NARRATIVES OF COMMUNITY GARDEN EDUCATION:

BRIDGING SOCIAL CAPITAL, ECOLITERACY, AND CIVIC LEADERSHIP

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DEDICATION

This short story by Anthony DeMello (1992) illustrates my personal and professional mission to continually recognize and break through the illusions that limit our potentials.

> A man found an eagle egg and put it in the nest of a barnyard hen. The eaglet hatched with the brood of chicks and grew up with them. All his life the eagle did what the barnyard chicks did, thinking he was a barnyard chick. He scratched the earth for worms and insects. He clucked and cackled. And he would thrash his wings and fly a few feet into the air. Years passed and the eagle grew very old. One day he saw a magnificent bird above him in the cloudless sky. It glided in graceful majesty among the powerful wind current, with scarcely a beat of its strong golden wings. The only eagle looked up in awe. ʻWho's that? He asked.' That's the eagle, the king of the birds," said his neighbor. "He belongs to the sky. We belong to the earth – we are chickens." So the eagle lived and died a chicken, for that's what he thought he was (p. 3).

We all have latent gifts within us. Our awareness and agency to develop those gifts, however, is a matter of education and support. I dedicate this dissertation to my mom and dad, the greatest teachers of my life; and to Kālewa and Kili, my beloved companions in the sky.

Mahalo me ke aloha,

Kaleonahenahemekanaʻaupono

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ABSTRACT

Ample evidence suggests that environmental problems, and their impacts to present and future generations, require our utmost attention. Education within schools *and* communities play critical roles in shaping the perceptions and relationships people have to their natural and social environments. However, few studies have examined the capacity of non-formal, community garden education in building sustainable communities. This case study explored the motivations, strategies, and capacities of civic leaders who had little financial capital, to organize people, knowledge, and resources for community and education transformation. Data for this study came from Kaiao Community Garden (KCG) and a network of affiliated organizations in Hilo, Hawaiʻi. Multiple qualitative methods were used in collecting perspectives from 60 participants across 11 programs and six stakeholder groups between late 2010 and late 2012. Reiterative coding and narrative analysis elucidated critical themes in establishing and sustaining community garden education, amidst rising challenges. Bridging forms of social capital proved significant in developing civic leadership, just as civic leadership created meaningful opportunities for bridging social capital. Within a garden context, these two themes played key roles in developing ecoliteracy, or the knowledge, skills, attitudes, behaviors, and interrelationships relevant to sustainability. Ecoliteracy also related back to social capital and civic leadership through experiential social learning, service-learning, and mentorship. Hence, this study advances a theory on the educational dimensions of holistic sustainability. Implications for practice include support for ecological service-learning opportunities that bridge students within schools, communities, and the natural world.

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LIST OF ABBREVIATIONS

ADH	Adult Day Health, a program of the Goodwill Industries of Hawaiʻi
BGC	Boys and Girls Club of the Big Island of Hawaiʻi, Hilo site
HIBC	Hawaiʻi Island Beacon Community, a non-profit organization
KCG	Kaiao Community Garden in Hilo, Hawaiʻi
LGH	Let's Grow Hilo, edible urban gardens in Hilo, Hawaiʻi
LCC	Lihikai Hawaiian Cultural Learning Center
MAʻO	Mala Ai ʻŌpio Farms in Waiʻanae, Oʻahu, Hawaiʻi
OIKH	Ola I Ka Hana, a program of the Goodwill Industries of Hawaiʻi
UHH	University of Hawaiʻi at Hilo

PROLOGUE

CLASSROOMS WITHIN NATURE

Find the heart of it; Make the complex simple, and you achieve mastery – Millman (2000), p. 126.

