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Kīpuka Kuleana: restoring relationships to place and strengthening climate adaptation through a community-based land trust

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This community case study explores how Kīpuka Kuleana, a Native Hawaiian women-led community-based land trust, revitalizes relationships between people and 'āina (lands and waters) to perpetuate cultural practices that build climate resilience in Kaua'i, Hawai'i. We demonstrate that ancestral land protection is foundational to climate change mitigation and adaptation efforts on Kaua'i, an isolated rural island in the Pacific Ocean increasingly vulnerable to flooding and landslides, sea level rise, and other climate-related impacts. Kīpuka Kuleana strives to keep kupa 'āina 'ohana (long-time families)—the anchors of community who care for, teach from, and maintain balance in their fragile environments—rooted to their homes amidst increasing gentrification, land dispossession, and climate-related disasters. Through our interwoven programs, we return lands to communities and communities to lands, a reciprocal process known as 'āina ho'i, to restore access to 'āina for collective caretaking, place-based education, and spiritual rejuvenation. Our land trust partners with Indigenous and allied groups in Hawai'i, Louisiana, California and Borikén (Puerto Rico) to share learnings tied to land protection, disaster resilience, adaptation, and rematriation, or the restoration of relationships between Indigenous people and ancestral lands. We offer some of those lessons to illustrate how Indigenous-led community-based land trusts and stewardship efforts forge new possibilities for adapting in place and cultivating more connected, resilient ecosystems stewarded under Indigenous leadership, in alignment with the "Land Back" movement.

KEYWORDS

Native Hawaiian, community land trust, indigenous resilience, climate change, adaptation, Hawaii, land protection, indigenous stewardship

Introduction

“When we say Land Back, we also mean Relations Back.”—Mike Gouldhawke, âpihtawikosisân (Métis-Cree) writer and community organizer (Gouldhawke, 2020).

In the United States and around the world, Indigenous communities are adapting to intensifying impacts of climate change that threaten their lifeways, sovereignty, and connections to place. Contemporary Indigenous adaptation extends long histories of evolving with ecological changes, guided by reciprocal relationships between people and place, long-term observations of changes in environment, and collective actions to care for and protect lands and waters (Vaughan, 2018; Harangody et al., 2022; Ford et al., 2020). Over centuries of violent settler colonialism and industrialization, Indigenous communities have endured forced removal and dislocation from their homelands (Whyte, 2017) and systemic assimilation efforts to erase their identities, self-determination, and ways of life (Hibbard, 2021). Indigenous peoples in the U.S. have lost 98.9% of their ancestral homelands from colonization, and 42.1% of Tribes lack a federally or state recognized Tribal land base today (Farrell et al., 2021). The same colonial, capitalistic forces that displace Indigenous communities and ravage ecosystems—for example, through massive deforestation and fossil fuel extraction—also drive anthropogenic (human-caused) climate change (Whyte, 2017; Pasternak and King, 2019). Further, “green energy” solutions, such as solar panels and electric batteries, depend on extraction of lithium and other metals, and more than half of these global mining projects occur on or near Indigenous lands (Simon, 2024; Owen et al., 2023). Indigenous peoples are disproportionately affected by climate change as they adapt in marginal environments (Thomas et al., 2019) and face vulnerabilities to their health, food security, well-being, and livelihoods (Farrell et al., 2021), all intricately tied to land.

Yet, Indigenous peoples continue to resist the physical and spiritual separation of their communities from their lands and associated lifeways (Greenwood and Lindsay, 2019). Across generations, Indigenous communities have perpetuated cultural practices—such as fishing, gathering, and cultural burning—along with place-based knowledges that offer solutions for adaptation in our global climate crisis (Maldonado and Middleton, 2022). Their relationships to place reflect long-standing guardianship and stewardship of lands and waters, which cultivate local biodiversity and resilience (Brondizio et al., 2019; Diver et al., 2024; Fernández-Llamazares et al., 2021). Indigenous land defenders and water protectors work tirelessly on the frontlines to combat harmful actions by multinational corporations against their people and the environment (Whyte, 2019; Oishi, 2022). According to a 2021 report, Indigenous campaigns of resistance over the past decade have “stopped or delayed greenhouse gas pollution equivalent to at least one-quarter of annual U.S. and Canadian emissions” (Oil Change International, 2021).

