financial Viability," part of its multi-volume, technical report series, *"Running a Food Hub."*[59] It analyzed two common food hub operational models, Wholesale and Direct-to-Consumer, operating in three key operational periods: breakeven, growth, and viability. The analysis uses a prototypical approach and provides points of comparison. Therefore, it is not intended to represent any specific food hub. Rather, the expenses and income for the food hub in the viability analysis are based on an amalgamation of several food hub examples. Furthermore, the analysis *does not include any grant funds or donations*. The capital needs of the food hub in the report is described in terms of financing with long-term and short-term loans. Nevertheless, this analysis is helpful, even if a food hub is planning to obtain much of its start-up capital from grants and donations.

The Wholesale operation described in the report is similar to the proposed Maui food hub. It is more focused on retailers as the main customer base, with a variety of target markets such as local restaurants, grocery stores, and institutions. The report described three important financial milestones in the life of a successful food hub:

—Attaining the Breakeven point represents a milestone for a food hub. Before then, the food hub loses money on every unit sold. Achieving breakeven indicates that the food hub is a workable business and is able to satisfy the needs of its customers.

—Reaching the Growth level means that not only are operational costs covered, the entity is generating enough income to cover additional expenses. The growth operational period represents a tipping point. Next to the start-up period, the

[59] https://www.rd.usda.gov/files/publications/SR%2077%20FoodHubs%20Vol3.pdf

growth period is often the most dangerous crossroads for the food hub. If not properly financially managed, it can slide back and lose progress.

—The Viability level represents the food hub's ability to be sustainable in the long term. The hub will be able to fund possible expansion or additional projects. For the report's financial models, viability is defined as the point at which the food hub retains about 5.5% of sales revenue as operating profits over a year. If it is a nonprofit entity, it may begin to expand its involvement in community activities or to internally fund activities previously funded by grants and donations. [60]

Annual Sales by Business Operational Periods; Pricing; Payments to Farmers

The USDA report concluded that to reach a breakeven level of operation, the typical food hub would require annual sales of around $1.2 million. During the time between breakeven and heading toward financial viability, the venture would need to generate around $1.75 million per year. With about $2.4 million in annual sales, the food hub would earn sufficient revenue to provide long-term viability. [61]

Fresh produce is the largest income producer for a food hub. A wholesale operation should expect to work with buyers who wish to pay on account with monthly statements or invoices, with a lag-time in payment. Other customers will wish to use credit cards, with a 2% fee. Farmers and producers will require (desire?) payment that covers the cost of production plus a profit. The wholesale hub will provide a 70/30 split, with 70% of sales collected from customers being returned to the farmers and 30% being retained by the food hub. These funds cover the costs of operating the business. [62]

Pro Forma Financial Statement [63]

The USDA report presented a *pro forma* financial forecast for a wholesale food hub:

Table 6	Breakeven	Growth	Viability
Revenue	$1,210,000	$1,750,000	$2,400,000
Total variable operating costs	(950,252)	(1,351,977)	(1,857,308)
Variable Margin	259,748	398,023	542,692
Total equipment costs	(34,377)	(38,649)	(44,693)

[60] Id., pp. 10-11.

[61] Id., p. 13.

[62] Id., p. 15.

[63] Id., p. 27.

Total facilities costs	(43,280)	(44,578)	(45,916)
Total selling and marketing costs	(5,000)	(5,150)	(5,305)
General and admin expenses	(128,263)	(172,425)	(218,175)
Unforeseen and contingency expenses	(48,400)	(70,000)	(96,000)
Wholesale Baseline Earnings	$429	$67,220	$132,604

The report calculated the expected cost of the food hub's facility to be around $22,000 annually for the leasing space, plus costs of facility operations and delivery. The food hub will need to purchase or lease refrigerated trucks ($45,000, financed; or leased), pay for repair and maintenance of the truck ($2500 budgeted), fuel costs (estimated at $300-$700 per month), and driver wages ($22,000 budgeted). [64]

In addition, the food hub employs a general manager who is responsible for organizing, overseeing, and directing all food hub operations, as well as coordinating the supply of products for orders that have been placed. The report budgeted this position as part-time to start for an annual salary of $35,750, going up to full-time for $55,000 annually. Other labor costs were included in the *pro forma:* a sales manager earning $50,000 when eventually full-time, and a production manager earning $40,000, eventually full-time. [65]

Equity and Financing

Finally, the USDA report's financial analysis includes long-term and short term loans, which can be replaced by grants and donations for purposes of a nonprofit wholesale operation. The analysis includes an initial start-up loan of $150,000. Additional equipment purchases, including two refrigerated trucks, will require another loan of $75,000. In addition, the USDA prototypical food hub would need to obtain a line of credit of $89,000, a second short-term loan of $15,000, and final line of credit of $80,000. In addition, this food hub model would require about $100,000 in owner equity to cover cash flows and allow for adequate amounts of cash on hand. It is assumed that equity would be provided by the owners, although it could originate from various source such as grants and donations. [66]

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[64] Id., pp. 17-20.