I remember sharing with the participants of my study that I was exploring the impact of community gardens on sustainability, in general, but specifically ecological literacy, social capital, and civic leadership. As soon as it left my mouth I realized how silly this academic verbiage must have sounded to the community. We spoke different languages. What I called social capital, they called *aloha* (affection, compassion), friendship, and community; what they called *aloha ʻāina* and *malama ʻāina* (related terms meaning love, care, and relationship to land) I called ecoliteracy; and civic leadership seemed foreign in relation to *kuleana* (chosen work that one loves but is treated as a responsibility). Within a cultural community, "sustainability" was seen as a plastic, overused word, devoid of meaning. "It's not sustainability, it's *ʻike ʻāina*," Meyer once said; literally knowledge derived from the environment, of land, and where food comes from (Kohala Center, 2009b). Throughout this study I discuss both perspectives as a way of bartering between two worlds, academic and community. But aside from these semantics, the heart of the matter seemed to be the health of people, places, communities and their interrelated systems – in other words life.

Community gardens are classrooms within nature, where the subject matter is life itself. They teach us about our relationships toward one another and the natural world – that humans are not separate from and superior to nature but are a part of a web of life that is interconnected and interdependent. In learning about ecological networks people

discover how to create diverse and meaningful social networks that develop social health and resiliency. They are community gathering places that bridge together people, knowledge and resources in order to create solutions to community-defined problems. And finally, they teach us about *holistic* sustainability – that true sustainability is made up of many interrelated components. These components include ecological soundness, economic viability, cultural sensitivity, social justice and equity, holistic science, appropriateness of technology and total human development (N. Arancon, personal communication, February 17, 2012).

Community garden education is not curriculum-based, it is experiential. But what it may lose in terms of rigor, it more than makes up for in terms of the breadth of knowledge, depth of meaning, and practical applications. This study provides unique examples of those aspects, and opens up a realm of possibility within environmental education. Community garden education may seem too small to make the least bit of difference to the global environmental crisis. Yet from another perspective, it is a stepping stone in the right direction for citizens and communities who refuse giving in to hopelessness. This is beautifully depicted by the Chinese ideogram for "crisis," involving both "danger" (a character depicting a person standing on a precipice) and "opportunity" (something that seems small but can pose a solution) (Breton & Largent, 1996, p. 346).

Sustainability in its simplest form is health. Just as ecological literacy, or malama ʻāina, can be a means toward ecological health; social capital, or aloha, can be a means toward social health; and civic leadership a means toward community health. The goal of community gardens is providing the space and the interaction where ecological and human health can flourish together in *pono*, balance. Community gardens are

microcosms, tiny ecosystems demonstrating the harmony and synergy which occurs when people work together and with nature. This dissertation demonstrates the importance of bridging: people with nature, academics with community, culture with science, and education with ecology. Bridging is needed to mend these divisions and lead society to greater wholeness, a principle of sustainability.

Chapter I introduces the state of the human environment as a global crisis requiring urgent action (United Nations, 2010). International declarations and mandates seeking to address this crisis are discussed in terms of education. While the United Nations recognizes that formal and non-formal education must be a primary means of addressing complex problems related to the human environment, this chapter questions whether these forms of education are receiving the necessary support in order to effectively create change. Chapter I continues by proposing the need for greater research of non-formal environmental education, particularly community garden education, and discusses key vocabulary. It closes with an introduction to the research site, Kaiao Community Garden (KCG).

Chapter II outlines literature supporting this study, beginning with the evolution of environmental education from a dichotomy between culture and science to a deeply integrative notion of ecoliteracy. This discussion considers the limitations of schools, and the opportunities of communities, in teaching ecoliteracy. Next, the evolution of social capital theory is described, from a capitalistic notion of networking for personal advancement and individual wealth to a community-based method of networking for social advancement and wellbeing. This chapter closes with a brief look at the history of

community gardens in America, considering their contemporary use as sites for personal, social, and environmental transformation.

Chapter III outlines the methods used in this qualitative case study. It begins by introducing the research questions, and stating the role that systems theory and constructivism had in the data collection and analysis. The procedures are then described including my insider, or emic, role as a researcher; bounding the case; collecting multiple forms of data; and undergoing reiterative levels of coding analysis in refining the themes of this study. Details are discussed, including how I recruited participants across multiple stakeholder groups, conducted interviews and noted field observations, used computer software in databasing codes and memos, and represented the results through narratives, tables, and figures. The chapter closes with an explanation of how I ensured the ethical treatment of human subjects and established validity.