One example of Indigenous-led organizing at the nexus of sovereignty, stewardship, and climate change adaptation is the “Land Back” movement. The Land Back movement “addresses the root pain of colonization—the theft of Indigenous lands, alienation of lands for resource extraction, the violence and genocide committed against Indigenous peoples for statehood and capitalism, and the hundreds of years of devastating aftereffects” (Pieratos et al., 2021). The return of

Indigenous lands is a unifying call in the movement, echoed across the U.S. (Racehorse and Hohag, 2023), Canada (Pasternak and King, 2019), Aotearoa (Buchanan, 2022), Costa Rica (Garcia and Pastrana, 2022), Ecuador (Wilkins, 2023), South Africa (McKenzie and Swails, 2018) and beyond. Land Back works simultaneously within and against a system of western, capitalistic property ownership, as articulated by Maskoke leader Marcus Briggs-Cloud:

“The grammar of our Maskoke language literally constrains our ability to articulate ownership of and extractive economic relationships to land. We have to code switch to English to speak of those ways. So if we didn’t own it in the first place, it’s hard to talk about getting land back. I think it’s better to put it in terms of returning land to the traditional stewards to fulfill their inherent covenants to be caretakers of a particular place, per their own canon of stories” (Thompson, 2020).

One way that land is returning to Indigenous hands is through rematriation, which aims to “restore sacred relationships between Indigenous people and our ancestral land” and “[honor] our matrilineal societies...in opposition of patriarchal violence and dynamics” (Sogorea Te’ Land Trust, n.d.). Indigenous communities utilize different strategies to rematriate lands, such as: buying back ancestral lands, accepting land donations, securing rights to access and steward land, enforcing historic treaty agreements through legal action, and co-managing lands with other entities (Sustainable Economies Law Center, 2023). In particular, community-based land trust (CLT) models, which serve a variety of functions from land conservation to provision of housing, offer possibilities in the Land Back movement.

This case study focuses on a Native Hawaiian women-led community-based land trust on the island of Kaua‘i, Hawai‘i named Kīpuka Kuleana. The organization protects ancestral lands, while facilitating community stewardship and connection to place and supporting climate adaptation, through four interwoven programs: ‘ohana outreach and support, policy and land protection, research and education, and stewardship. In the discussion section ending this paper, we connect Kīpuka Kuleana’s work to rematriation efforts by Indigenous and allied partners around the U.S. who are also applying land trust frameworks and stewardship practices to restore health and adaptive capacity in their communities.

Context

“If you lose a place, you lose everything associated with that place, the lessons it could teach you.”—Native Hawaiian cultural practitioner, Kaua‘i, HI (Vaughan, 2018).

There is no pono (balanced and just), sustainable future for Hawaiian communities without ‘āina. In ‘ōlelo Hawai‘i (Hawaiian language), ‘āina translates to “that which feeds,” or lands and waters (Wight, 2005). ‘Āina embodies the reciprocal relationships cultivated with care between people and place across generations. These sustained connections to ‘āina offer physical, mental, spiritual, and emotional nourishment (Andrade, 2008) to kupa ‘āina ‘ohana (people descended from and enduring in place), who in turn care for and pass down ‘ike (knowledge) about specific ‘āina. Long-time families in

Hawai'i perpetuate important cultural practices that build climate resilience and pilina (connection) to place—for example, growing and harvesting traditional foods like kalo (taro) and 'ulu (breadfruit) that provide sustenance, sequester carbon (Yang et al., 2022), and shape identity and kinship to place (Bremer et al., 2018). Taro is grown in irrigated terraces, an example of Hawaiian agricultural practice which also provides restoration and maintenance of streams and wetlands, trapping flood waters and filtering sediment, while buffering against salt water intrusion from sea level rise (Winter et al., 2018; Bremer et al., 2018). The ability for 'ohana to access, steward, and make community-based decisions about 'āina from mauka (mountain) to makai (sea) is fundamental to thriving ahupua'a (traditional land division from mountain to sea) in Hawai'i, which faces intensifying impacts linked to climate change including hurricanes, tsunamis, floods, seasonal high waves, and sea level rise (Courtney et al., 2019).

