

Reviving Local Food Systems in Hawai'i



Students proudly harvesting taro (left), and some of the youngest participants in the lo'i (taro patch).

Photo: Liam Kernell

School gardens, nutrition education, and farm to school initiatives are orienting palates and diets towards traditionally available foods, diversifying agriculture and increasing locally produced school snacks and lunches while circulating income throughout local farming communities in the Hawaiian Islands.

The Problem

Self-sufficient for centuries, the colonial legacy of deforestation, plantation agriculture, and the current focus on tourism and military development has left the Hawaiian Islands more than 85% dependent on imported, primarily processed food.

The islands' distance from supply chains results in little opportunity to establish a sustainable economic trading base, while heavy reliance on processed foods from the continental United States is promoting poor diets that lack diversity and adequate nutrition.

Native Hawaiian and Other Pacific Island (NHOPI) populations show very low consumption of fruits and vegetables, which stems from low-income employment, and leads to [disproportionately high rates of obesity and related chronic diseases](#).

The majority of Hawai'i's youth receive more than half their daily calories from school meals during the academic year. School gardening and local food procurement is needed to improve students' nutrient intake, strengthen local food security, and keep income circulating throughout local communities.

Agrobiodiversity & Hawaiian Culture

Reviving tropical agriculture allows youth the cultural transmission to reconnect with the food choices that provided high quality nutrition to Hawaiian ancestors.

Traditional foods grown in school gardens include:

- kalo (*Colocasia esculenta*) or taro root and leaves, used to make the traditional dishes poi and lū'au
- 'ulu (*Artocarpus altilis*) or breadfruit, prized for its productivity in Pacific Island environments
- 'uala (*Ipomoea batatas*), also known as sweet potato
- mai'a (*Musa acuminata*), an edible banana species
- ko (*Saccharum officinarum*) or sugar cane
- niu (*Cocos nucifera*) or coconut milk and cream, used to make kulolo and lū'au dishes

Served in schools as snacks and meals along with tropical fruits such as papaya, mango, pineapple and lilikoi (passionfruit), these plants collectively provide:

- digestible fibre, potassium, calcium and iron
- vitamin C and vitamin B-complex
- anti-oxidants and important trace elements

Additional indigenous plant species continue to improve the nutritional value of the Hawaiian diet, though not necessarily from direct consumption. [Kaula](#) (cordage or rope) is hand-crafted from various hardy plant materials and can be used for nets, traps, and fishing line. Valuable animal protein sources as well as the opportunity to diversify diets locally are made available thanks to this customary practice.

The Project

Following the [Island of Hawai'i food system report](#) prepared by the Rocky Mountain Institute in 2007, the [Kohala Center](#) established the [Hawai'i Island School Gardening Network \(HISGN\)](#) to develop and promote school gardens as an initiative to build a strong local food economy while providing youth with increased nutrition. With an emphasis on native Hawaiian plants and practices, the HISGN has since expanded to work with 60 elementary and secondary schools by assisting garden leaders, school faculty, and administrators in the creation and implementation of gardening and agricultural programmes.

The *Ku 'Aina Pa* teacher training programme focuses on deepening students' connection between ancestral knowledge of agriculture and agrobiodiversity, the ahupua'a systems management of natural resources on Hawaiian land, the preparation of food from the 'āina (land), and traditional Hawaiian values, protocols, and language. *'Ai Pono* (righteous food) engages students in growing and processing traditional food.

Scaling Up

The HISGN supported and led programme expansion in 2012 into a multi-island initiative, the [Hawai'i Farm to School and School Garden Hui](#) which now supports more than 160 school gardens on five islands. A grant was received earlier this year from the [United States Department of Agriculture \(USDA\) Fresh Fruit and Vegetable Program](#) to support and strengthen the capacity and impact of these initiatives. In addition HISGN is the host organization for [FoodCorps Hawai'i](#), part of a federally funded programme which places full-time emerging leaders at school garden sites in Hawai'i. The HISGN also participates in the newly formed [USDA Farm to School Program](#).

The primary barriers to programme scaling and full implementation are insufficient financial resources due to strains on educational and health system budgets, and institutional resistance to transition from industrialized agriculture to biodiverse agroecological production systems.

Stakeholder and Policy-maker Involvement

Activities and platforms for public engagement created by HISGN include sustained positive media attention, [school gardening resource](#) sharing on the HISGN website, regular workshops for teachers; [garden and culinary events](#) for community members; and yearly multi-stakeholder conferences to sustain garden and farm to school movement.

Members of the HISGN staff are actively working with representatives from the Hawai'i State Legislature and the Hawai'i Departments of Education, Health, and Agriculture to change institutional procurement policies. The aim is to foster increases in the purchase and preparation of fresh, locally produced food, as well as to provide resources for school gardening programmes. The [SB 367](#), a bill establishing a farm-to-school programme within the Hawai'i Department of Agriculture including a full-time coordinator role, unanimously passed both legislative chambers in May 2015.

Impact

80% of Hawai'i Island schools have learning gardens

**226 teachers engaged
6,202 students in garden-based education**

22 acres of land devoted to school gardens

15 ton (13,600 kg) of food produced annually from school gardens



Photo: Liam Kernell

Staff and students present information about 'Ai Pono at a community event.

More Information

1. [Hawai'i Island School Gardening Network \(HISGN\)](#)
2. [Hawai'i Farm to School and School Garden Hui](#)
3. [Polynesian Voyaging Society: the Hōkūle'a's World Wide Voyage](#)

Contact

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