Chapter IV is a narrative describing the establishment of KCG, introducing the foundational leaders, members, and partners who constituted its social networks. Using rich descriptions in participants' own voices, I co-constructed the history of KCG, answering how and why it was created. The narrative describes how administering environmental education within the context of community, food, culture, and place added meaning and relevancy to participant experiences. This chapter introduces the idea that regular and meaningful service-learning can develop civic leadership; encourage bonding and bridging, two forms of social capital; and instill conceptions and practices of holistic sustainability and ecoliteracy.

Chapter V further expands this idea through several narratives highlighting the positive experiences that diverse participants had. It describes how and why KCG

responded to far-ranging community needs, creatively applying solutions through community garden education. Ecojustice is explored through food sovereignty, while ecoliteracy, social capital, and civic leadership are examined through applied social learning, service learning, and mentorship. This chapter demonstrates how a community education project sustains itself through a diverse network of people, knowledge, resources, and methods brought together democratically by participants themselves. It highlights how collaborative education creates ownership, accessibility, and invites reinvestment, thus sustaining the project.

Chapter VI includes several narratives describing challenges in sustaining community garden education. It further explores the relationship among civic leadership, social capital, and project sustainability, imparting the importance of partnership within community education. This chapter closes with a final narrative demonstrating that while grassroots community education projects may be difficult to sustain, they never really die so long as community needs remain. The cycle continues as community needs spur additional action by civic leaders, who again generate social capital, thus reinvigorating projects with the hopes of adapting greater resiliency.

Chapter VII serves to help the reader make sense of the KCG experience by answering the research questions and elucidating themes, which emerged from the study. Additional literature is brought in to support these themes, including my assessments. The relationship among themes is represented through a theory I developed on the Educational Dimensions of Holistic Sustainability. This chapter concludes by considering some implications this study may have for formal education.

Finally, the epilogue brings the dissertation to a close, leaving the reader with personal insights gained throughout the study. It describes my educational philosophy on the importance of developing partnerships in order to bridge people within schools, communities, and the natural world; develop stronger relationships and networks across these domains; and ultimately, for education to assume greater purpose and agency in creating sustainable communities.

CHAPTER I.

INTRODUCTION

Purpose of the Study

Since the first United Nations conference on the human environment in Stockholm, 1972, the global community has jointly recognized the critical need to address growing environmental crises and the human dimensions thereof through formal and non-formal environmental education. The United Nations has proclaimed that (1) the ecological problems we face are interconnected on a global scale with economic, developmental, political, social, cultural, esthetic, scientific, and technological dimensions requiring "urgent action;" (2) formal, non-formal, and informal environmental education is a primary means of addressing these issues, but it must focus on concepts and solutions which are interdisciplinary and holistic, and encompass social and cultural perspectives; and (3) the complex, global scale of our problems are such that they require comprehensive efforts at local, national, regional, and international levels to find solutions (UNESCO, 1975; 1978; 2005; United Nations, 2010). Yet, over the last three decades U.S. federal funding has fallen short in supporting this global mandate through formal and non-formal education and in research (Potter, 2010). Not surprisingly, our understanding of environmental education and its implementation has suffered, particularly in non-formal settings.

In the U.S. we have come to define environmental education as learning that is "aimed at producing a citizenry that is knowledgeable concerning the biophysical environment and its associated problems, aware of how to help solve these problems and

motivated to work toward their solution" (Mcbeth & Volk, 2010, p.1). The objective of environmental education is generally considered to be environmental literacy, in short for citizens to have the knowledge, skills, and care to act in ways that promote greater social and ecological sustainability. The problem is that environmental education is (1) generally taught in schools from an abstract, Western, scientific orientation to the exclusion of local issues and social and cultural perspectives (McKeown-Ice & Dendinger, 2000); (2) not properly understood in non-formal settings, particularly those that feature local issues and social and cultural perspectives (Cole, 2007; Nordstrom, 2008); and (3) is still under-researched within communities even though this is the only means of environmental education for the majority of the public (Ballantyne & Packer, 2005; Taylor & Caldarelli, 2004).

