

DAVID Y. IGE
Governor

JOSH GREEN
Lt. Governor



PHYLLIS SHIMABUKURO-GEISER
Chairperson, Board of Agriculture

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Deputy to the Chairperson

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TESTIMONY OF PHYLLIS SHIMABUKURO-GEISER
CHAIRPERSON, BOARD OF AGRICULTURE

BEFORE THE SENATE COMMITTEE ON
WAYS AND MEANS

FEBRAURY 23, 2022

10:05 A.M.

CONFERENCE ROOM 211 & VIA VIDEOCONFERENCE

SENATE BILL NO. 2946
RELATING TO IRRIGATION

Chairpersons Dela Cruz and Members of the Committee:

Thank you for the opportunity to testify on Senate Bill 2946. The purpose of this bill is to appropriate moneys for water source infrastructure for water delivery and for maintenance and improvements to the Peekauai Ditch Irrigation System located on the Island of Kauai. The Department of Agriculture supports this measure provided it does not adversely impact the Department's priorities in the Executive Budget.

The Peekauai Ditch Irrigation System, also known as the Menehune Ditch, is operated by the local farmers. While it is not a state-owned system, we support the improvements of all irrigation systems that encourage the growth of Hawaii's diversified agricultural community.

Thank you for the opportunity to testify on this measure



DAVID Y. IGE
GOVERNOR



CRAIG K. HIRAI
DIRECTOR

GLORIA CHANG
DEPUTY DIRECTOR

EMPLOYEES' RETIREMENT SYSTEM
HAWAII EMPLOYER-UNION HEALTH BENEFITS TRUST FUND
OFFICE OF THE PUBLIC DEFENDER

STATE OF HAWAII
DEPARTMENT OF BUDGET AND FINANCE
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HONOLULU, HAWAII 96810-0150

ADMINISTRATIVE AND RESEARCH OFFICE
BUDGET, PROGRAM PLANNING AND
MANAGEMENT DIVISION
FINANCIAL ADMINISTRATION DIVISION
OFFICE OF FEDERAL AWARDS MANAGEMENT (OFAM)

WRITTEN ONLY
TESTIMONY BY CRAIG K. HIRAI
DIRECTOR, DEPARTMENT OF BUDGET AND FINANCE
TO THE SENATE COMMITTEE ON WAYS AND MEANS
ON
SENATE BILL NO. 2946

February 23, 2022
10:05 a.m.
Room 211 and Videoconference

RELATING TO IRRIGATION

The Department of Budget and Finance (B&F) offers comments on this bill.

Senate Bill No. 2946 appropriates an unspecified amount of general funds in FY 23 to the Department of Agriculture for maintenance and improvements to the Peekauai Ditch Irrigation System located on the island of Kaua'i.

B&F notes that, with respect to the general fund appropriation in this bill, the federal Coronavirus Response and Relief Supplemental Appropriations Act requires that states receiving Elementary and Secondary School Emergency Relief (ESSER) II funds and Governor's Emergency Education Relief II funds must maintain state support for:

- Elementary and secondary education in FY 22 at least at the proportional level of the state's support for elementary and secondary education relative to the state's overall spending, averaged over FYs 17, 18 and 19; and
- Higher education in FY 22 at least at the proportional level of the state's support for higher education relative to the state's overall spending, averaged over FYs 17, 18 and 19.

Further, the federal American Rescue Plan (ARP) Act requires that states receiving ARP ESSER funds must maintain state support for:

- Elementary and secondary education in FY 22 and FY 23 at least at the proportional level of the state's support for elementary and secondary education relative to the state's overall spending, averaged over FYs 17, 18 and 19; and
- Higher education in FY 22 and FY 23 at least at the proportional level of the state's support for higher education relative to the state's overall spending, averaged over FYs 17, 18 and 19.

The U.S. Department of Education has issued rules governing how these maintenance of effort (MOE) requirements are to be administered. B&F will be working with the money committees of the Legislature to ensure that the State of Hawai'i complies with these ESSER MOE requirements.

Thank you for your consideration of our comments.