Kuleana and ancestral land loss

Ua mau ke ea o ka 'āina i ka pono: “The sovereignty of the Kingdom continues because we are righteous”—King Kamehameha III, 1843.

Hawaiian identity is rooted in rights and responsibilities to care for specific 'āina, our kuleana. Kuleana is the same word for Hawaiian Kingdom lands that were handed down by generations of families because they were kept momona (productive and feeding people) (Pukui and Elbert, 1986). 'Āina in Hawai'i was entrusted to community as the source of all life and a direct connection to kūpuna (ancestors) and akua (gods), never to be owned or coveted (Kame'eleihewa, 1992). However, waves of settler colonialism ushered in western values of capitalistic, extractive relationships with 'āina across Hawai'i, threatening the subsistence-based lifestyles of Hawaiian communities. Between 1820 and 1850, American and European settlers pursuing agricultural ventures in Hawai'i pressured King Kamehameha III to introduce the concept of land title, which was codified during the Great Māhele of 1845 and the Kuleana Act of 1850 (Garovoy, 2005). Maka'āinana (Native Hawaiian tenants) had to overcome obstacles, such as surveying land and proving historical tenure, to make a land claim and receive a kuleana award of a quarter-acre house lot and cultivated 'āina, such as lo'i kalo (taro patch) or salt pans (Vaughan, 2018). Only 7,500 maka'āinana received kuleana awards, a combined 28,600 acres that accounted for less than 1% of the Kingdom lands (Garovoy, 2005). As American business interests infiltrated Hawaiian governance and aided the United States' illegal overthrow of the Hawaiian monarchy in 1893, non-Hawaiians began acquiring government lands for private profit (Preza, 2010).

However, long-time 'ohana fought to maintain their kuleana to place, perpetuating genealogy, mo'olelo (story, history), cultural practices, and knowledge through protection of and care for 'āina. For example, in the 1870s, Hawaiian communities came together to form hui kū'ai 'āina (land-buying associations) to buy back lands not awarded to maka'āinana (Andrade, 2008). Similar to a community land trust structure, hui members held land “in common” and participated in collective decision-making about resource management to protect and sustain 'āina (Vaughan, 2018). A hui's written constitution usually created protections to keep land within the hui, such as requiring members to sell their shares back to the hui

if they desired to leave (Roversi, 2012). On Kaua'i, hui kū'ai 'āina bought back four ahupua'a (Vaughan, 2018). Some hui endured a century after the Great Māhele until largely dissolved through partition lawsuits (Vaughan, 2018; Roversi, 2012). However, for example, much of the ahupua'a of Hā'ena still remains in conservation and community management due to collective actions of 'ohana within the hui, past and present.

Impacts of ongoing land loss

“We cannot compete with billionaires. We're just simple people. It's too much...pretty soon we lose our homes and everything we work for. We cannot give anything to our grandchildren because we have to sell because...we cannot afford to pay the taxes. So what little we save, hopefully for our children, it'll all be gone.”—Wanini community member, Kaua'i, HI (Vaughan et al., 2019).

The most recent wave of settler colonialism in Hawai'i is driven by increasingly wealthy non-local landowners and investors, whose insatiable appetite for buying land and developing luxury homes in Hawai'i prices out and displaces local families (Horton, 2024). Hawai'i accommodates over 9 million visitors each year (State of Hawaii Department of Business, Economic Development and Tourism (DBEDT), 2022). Hawai'i's tourism has become tied to real estate, with visitors coming not only for vacation and recreation but also to invest in timeshares and second (third, fourth, or seventh) homes. Hawai'i has become “arguably the singular most desirable locale for the wealthy” (Reynolds, 2021). Because anyone can buy real estate in Hawai'i, the high global demand for land on Hawai'i drives rapidly increasing land values. Thirty seven billionaires own 218,000 acres of land on Hawai'i's six largest islands, constituting 11% of non-government owned land (Liu and Hunter-Hart, 2024). Celebrities and Silicon Valley elite flock to the quiet island of Kaua'i, building sprawling luxury compounds that insulate them from community and encroach upon natural habitat and local stewardship. During the COVID-19 pandemic, an influx of new landowners and remote workers seeking a safe haven on Kaua'i drove a 57% increase in median house prices between November 2020 and November 2021 (The Associated Press, 2022). In August 2023, the median price of a single-family residence on Kaua'i was \$1,800,000, an 88% increase from the previous year (Haupt, 2023). One in eight homes on Kaua'i sits vacant, purchased as a luxury home, vacation rental, or investment (The Associated Press, 2022). According to research by Stanford University students and Kīpuka Kuleana, non-local landowners on Kaua'i primarily live in northern California (Bay Area), southern California (Los Angeles, San Diego), Honolulu, Seattle, and Denver—all places with direct flights to Kaua'i (Trepte and Klink, 2021).