This study of community-based ecoliteracy education is necessary in contributing to our understanding of this emerging field, which is reshaping our fundamental perspectives about the relationships and responsibilities that people have toward one another and the natural world. Community gardening education is a national pastime which has gained renewed popularity as a social and environmental movement in the last decade (Pudup, 2008); and it is no wonder as people strategize ways of meeting their needs for personal growth, community revitalization, food sovereignty, and economic resiliency amid the global economic recession. Since the 1890s people have consistently returned to the impulse of community gardening during times of social and economic change; for example, amid recessions, war, and social change movements (Lawson, 2005).

Little is known about the educational impact of the 6,000 plus community gardens in the U.S. (ACGA, 1998), despite conceivably providing ecoliteracy education to hundreds of thousands of people each year through non-formal and informal education in sustainable gardening. These gardens generally operate on vacant private lands, facing a continual threat of closure; striving to build community, but with little financial assistance for materials, training or technical support. It is my hope that this research contributes to an awareness of the importance of educational community gardens and that this awareness leads to greater support, for example, making dedicated public lands available for community development and sustainable growth.

The goals of community education are often less defined and rigorous than in formal education, but may be more complex in substance and fluid in nature. Outcomes may be socially rather than individually assessed, emphasizing group achievement. Establishing an informal learning community can take the pressure off certain individuals struggling to compete and instead, with the support of their peers, lead to their blossoming. The ultimate goal of community education may be becoming more sustainable as a community through strengthening relationships and support networks; exchanging knowledge, culture, and values of stewardship; building individual and group capacities for leadership; and experiencing the synergy of collaboration. By creating community-based educational solutions to local unsustainability, civic leaders around the world are collectively contributing to a global grassroots movement toward environmental harmony and social democracy.

This study documents the efforts of a diverse community made up of multicultural, multi-ability, and intergenerational people coming together for a variety of

reasons. One was to assert their food sovereignty: their inherent right to access land and water, to cultivate the soil using sustainable, traditional methods, and to consume nutritious, culturally significant foods in ways that create a self-defined health and wellbeing. Another reason was to give back to their community and support the diverse needs of people within it. Projects like this obviously achieve more than just environmental literacy.

While coming together to support their mutual needs for nature, sustenance, and health, many participants satisfied their needs for friendship and belonging, safety, creativity, personal growth, appreciation for nature, and open access to education in sustainable gardening. Community education, also known as free-choice learning, offers unique and meaningful opportunities for social, cultural, and experiential learning that is inquiry-based and self-directed. With little to no funding, the civic leaders in this study enlisted the help of their fellow citizens in reshaping education and transforming the community as a whole. Their story contributes to a growing social movement seeking ecological restoration and community revitalization.

Sustainable communities cannot be developed without raising the level of social capital and civic participation among its members, because as I learned from this study, "it takes a community" to create positive change from the ground up. The core idea of social capital is that social networks have value for individuals and groups – from personal happiness to social wellbeing to a healthy democracy (Putnam, 2000). Social capital includes increased capability through relationship formation, interdependent asset accumulation, and "social potentiality," the facilitation of collective ends (Prendergast, 2005). Community gardens are one mechanism for the building of diverse social

networks and thus social capital (Kingsley & Townsend, 2006). Glover (2003) explains how community gardens serve both a "bonding and a bridging function" among people (p. 192):

> …community gardening can be a source of empowerment…[and] provide disenfranchised individuals with opportunities to join a group effort, become an active member of a community, take on leadership roles, and work toward collective goals….In this sense community gardens are often more about *community* than they are about gardening. They offer places where people can gather, network, and identify together as residents of a neighborhood.

In addition to strengthening the bonds between people, community garden education may contribute to environmental learning and environmentally sustainable attitudes and behaviors (Ballantyne & Packer, 2005). Indeed there have been many studies documenting the ability of school gardens, a closed form of community gardening, to raise social, emotional, and ecological intelligence, along with "how-to" guides (Goleman, Bennett, and Barlow, 2012; Stone, 2009; Broda, 2007). Although more research is needed community garden education appears to have this same potential, perhaps even greater given the diverse resources of communities and their open-ended structures in comparison to schools. Yet unlike schools, they tend to not be funded, have dedicated, paid positions, or even security regarding land ownership, raising questions of scope and permanence.