Testimony of Nalani Kaauwai Brun
Director, Office of Economic Development

Before the
Senate Committee on Ways and Means
February 23, 2022; 10:05 AM
Conference Room 211 & Videoconference

In consideration of
Senate Bill 2946
Relating to Irrigation

Aloha Chair Dela Cruz, Vice Chair Keith-Agaran, and members of the Committee:

Thank you for the opportunity to testify on Senate Bill 2946. The County of Kauai's Office of Economic Development (OED) strongly **supports SB2946**, which appropriates funds for water source infrastructure for water delivery and for maintenance and improvements to Kauai's Peekauai ditch irrigation system.

The Peekauai Ditch system is a critical irrigation system for many ranchers and farmers on Kauai's west side. Also known as the Menehune Ditch, this historic irrigation system has been on the National Register of Historic Places since 1984. Ongoing maintenance and repair is paramount to ensure this irrigation system can continue to deliver water resources that agriculturalists depend on to operate their agribusiness.

Mahalo for your consideration of this bill.



Email: communications@ulupono.com

SENATE COMMITTEE ON WAYS & MEANS
Wednesday, February 23, 2022 — 10:05 a.m.

Ulupono Initiative supports SB 2946, Relating to Irrigation.

Dear Chair Dela Cruz and Members of the Committee:

My name is Micah Munekata, and I am the Director of Government Affairs at Ulupono Initiative. We are a Hawai'i-focused impact investment firm that strives to improve the quality of life throughout the islands by helping our communities become more resilient and self-sufficient through locally produced food; renewable energy and clean transportation; and better management of freshwater and waste.

Ulupono supports SB 2946, which appropriates funds to the Department of Agriculture (DOA) for water source infrastructure and the maintenance and improvement of the Peekauai Ditch Irrigation System located in Kaua'i.

Ulupono supports funding for critical agricultural infrastructure across the State. This bill identifies the needs of the Menehune Ditch on Kaua'i. There are other similar projects proposed in the Hawai'i Department of Agriculture's CIP Budget that merit strong consideration by the legislature.

Ulupono closely tracked the federal Infrastructure Investment and Jobs Act and advocated for key strategic investments in water infrastructure for agriculture. Unfortunately, the federal bill did not provide resources specifically targeted to support agricultural water systems. Agricultural water system infrastructure (irrigation systems) is an essential component of our state's efforts to achieve its goals of increasing local food production and food security.

This is affirmed in the DOA's 2019 Agricultural Water Use and Development Plan (AWUDP), which documents how Hawai'i's agricultural industry relies on these water systems to deliver inexpensive water to meet and expand agricultural production even during times of drought. The DOA has identified agricultural water systems as the most important infrastructural requirement needed to expand Hawai'i's diversified agriculture industry. However, most of the large-scale irrigation systems in the state are or will soon be more than 100 years old.

Additionally, according to the Association of State Dam Safety Officials' latest Dam Safety Performance Report, more than a third of Hawai'i's dams are rated either in poor or unsatisfactory condition.

In the AWUDP, the DOA estimates the five-year cost of repairs and maintenance for Hawai'i's most critical agricultural water systems at approximately \$168 million - of that amount, about \$90

Investing in a Sustainable Hawai'i

million is needed specifically for DOA-managed agricultural water systems over that same period. This is substantial for our small state, requiring an average of more than \$33 million per year for five years. While the price tag to repair and maintain these systems may seem high, the cost to replace these plantation-era water systems would be in the billions of dollars. More importantly, continuing to let these systems fall into disrepair puts Hawai'i's food security at risk, particularly the food security of the next generation who will be forced to adapt to a hotter and dryer planet.

Climate Change in Hawai'i

The importance of well-maintained agricultural water systems becomes even greater when the impacts of climate change on Hawai'i's food security are considered. In April 2021, Hawai'i became the first state to declare a climate emergency, when the State Legislature passed [Senate Concurrent Resolution 44 SD1 HD1](#), which also requested "statewide collaboration toward an immediate just transition and emergency mobilization effort to restore a safe climate."

The people of Hawai'i are seeing first-hand local impacts consistent with the effects of climate change: rising air temperatures; decreased rainfall and stream flow; increased rain intensity; increased frequency of drought; and increased frequency of powerful storms. For example:

- Since 1950, temperatures across the Hawaiian Islands have been on the rise, ranging from increases of 0.2 to 0.4 degrees Fahrenheit per decade;
- The annual total precipitation measured at Hilo International Airport decreased by nearly 20 inches since 1950—the most among Hawai'i's four major airports;
- Rain intensity is becoming as much a destructive factor as drought, with the amount of rain falling in the very heaviest downpours from 1958 to 2007 increasing by approximately 12%;
- The area in Hawai'i burned annually by wildfires has increased four-fold in recent decades, according to University of Hawai'i wildland fire researcher Clay Trauernicht; and
- Powerful storms are anticipated to become more frequent, as warmer climates tend to amplify existing weather patterns and variability, according to Hawai'i's state climatologist, Pao-Shin Chu.