Given the high cost of living, lack of affordable housing, and limited job opportunities outside of tourism and service industries, many local community members are being forced to leave the island. Long-time families struggle to keep their homes, shouldering the burden of rising property taxes, inflated rents, and mounting pressure to sell their lands (Vaughan, 2018). In 2023, only 20 'ohana on Kaua'i received the kuleana tax exemption, a tax relief option for families holding ancestral 'āina traced to kuleana awards from the Great Māhele. As large area landowners and developers target ancestral lands through quiet title and partition actions, families incur expensive

legal costs to protect their lands. The privatization of ‘āina through luxury home development, gated communities, and fenced properties impinges on cultural practices by restricting access to fishing, gathering, and community areas, as well as significant viewpoints and burial grounds. These impacts also erode community connectedness and collective capacity to adapt to more frequent climate-related disasters on Kaua‘i.

Kīpuka Kuleana: a community-based land trust

“This is our piko. This is where we come to rejuvenate and get away from the hustle and bustle of work. This is the one place you can come and reconnect. My grandmother’s ashes are in this ocean here. Many of our family are here.”—Kalihiwai community member, Kaua‘i, HI (Vaughan, 2018).

From 2014 to 2016, one of Kīpuka Kuleana’s founders Dr. Mehana Blaich Vaughan and her students interviewed 40 elders and community members on the north shore of Kaua‘i to chronicle changes in the island’s physical, cultural, and economic landscapes and the enduring resilience of ‘ohana who care for ‘āina. ‘Ohana spoke of the abundance from the land and sea (e.g., kalo, vegetables, fish) shared across community, as well as the irrevocable damage to reef and coastal resources from overfishing, overtourism, and visitor industry-related developments such as golf courses and water diversions (Vaughan et al., 2019). Families also shared how difficult it was to keep ancestral lands within their ‘ohana due to rising property values, taxes, encroachment, and legal actions. In response, Vaughan and three other women rooted on Kaua‘i (Jennifer Luck, Dominique Cordy, Tina Aiu) organized a workshop in 2016 for 20 community members working to keep their family lands. They invited attorneys, researchers, educators, government agency representatives, and community members to offer mana‘o (insights) and resources for tackling land issues. Although conservation land trusts across Hawai‘i were protecting and managing lands for public use, none were specifically addressing the protection of ancestral lands and the challenges of fractional ownership across large ‘ohana. Listening to the struggles of the families who attended, and finding limited assistance available from existing organizations, led the four women to found Kīpuka Kuleana, which obtained 501(c)(3) nonprofit status in January 2018.

Kīpuka Kuleana is a community-based land trust dedicated to perpetuating kuleana, ahupua‘a-based natural resource management and connection to place through protection of cultural landscapes and family lands on Kaua‘i (Kīpuka Kuleana, 2024). We are a Native Hawaiian women-led organization guided by a volunteer board of directors, ‘ohana advisors, two staff, and a research consultant. Our vision is that kupa ‘āina ‘ohana (long-time families) continue to thrive in, share the history and practices of, and care for every ahupua‘a on Kaua‘i. The word kīpuka refers to a change of form, such as a calm place in a high sea, or a seed bank that creates vegetation within a lava flow (Pukui and Elbert, 1986). We work to grow kīpuka—places of community caretaking and cultural restoration—grounded in kuleana, within every ahupua‘a on Kaua‘i. Aligned with the Land Back movement, we strive to return lands to communities and communities to lands, a reciprocal process known as ‘āina ho‘i (land returning). We partner with ‘ohana, community members, nonprofit organizations, policymakers, government agencies, and Indigenous