The intent of this qualitative case study was to explore the motivations, strategies, and capacities of civic leaders, with little financial capital, to organize people, knowledge, and resources for community and education transformation. Data for this study came from Kaiao Community Garden (KCG) and a network of affiliated organizations in Hilo, Hawaiʻi. Multiple qualitative methods were used in collecting

perspectives from 60 participants across 11 programs and six stakeholder groups between late 2010 and late 2012.

Significance of the Study

Conceptualizing planetary problems that require planetary solutions is too abstract and out of reach for everyday citizens. This study, however, captured current educational and social efforts, by ordinary citizens, for local sustainability. Alone, these small community-driven projects for sustainability may seem insignificant, but combined with the multitude of small, similar projects around the globe they form one of the largest and most significant social movements of our time (Petrini, 2005). This study demonstrates the important role of community gardens in contributing to holistic sustainability through environmental community education.

The timeliness of this study is credited by the recent 2013 AERA publication, *International Handbook of Research on Environmental Education.* Authors Stevenson, Wals, Dillon, & Brody (2013) justify the importance of environmental education research. "The environment and contested notions of sustainability are increasingly topics of public interest, political debate, and legislation across the world. Environmental education journals now publish research from a wide variety of methodological traditions that show linkages between the environment, health, development, and education. The growth in scholarship makes this an opportune time to review and synthesize the knowledge base of the environmental education (EE) field" (AERA, 2013).

The results of this study draw significant relationships among civic leadership, community building, and ecoliteracy within community garden education. My findings

point to the importance of community garden education in developing the kinds of civic leaders who are able to bridge diverse people and resources in order to help raise the level of holistic sustainability within small communities. Community gardening education, therefore, has an important role to play within the broader field of environmental education.

Research Site: Kaiao Community Garden (KCG) in Hilo, Hawai‘i

We stood together on the rim of the garden and held the silence and awareness of the day unfolding. As we chanted there was a steady warm breeze inviting us into the garden. We worked in the mud and rain, lomilomi[massaging] the ʻāina with our hands and bodies and a beautiful design for our mala kalo [taro garden] came forward along with the realization that we do not work with nature we become empty so nature works through us. We started to work a steady pace that did not waver until it was completed. Pomaika`i started chanting as huli [taro stems] were planted using an o`o [digging] stick and everyone was moving in their own pace but weaving together. The rain began to fall in steady sheets with gusts of wind yet the planters did not stop for a moment. It felt like a great force of nature. Drenched with rain, mud on our feet, hands entwined, hearts singing, the sky was now blue, kalo [taro] was growing. We had created a garden where truth could be shared from our naʻau [hearts and mind] and we were blessed and elevated by this responsibility and relationship to one another and to nature. While we expressed this a misty rain started to fall, a wind blew, we all saw it and felt the tremendous certainty of being held within the arms of Kaiao Garden. – Bodhi Searles, KCG Co-founder (Searles, 2009).

Kaiao Community Garden was established in 2007 by volunteers as a gathering place for the community to experience the transformative process of growing and preparing healthy, sustainable food; of sharing knowledge across culture, class, and generation; and of inspiring positive social and environmental change. KCG leaders described their project as a community food sovereignty movement to teach children and adults how to plant, grow and harvest food culturally, organically, and harmoniously as a community. The garden emphasized the production of native foods such as kalo (taro corms and leaves), ʻuala (sweet potato corms and leaves), ʻulu (breadfruit), maiʻa

(banana), māmaki (*Pipturus albidus,* the leaves of which are used to make a drinking tea), and kō (sugarcane), among others.