These are each detrimental to local food production on their own; and yet, as an isolated island state we are also susceptible to climate change impacts far from our shores due to Hawai'i's continuing over-reliance on food from imports.

Food Pricing & Availability in Hawai'i

For international and domestic food producers, meeting the global demand of a projected 10 billion people by 2050—an increase of 2.3 billion people over just a quarter of a century—will become increasingly challenging as the Earth's climate continues to warm. Some estimate this will require an increase in global food production of 60%, if we are to ensure enough food for all.

According to research by The Nature Conservancy, climate change will bring increased moisture deficits across the United States. Nationally, the total area irrigated will need to increase by 11-54 million acres (an increase of 19-94%) by 2090 in order to maintain food production.

An analysis of top food producing states California and Iowa paints a grim picture:

- California, based on available data, produces over a third of the nation's vegetables and two-thirds of its fruits and nuts. Yet, California is expected to see a 50% increase in the number of severe droughts by the end of this century, with research predicting a decrease in

California's yields by more than 10% for walnuts, almonds, avocados, table grapes, rice, wheat, and tomatoes.

- Iowa is the largest producer of corn in the United States, with Iowa farms producing more than 19% of American corn, eggs (14%), hogs (30%), and soybeans (17%) in 2008. Iowa could see up to a 25% drop in corn yields by mid-century (from 200 to 150 bushels per acre), according to the Fourth National Climate Assessment, a federal study mandated by Congress and completed every four years, significant decreases are on the horizon.

Left dependent on imports, Hawai'i residents will experience greater volatility of food prices and food availability because of the impact of climate change on national and global food production. It can no longer be assumed that there will always be an unlimited supply of affordable food from overseas to feed Hawai'i's population.

Irrigation Infrastructure IS Part of Climate Change Adaptation

In the Biden Administration's fact sheet outlining the Infrastructure Investment and Jobs Act, the White House highlighted investments in **infrastructure to make communities more resilient to the impacts of climate change, including** "funds to protect against droughts and floods..."

Irrigation plays an essential role in increasing food production and is an effective method of climate change adaptation. Globally, irrigated land represents only 16% of arable land, but produces 44% of total crop production. For most crops, irrigation can double or triple crop yields. For example, irrigated crop yields for corn, soybean, and wheat are 165%, 75%, and 140% higher than rain-fed yields. In regards to climate change adaptation, irrigation systems mitigate the impact of decreasing rainfall, increasing frequency of drought, and increasing temperatures; and irrigation can help capture more rainfall during storm events, so that water can be used in the future.

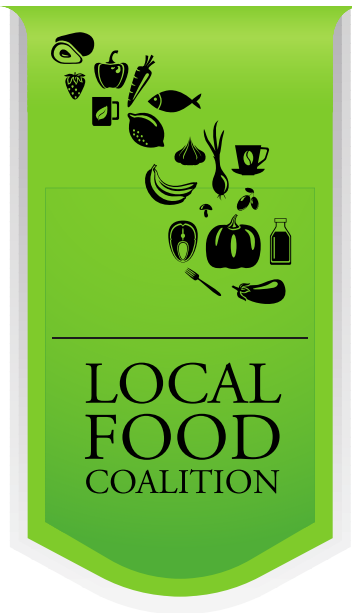
The DOA's AWUDP plan concludes: "The investment into these agricultural water systems is the key to provide adequate water to continue to grow diversified agriculture. As the saying goes, ...without water there is no agriculture..., which is the reason these agricultural water systems were originally constructed—and why they need to be maintained for another 100 years."

We strongly agree. For generations to come, local food production will depend on these systems and their ability to provide water for local farmers and ranchers. This represents a singular opportunity to make Hawai'i more self-sufficient and resilient.

Thank you for this opportunity to testify.