and allied groups to seed land return and to hold land in trust, ensuring that communities can collectively care for ‘āina and that families can always return to their piko (center). Our land protection work supports climate adaptation and resilience through four interwoven programs: Kāko‘o (‘Ohana Outreach and Support), Ho‘omalū (Policy and Land Protection), A‘o (Research and Education), and Mālama (Stewardship).

Kāko‘o: ‘ohana outreach & support

Through tailored assistance and educational workshops, our nonprofit connects ‘ohana with resources to keep and care for ancestral ‘āina that sustains community. To date, our workshops have supported over 300 community members, and our team has provided ongoing assistance to 75 ‘ohana. Through mo‘okū‘auhau (genealogy) workshops guided by volunteer genealogists, we offer foundational knowledge about ‘ohana ancestry and help families research their land title and register iwi kūpuna (burials) to protect their loved ones. We provide trusted referrals for mediation and ho‘oponopono, a traditional Hawaiian practice that can help guide ‘ohana through discussions to find pono, heal, and articulate goals and vision for their ‘ohana ‘āina. Our legal partners help ‘ohana set up estate and trust plans for long-term land protection and navigate quiet title and partition lawsuits aiming to force the sale of land. We work with families to identify conservation strategies that allow ‘ohana to share, mālama (care for), and teach from their land, such as cultural conservation easements, partnership with a conservation buyer, and stewardship and access agreements. As ‘ohana learn about and apply different land protection tools, they share what they learn and help other community members in similar situations.

Ho‘omalū: policy & land protection

Kīpuka Kuleana works to expand ancestral land protection through county and state tax relief policies and mapping of vulnerable lands using foreclosure data and community tips to prevent speculative development. We strive to restore ancestral community-based stewardship models, drawing inspiration from hui kū‘ia ‘āina (land buying associations) and community-led efforts, such as the Hā‘ena Community Based Subsistence Fishing Area, in which traditional fishing practices guide contemporary coastal use laws (Vaughan, 2018). We raise private and public funds to acquire and hold lands to revive community caretaking of ‘āina, cultural restoration, and ‘ohana connections to place. As a land trust, we can implement tools like long-term leases, stewardship agreements, and easements with ‘ohana to keep them rooted across generations. Uniquely, we can purchase a partial interest in a property to protect ancestral land from outside sale or development. At the time of writing, Kīpuka Kuleana is in the final stages of purchasing and protecting two kuleana parcels on Kaua‘i, in partnership with descendant ‘ohana.

A‘o: research & education

We support communities in learning and teaching about ‘āina by bringing together area ‘ohana and their knowledge of place with

Kīpuka Kuleana's research database, which includes historical place names, maps, nūpepa (newspaper), mo'olelo (stories), and research on the cultural and environmental significance of 'āina. Throughout the year, we lead cultural field trips and education programs in partnership with local schools to teach keiki (children) and 'ōpio (youth) cultural practices, including mele (song) and oli (chant) composition, map reading, mo'olelo and place names, fishing, farming, foraging, lei making, hula, and kanikapila ('ukelele). From planting native species to harvesting foods, they learn how 'āina must be cared for and sustained before it may feed community. Through years of participation in our programs, youth become the alaka'i (helpers) and mentors to younger children, imparting their cultural knowledge and skills to young learners and ultimately growing into the kia'i (protectors of place). Since 2021, we have hosted over 500 students on cultural field trips and educational programs. A key component of our work is partnering with private landowners and state agencies to restore access to 'āina for education and stewardship purposes, which reconnects multigenerational 'ohana to parts of their home that have been made inaccessible due to private gates and walls.