They dedicated themselves to their mission: helping others and sharing an abundance of food, knowledge, and friendship in the community. Their objectives also included being a seed bank, in which anyone could come to collect free seeds or cuttings to start their own garden,[1] to support the University of Hawaiʻi at Hilo (UHH) as a cultural and place-based Lab School, to support the neighborhood community in getting together, and to reinvigorate a love of learning through an emphasis on experiential and social applications of knowledge. In their own words they described their community garden education project as

> A place of power and healing where individuals are able to recognize themselves in a context of nature and community. It is a catalyst for the activation of *hoeaea* [the realization of freedom] by means of sustainable practices. This *return to freedom* via life-affirming projects is at the heart of our learning community. KAIAO is a gathering place, a *kauhale*, that supports the garden-based endeavors of feeding the community, teaching healthy knowledge of food, healing body and mind, creating nature-inspired art work, building structures for meetings and workshops, and educating all who enter with the following Hawaiian values:
>
> 1. Hoʻoulu lāhui: mystical development of our communities that begin with self
> 2. Auamo kuleana: responsibilities discovered and shared transform our world
> 3. Aloha ʻāina: loving land and nature develops life-affirming responsibilities
> 4. Hoeaea: the return to freedom because we know we have always been free
> 5. ʻĀina oha: joyful appreciation and friendship with land that is lush and nourishing (B. Searles, personal communication, 2010).

I was intrigued by their seemingly utopian vision. I asked, "Could participants really achieve a kind of power and freedom simply through community gardening? I was struck by their positivity, spiritual undertones, and esoteric language. How wonderfully

[1] The KCG stewards said that at one point they had grown 20 varieties of kalo and several varieties of uala. Unfortunately, the names and identifications of these plants were recorded in the minds of participants, which was lost over time as participation waned. Thus, I was not able to record varietals.

different this sounded from formal education, but what did it really mean? How was it "healing" and "life-affirming," for example? Adding to my interest was the fact that KCG was explicitly created as a demonstration in "deconstructing capitalism" (C. Correa, fieldnotes, 12/2010). Later I learned that this community garden orientation toward capitalism was not so unique – many forms of environmentalism have been critical of capitalism (Mikulak, 2011).

The primary leadership of KCG was held within a close group of four friends – Bodhi Searles, Manu Meyer, Julie Kaneshiro, and Eric Knutson – who sought alternative means of sustaining their project. Seeking only minimal grant funding, KCG's primary means of support was through in-kind donations; exchanges of support among a network of similar organizations; and gifts of time, friendship, assistance, and food among a large group of dedicated and transitional volunteers. They said they relied on faith, of the worthiness of their social and educational project and the ability to garner whatever support they needed from within the community (C. Correa, fieldnotes, 12/2010).

It was baffling to me that KCG, essentially running on volunteer-support and faith, was providing community education for 50-100 people of diverse backgrounds each week, from area schools, colleges, neighborhoods, and affiliated community organizations. They had worked with nearly two dozen organizations within the first three years of their establishment (see Table 1.1). My preliminary observations of KCG suggested that this project might be facilitating social capital, particularly bridging diversity, and creating close bonds of trust; and in developing ecoliteracy, particularly in terms of the knowledge, skills, attitudes, and behaviors associated with sustainable

Table 1.1

Educational Partnerships of KCG (C. Correa, fieldnotes, 12/2010)

Organization Type	Organization Name
Schools	Hilo Intermediate
	Connections Public Charter School
	Waiākea High School
	Hawaiʻi Academy of Arts and Sciences
	St. Joseph School
	Kua o ka La Charter School
Alternative Schools	Goodwill Industries of Hawaiʻi
	Acadia Youth
	Polestar Youth Program
University of Hawaiʻi at Hilo	Education Department
	Agriculture Department
	Geography Department
Hawaiʻi Community College	Human Services
	Sociology Department
Community Programs/Projects	Na Pua Noʻeau: Center for Gifted and Talented Native Hawaiian Children
	Hale Nani Women's Prison
	Lehua Writing Project
Community Affiliations	Haili Kumiai Neighborhood Association
	Hilo Rotary Club
	Glad Tidings Church
	Kohala Center
	Lihikai Hawaiian Cultural Learning Center (LCC)
	Hawaiʻi Island School Garden Network
	Hawaiʻi Island Beacon Community
	MAʻO Farms

agriculture. Yet it took intensive research over two years to begin to appreciate how social capital and ecoliteracy were manifested in fluid and indirect ways.