Respectfully,

Micah Munekata
Director of Government Affairs



SENATE COMMITTEE ON WAYS AND MEANS
February 23, 2022 – 10:05 a.m. – Via Videoconference

RE: SB 2946 – Relating to Irrigation – In Support

Aloha Chair Dela Cruz, Vice Chair Keith-Agaran, and Members of the Committee:

The Local Food Coalition **supports** SB 2946, which appropriates funds to the Department of Agriculture for water source infrastructure and the maintenance and improvement to the Peekauai Ditch Irrigation System on Kauai.

Waimea taro farmers do not have enough water for taro production because of the present condition of the Peekauai Ditch, also known as Menehune Ditch. Investing in this irrigation system will assist these farmers and the state in its efforts to increase local food production and food security.

The Local Food Coalition is an organization comprising of farmers, ranchers, livestock producers, investors and other organizations working to provide Hawaii's food supply.

We respectfully request your support of SB 2946. Thank you for the opportunity to submit testimony.

Kendall Matsuyoshi
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kmatsuyoshi@wik.com

Hawai'i Aquaculture &
Aquaponics Association
Hawai'i Cattlemen's Council
Hawai'i Farm Bureau
Federation
Hawai'i Farmers' Union
United
Hawai'i Food Industry
Association
Hawai'i Food
Manufacturers Association
Kohala Center
Land Use Research
Foundation of Hawai'i
Maui Farm to School
Network (Maui F2SN)
Ulu pono Initiative
College of Tropical
Agriculture and Human
Resources - University of
Hawai'i at Manoa

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SB2946, Relating to Irrigation
Senate WAM Decision Making Hearing
Wednesday, February 23, 2022
10:05am

Testimony By: Larry Jeffs
Position: Support

Chair Dela Cruz, Vice Chair Keith-Agaran, and Members of the Senate WAM Committee:

I am Larry Jeffs, owner and operator of Larry Jeffs Farms, LLC. We have more than 42 years of Hawaii farm experience on Molokai and Oahu. Our family farms grow about 1 million pounds weekly of import replacement produce. I am a volunteer director, serving as Chair of the West Oahu Soil and Water Conservation District (SWCD). I have been an officer of the Hawaii Farm Bureau for many years.

Water is the lifeblood of all farmers, and without affordable and accessible water, there will be no farming. No farming, no locally grown produce and livestock.

This measure provides appropriations to the HDOA for the maintenance and improvement to the Peekauai Ditch Irrigation System, also known as the Menehune Ditch. Without this support, many Kauai farmers including taro growers will not have ready access to water.

Thank you for the opportunity to present testimony.



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e-mail info@hfbf.org; www.hfbf.org

February 23, 2022

HEARING BEFORE THE
SENATE COMMITTEE ON WAYS AND MEANS

TESTIMONY ON SB 2946
RELATING TO IRRIGATION

Room 211 & Videoconference
10:05 AM

Aloha Chair Dela Cruz, Vice-Chair Keith-Agaran, and Members of the Committee:

I am Brian Miyamoto, Executive Director of the Hawai'i Farm Bureau (HFB). Organized since 1948, the HFB is comprised of 1,800 farm family members statewide and serves as Hawai'i's voice of agriculture to protect, advocate and advance the social, economic, and educational interests of our diverse agricultural community.

The Hawai'i Farm Bureau supports SB 2946, which appropriates funds to the Department of Agriculture for water source infrastructure and the maintenance and improvement to the Peekauai Ditch Irrigation System (Menehune Ditch) located on Kauai.

The repair and maintenance of our irrigation systems are critical because our farmers and ranchers depend on these irrigation systems for their operations. Water availability is a basic necessity for farmers and ranchers to maintain and expand their production, particularly in times of drought manifested on many islands as a result of a changing climate. Moreover, a reliable water supply is a key factor when Hawai'i's farmers and ranchers are making decisions to start new or to expand existing operations.

The Peekauai Ditch irrigation system is the lifeline for farmers in the Waimea, Kauai area, especially taro growers. Kauai farmers in Waimea presently do not have enough water for taro production because of the present condition of the Menehune Ditch

Thank you for this opportunity to testify in support of this measure.



February 18, 2022

Senator Donovan M. Dela Cruz, Chair
Senator Gilbert S.C. Keith-Agaran, Vice Chair
Senate Committee on Ways and Means

Comments in Support of SB 2946 Relating to Irrigation (Appropriates funds to the Department of Agriculture [DOA] for water source infrastructure and the maintenance and improvement to the Peekauai Ditch Irrigation System located on Kauai.)