Mālama: stewardship

We teach youth how to care for and gather natural resources from their home ahupua'a to feed their 'ohana, such as farming kalo (taro), caring for loko i'a (fishponds), and growing traditional, nutrient-dense foods like 'uala (sweet potato). Despite Hawai'i's favorable growing climate, 90% of food consumed in Hawai'i is imported (Kent, 2016). Through 'āina education and stewardship workdays, we teach youth how 'āina is changing due to climate impacts like sea level rise and encroachment from invasive species, development, and gentrification, and how to practice kilo, the long-term observations of seasonal changes such as weather, fish movements, and celestial alignments. All of our stewardship activities, from stripping albizia bark to kill invasive trees that topple and block waterways during storms and flooding, to studying changes in the coral reef and streams, demonstrate how sustained care of 'āina across generations is critical to healthy, resilient ecosystems.

Discussion: weaving threads of rematriation

Kīpuka Kuleana's efforts to protect ancestral lands on Kaua'i, well as Land Back or 'Āina Back efforts in Hawai'i, are still in their infancy. However, our work is connected to a growing constellation of rematriation efforts across the U.S. Through research networks and thought partnerships, we collaborate with Indigenous and allied groups to share tools and lessons in rematriation and climate adaptation. For example, in 2021 Kīpuka Kuleana and Indigenous and allied partners in Louisiana, California, and Borikén (Puerto Rico) formed the Land to Sea Network, with convening support from the Livelihoods Knowledge Exchange Network (LiKEN) and grant funding from the National Oceanic and Atmospheric Administration's (NOAA) Climate Program Office (#NA21OAR4310280). In this section, we weave together rematriation strategies that contribute to climate adaptation and keep land in community (see Table 1), led by

our partners. These examples demonstrate how Indigenous groups and CLTs are using tools (e.g., Indigenous land taxes/funds, resilience hubs) and stewardship practices to support disaster recovery and hazard reduction, adapt in place, and root communities.

Indigenous land taxes/funds

Indigenous land taxes (or "honor taxes") offer a pathway to sustainably fund Indigenous-led land protection and restoration projects, which require intensive financial resources including administrative and legal support, staffing, infrastructure, and long-term stewardship. Established models include: Sogorea Te' Land Trust's Shuumi Land Tax (CA), Real Rent Duwamish (WA), Lahaina Land Fund (HI), Honor Native Land Tax (NM), Manna-Hatta Fund (NY), and Tongva Return the Land Fund (CA). Kīpuka Kuleana drew inspiration from these partners, especially the powerful women leading Sogorea Te' Land Trust, when developing our Hō'ahu Kaua'i Land Tax. Hō'ahu is a voluntary contribution that people who visit or call Kaua'i home can make to return lands to community hands and keep Native Hawaiian and long-time families rooted to their homes. "Hō'ahu" (to set aside for the future) refers to hale hō'ahu, or houses where area residents brought regular offerings of their harvest to care for the needs of the entire community (Kīpuka Kuleana, 2024). This ancestral practice allows for the distribution of abundance and provides collective security for times of unstable weather, drought, or

TABLE 1 Strategies for rematriation as a means of building climate adaptation and resilience shared in this article.

Tools	Purpose
Indigenous land taxes/funds	Fund Indigenous-led projects (e.g., land acquisition, stewardship, education, etc.) and redistribute wealth to support Indigenous economies
Application of settler colonial legal tools	Forge new pathways for land return and protection that perpetuate Indigenous values and rights to steward lands and waters (examples: deed restriction, land acquisition, acceptance of land donations, cultural conservation easements, access agreements)
Community-based land trust models	Keep communities rooted by creating stable and affordable housing, connecting families with resources to keep or regain their ancestral lands, and holding land in trust on behalf of community for environmental and cultural restoration
Resilience hubs	Create safe gathering areas for community to spend time together, host ceremonies and events, organize, shelter in place before and after disasters, grow food, and build emergency resources (e.g., food, first aid supplies, tools, seed saving library, and water catchment, filtration, and storage)
Place-based education and stewardship programs and job pathways	Perpetuate Indigenous knowledges integral to climate adaptation, train the next generation of land stewards and cultural practitioners, and uplift and protect the work of community members as educators, Indigenous scientists, observers of ecological changes and resource managers

famine, preparing communities for uncertainty. Contemporary Indigenous land funds and taxes, rooted in older values of sharing, also redistribute wealth and support the revival of “Indigenous economies of care” that center Indigenous relationality and stewardship principles (Yellowhead Institute, 2021).