[65] Id., pp. 20-23.

[66] Id., p. 25.

10. FEASIBILITY OF A FOOD HUB ON MAUI

Determining Components of a Feasibility Study

The USDA published "Vital Steps: A Cooperative Feasibility Study Guide"[67] in 2010 and revised it in 2016. It states that a comprehensive feasibility study will contain all of the ingredients necessary for the steering committee to make a sound decision as to whether to proceed with a project. Although studies vary, all reports must contain enough elements to present a comprehensive view of the project. While some specific project details may be undecided, such as plant location or who will manage, a report must contain enough information and analyses to determine a project's potential for success or failure.

Questions that should be answered by the feasibility study are:

1. Why is the proposed food hub needed (as determined by its potential members)?
   - —Define the assumed products and services to be handled and provided
   - —Explain the food hub's comparative advantage
   - —Describe the proposed food hub's benefit to members

2. What is the potential membership base and volume of product for the project?
   - —This data is generally gathered via a survey of potential members
   - —Define the level of potential support from producers, approximate number and size, potential volume of products, potential for future expansion

3. How well will the cooperative fit into the market?
   - —Define projected prices, volume of sale, size of the market
   - —Determine potential strategic alliances

4. What are the financial and organizational needs for the project?
   - —Capital needs and sources of capital
   - —Financing needed, lenders
   - —Legal requirements, articles of incorporation, agreements, permits, inspections
   - —Facilities and equipment needed, whether purchased, built, or leased; cost
   - —Management requirements and skills

Addressing the Components of a Feasibility Study on Maui

Generally speaking, as reflected in the HFUU membership survey, a food hub is seriously needed by small farmers to help them sell more produce. Somewhere between 100 and 200 Maui farmers indicated that having a food hub to help market and distribute their product was a priority for them. Furthermore, the demand for fresh local produce is obvious to anyone who visits a restaurant, grocery store, or farmers market. Maui's consumers demand fresh local fruits and vegetables.

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[67] https://www.rd.usda.gov/files/publications/SR58_CoopFeasibilityStudyGuide.pdf

Unfortunately, the detail of data that the USDA recommends be in a feasibility study is extremely difficult to obtain, particularly determining the potential number of farmers who would participate and the potential volume of product. This writer has discussed the food hub concept with several people connected with HFUU and Maui's farming community. Based upon many conversations, I decided that even *if* a comprehensive survey of Maui farmers could be performed (and that is a big *if*), the data collected might not be very reliable. Many farmers have no idea how much produce they sell, or they are not willing to say. Many will promise to join but won't. And how many say they won't, but will? Also, many farmers simply are not willing to share details of their operations.

This writer conducted an informal survey in October 2018 at the Kula Saturday farmers market at Long's Drugs in Kulamalu. I obtained farm names, contact names and numbers, and other limited information from 25 farmers. Some were not interested in a food hub as they sell all they want to sell at the farmers market. Others were enthusiastic about a food hub and said they have been hoping for such a thing. The main thing discovered is that farmers are often too busy to talk to people taking surveys.

CONCLUSION

Considering the unknown potential for a Maui Food Hub, and considering the path taken by the Central Oregon Food Hub, it seems that starting a Pilot Project Food Hub makes the most sense. That way we will determine the level of interest from the Maui farmers, the volume of produce, and the potential for expansion. Aggregation and distribution of produce can be built incrementally, avoiding unnecessary risk and demonstrating to funding sources the potential for success. In addition, we think the food hub should be nonprofit. The level of support for a food hub is much higher from the farmers and community if it is nonprofit.

A food hub steering committee should be formed, bringing in representatives of groups who are our natural allies and supporters. After identifying the leader of the group and preparing a business plan, funding sources should be secured. Then, the pilot project should be implemented.

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