Wednesday, February 23, 2022, 10:05 a.m.; Conference Room 211 & Videoconference.

The Land Use Research Foundation of Hawaii (LURF) is a private, non-profit research and trade association whose members include major Hawaii landowners, developers, and utility companies. LURF's mission is to advocate for reasonable, rational, and equitable land use planning, legislation and regulations that encourage well-planned economic growth and development, while safeguarding Hawaii's significant natural and cultural resources, and public health and safety.

LURF appreciates the opportunity to express its **support of SB 2946**, and of the various agricultural stakeholder groups who defend the goals of viable agricultural operations and the conservation and protection of agriculture, including important agricultural lands (IAL) in Hawaii.

SB 2946. This bill proposes to appropriate moneys for water source infrastructure for water delivery and for maintenance and improvements to the Peekauai ditch irrigation system located on the island of Kauai.

LURF's Position. Well-functioning irrigation systems are vital to Hawaii's agricultural industry to ensure that the State's agricultural crops receive a reliable and consistent supply of water to support and maintain productivity. LURF understands that Waimea taro farmers currently do not have adequate water for taro production due to the present condition of the Waimea Menehune Ditch. In order to ensure that these local taro farmers may continue to receive a dependable supply of water for crops, funding is necessary to improve, repair and maintain the Peekauai ditch irrigation system.

Local farmers and ranchers who rely on irrigation systems to service their agricultural lands consider such resources critical to conduct their agricultural operations and to sustain their businesses. These agricultural stakeholders believe measures such as SB 2946 will greatly assist by providing funding and support necessary to make improvements to irrigation systems for the long-term betterment of the State's agricultural industry and are relying on legislation such as this to help them work toward the expansion of diversified agriculture; promote the agricultural self-sufficiency of the State; and to protect water as a valuable and significant resource.

For the above reasons, LURF **supports SB 2946**, and respectfully urges your favorable consideration.

Thank you for the opportunity to provide comments in support of this measure.



HAWAII CROP IMPROVEMENT ASSOCIATION

In Support of SB2946
Relating to Irrigation

Senate Committee on Ways and Means

Date: Wednesday, February 23, 2022

Time: 10:05 a.m.

Place: Videoconference

Chair Dela Cruz, Vice Chair Keith-Agaran, and members of the committee:

Thank you for allowing the Hawaii Crop Improvement Association the opportunity to provide testimony in **support** of SB2946, which appropriates funds to the Department of Agriculture for water source infrastructure and the maintenance and improvement to the Peekauai Ditch Irrigation System located on Kauai.

The Peekauai Ditch Irrigation System is an essential water source for farmers in the Waimea, Kauai area. The present condition of the Menehune Ditch does not provide enough water for agricultural production, especially taro. The irrigation system is a reliable lifeline for farmers and ranchers to maintain and expand agricultural production.

Mahalo for this opportunity to testify in support of SB2946. If you have any questions, please contact me at your convenience.

Sincerely,

Pono Chong
Hawaii Crop Improvement Association

The Hawaii Crop Improvement Association is a Hawaii-based non-profit organization that promotes modern agriculture to help farmers and communities succeed. Through education, collaboration, and advocacy, we work to ensure a safe and sustainable food supply, support responsible farming practices, and build a healthy economy.



Hawaii Cattlemen's Council, Inc.

COMMITTEE ON WAYS AND MEANS
Senator Donovan M. Dela Cruz, Chair
Senator Gilbert S.C. Keith-Agaran, Vice Chair

SB2946

Relating to Irrigation

Wednesday, February 23, 2022, 10:05 AM
VIA VIDEOCONFERENCE

Chair Dela Cruz, Vice Chair Keith-Agaran, and Members of the Committee,

The Hawaii Cattlemen's Council **supports SB2946** to appropriate funds to the Department of Agriculture for water source infrastructure and the maintenance and improvement to the Peekauai Ditch Irrigation System located on Kauai.

Critical, aging ag infrastructure, such as irrigation ditches, require funding to ensure that these assets continue to remain usable for current and future Hawaii ag producers. Without this sort of infrastructure, food security goals will never be met due to the highly regulated and high cost nature of doing business and establishing this sort of infrastructure in Hawaii.

Thank you for the opportunity to testify on this matter.

Nicole Galase
Hawaii Cattlemen's Council
Managing Director