Disaster recovery & hazard reduction

In a time of intensifying climate-related disasters, rooted and connected communities are crucial to adaptation and preparation for climate-induced hazards of the future. Long-time families on Kaua‘i serve as the first responders and community organizers when disasters occur, including through multiple hurricanes in 1959 (Dot), 1982 (Iwa), and 1992 (Iniki). In April 2018, a U.S. record-breaking 49.7 in. of rain over 24 hr triggered extreme flooding and dozens of landslides on Kaua‘i. Knowledge of past flood patterns and strong social networks enabled community mobilization and neighbor-to-neighbor responses that guided recovery from the disaster, which claimed no lives (Harangody et al., 2022). Reinvigorating local community stewardship of streams and waterways, once critical to Indigenous agricultural systems, through removal of invasive species, riparian planting, and regular observation and study using both Indigenous and western scientific tools, is working to reduce future flood risk.

Another example is the First Peoples’ Conservation Council of Louisiana (FPCC), “an Association that was formed to provide a forum for State recognized- and non-federally acknowledged Native American Tribes in coastal Louisiana to identify and solve natural resource issues on their Tribal lands” (FPCC: The First Peoples’ Conservation Council of Louisiana, n.d.). The work of FPCC is critical as “Tribal perseverance in-place has become more tenuous this century as sea level rise accelerated, storm frequency and intensity increased, and with it, the loss of coastal wetlands” (Maldonado et al., 2023). Climate-related hazards are exacerbating the impacts of 10,000 miles of canals cut through Louisiana’s coastal wetlands to create passageways for pipelines and navigation. FPCC tribes work with organizations to strategically place living shorelines (mainly oyster communities) and backfill canals dredged in Louisiana’s wetlands to restore marsh ecosystems, reduce land loss and flood risk, and protect sacred sites. These coastal restoration and adaptation efforts benefit all coastal communities and ecosystems (Lowlander Center, n.d.) and secure inland refuges for people and culturally significant flora relatives, including medicinal plants. These examples share how reclamation of Indigenous environmental stewardship and restoration efforts, often necessitated by climate disaster, build ecosystem resilience and enhance community safety.

Adaptation in place & resilience hubs

The right to shelter in place and live with changing environments is inextricably tied to the self-determination and sovereignty of Indigenous peoples. In coastal Louisiana, the Atakapa Ishak/Chawasha Tribe of Grand Bayou Indian Village is developing strategies to live with more water, such as building floating gardens. Tribal leaders of the Grand Caillou/Dulac Band

of Biloxi-Chitimacha-Choctaw in Louisiana have established a Community Outreach Program Office located on Shrimpers Row to serve as a resilience hub for community residents before and after hurricanes.

In California, urban women-led Sogorea Te’ Land Trust works to reclaim a land base for the Lisjan Nation (Ohlone) and the urban intertribal Indigenous communities who live within Lisjan territory, presently known as the Bay Area (Sogorea Te’ Land Trust, n.d.). Through land purchases, land donations, and implementation of legal tools like cultural conservation easements, Sogorea Te’ is returning lands to community so they may “grow, harvest, and process traditional medicines, vegetables and other Native foods and hold teaching circles to promote health and justice” (Middleton Manning et al., 2023). These spaces for community education, caretaking, and cultural restoration support food sovereignty and strengthen capacity to withstand climate disasters. Their Himmetka (meaning “in one place, together” in Chochenyo, the language of the Lisjan Nation/Ohlone in the East Bay) sites serve as climate resilience hubs that provide culturally relevant emergency supplies, including food, first aid supplies, tools, a seed saving library, and water catchment, filtration, and storage (Sogorea Te’ Land Trust, n.d.). In these examples, Indigenous communities resist resettlement and creatively adapt in place, while also offering spaces to shelter and access needed supplies and resources together.

CLTs keeping local communities rooted

As Indigenous communities face dual crises of housing and climate change, the community land trust (CLT) model provides a mechanism for the ownership and protection of land “in common,” while establishing inheritable, renewable ground leases with residents who own homes on the land (Land in Common, 2024; Sommer and Kellman, 2024). When a CLT acquires land, that land permanently leaves the real estate market, which helps cap rental or mortgage rates on housing units and guarantee affordability across generations (Goodluck, 2023). One example is the Dishgamu Humboldt Community Land Trust of the Wiyot Tribe, the first federally recognized Tribe to develop a CLT arm that focuses on “affordable housing creation, workforce development, and environmental and cultural restoration” (Wiyot Tribe, 2024). Through a \$14 million grant from the state of California, the land trust is converting and restoring empty buildings into transitional housing for Wiyot youth (Goodluck, 2023; Nonko, 2023).

Another example is the Lahaina Community Land Trust (LCLT), which emerged in response to the devastating wildfires on Maui in August 2023. The fires were sparked by extreme wind conditions and severe drought driven by climate change and exacerbated by centuries of water diversion by plantations and now hotels, golf courses, and luxury homes (Rust et al., 2023; Drewes, 2024). Before the fires, generational Lahaina residents were being pushed out of their homes by ever-rising property values and the volatile speculator-driven real estate market. The fires claimed 102 lives, destroyed 2,200 homes, and left 12,000 people without housing (McAvoy and Lin, 2024), making it the deadliest U.S. wildfire in over a century (Treisman, 2023). Immediately, ‘ohana who had lost their homes, and even family

members, faced offers by disaster capitalists and real estate investors to buy their charred lots (Lakhani, 2024). Community leaders, many of whom had lost their homes themselves, urged Lahaina ‘ohana not to sell and organized within weeks using a land trust model to secure as much land as possible for the community and prevent future gentrification. LCLT aims to “protect Lahaina lands by offering landowners considering the sale of their land a community based alternative to investor transactions, prioritizing our community’s well-being over profit” (Lahaina Community Land Trust, n.d.). Lahaina families can incorporate a deed restriction on their land to give LCLT the first right of refusal to buy their land, if they ever need to sell. This legal tool creates a layer of protection to keep land in community hands and off the speculative market. In the words of LCLT leader Kapali Keahi, “Everyone wants a piece of Lahaina. We cannot compete with that. Together, though, we stand a chance.” One year after the fires, LCLT has secured a \$15 million funding package from the County of Maui, raised additional funds for operations and acquisitions from private funding sources, and protected its first parcel of land, in partnership with The Conservation Fund (Subiono, 2024). These examples highlight how Indigenous community land trusts hold potential to offer housing stability and keep communities together even in the aftermath of disaster.

Reflection

From the small rural island of Kaua‘i to the sprawling cityscape of the Bay Area to the fragile yet sacred coasts of Louisiana, Indigenous-led land trusts and stewardship efforts make strides in addressing harms of historical and present-day colonization while restoring connections to ancestral lands through repatriation and land return. This community case study offers insights into Hawaiian community-based land trust Kīpuka Kuleana’s work for repatriation, linking our efforts to Land Back and climate change adaptation work of our Indigenous and allied partners across the U.S. The models highlighted in this article offer opportunities for mitigating climate change impacts that disproportionately affect Indigenous communities, including loss of food security, property, health, housing, work, education, self-determination, and sovereignty (Maldonado et al., 2013; Rising Voices, 2014; Moulton et al., 2018). Repatriation is not just beneficial for people and place; it is arguably essential for a just, sustainable future, shifting from a colonial, extractive, profit-driven relationship to lands and waters toward an Indigenous relationality and adaptation for collective health and abundance. When ‘āina guides people in caring for land together, listening well, and collectively determining what is pono for the entire community, we forge a path toward a thriving future for all living beings.

Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

Author contributions

SB: Writing – original draft, Writing – review & editing. MV: Writing – original draft, Writing – review & editing. CA: Writing – original draft, Writing – review & editing. MA: Writing – original draft, Writing – review & editing. EB: Writing – original draft, Writing – review & editing. JL: Writing – original draft, Writing – review & editing. DC: Writing – review & editing. JM: Writing – original draft, Writing – review & editing.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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