At first glance it did not look like much education was going on at all: there was no classroom, no curriculum, no assignments, no teacher lecturing; none of the primary elements of formal education, and yet I sensed that deep learning was occurring. Teachers and students seemed to be more engaged, collaborative, and inspired than

normally observed in the classroom. And after more observation it was apparent that civic leadership was being developed and channeled, in addition to social capital, ecoliteracy, and holistic sustainability. Overtime I began to perceive relationships among these four reoccurring themes. Together, the first three themes seemed to be cultivating holistic sustainability within the community (for further explanation see Chapter VII).

Established in downtown Hilo, Hawaiʻi on 1 ½ acres of vacant, overgrown land leased to the Boys and Girls Club of Hilo (BGC), KCG flourished as a *puʻuhonua* (refuge) for the urban community. It was a dynamic, common ground where children "hung out" after school, families volunteered on the weekends, schools partnered for service-learning, elders shared their knowledge, friendships and mentorships naturally formed, and people convened. In terms of non-formal learning, there were weekly classes, seasonal workshops, and biennial conferences. But much of the learning was dynamic, experiential, social, and informal: people in dialog or in silent reflection, working side-by-side, learning from one another and from nature itself. There were never two same moments in the garden; each was special and unique depending on who was present, what the group dynamic was like, the plants, the weather, the interest, or the conversations that unfolded.

Unlike some community gardens whose members farm individual plots separately, KCG was established as a collective garden in which community members worked together in the teaching and learning process of planting, cultivating, harvesting, distributing, and the healthy preparing of food. Hawaiʻi Natural Farming, a KCG affiliation, recommended visiting KCG on its Web site: "Dedicated to education, the garden is the focal point for building the values of true community. Drop by and get your

hands in the soil. Volunteer and make new friends. Connect with your community" (Natural Farming Hawaiʻi, 2009). In describing the essence of their work, the KCG *ʻōhana*, or family, as they considered themselves, described an awakening to the responsibilities of people toward land and community. They believed that the garden encompassed an "intelligence" that brought community, education, and culture into an "essential context of responsibility." They wrote,

> We are awakening our responsibilities through loving relationships with land and people. The times we live in make it obvious that a more fundamental way of living is in order. An authentic connection to land is a paradigm shift into a new and old way of being and doing…We dedicate ourselves to helping others and sharing the abundance of food, knowledge, and friendship in our community (Kaiao Garden ʻOhana, 2010).

The name Kaiao is a Hawaiian word meaning "a new dawn" as in the light (*ao*) over the open ocean (*kai*) at daybreak, as well as "to enlighten" (Pukui and Elbert, 1986). The *kaona*, or hidden meaning of the name, symbolized the community garden as a new awakening happening in Hilo, on the Eastern side of Hawaiʻi Island, where the sun rises. Table 1.2 represents how K-A-I-A-O was used as an acronym to express its underlying Hawaiian principles of Kuleana (responsibility), Ala (awareness), ʻIke (knowledge), ʻĀina (land and food), and ʻOhana (family and close friends or community) (Kaiao Garden ʻOhana, 2010).

Typical of non-formal learning, KCG did not utilize a formal curriculum. But co-founder Manu Meyer, then University of Hawaiʻi at Hilo (UHH) professor of education, would say with confidence, "There is curriculum. The *garden* is the curriculum" (Kohala Center, 2009b). Learning was participant-driven and experiential in keeping with the Hawaiian epistemology of *ma ka hana ka ʻike*, in doing learning occurs (Meyer, 1998).

Table 1.2

Educational Values of KCG

Hawaiian Value	Kaiao's Description
Kuleana	Responsibility, function, purpose
Ala	To rouse from sleep, to be true to yourself
ʻIke	To know, to see, to recognize
ʻĀina	The source that feeds and nourishes
ʻOhana	Family, loving, thriving, spreading

Learning happened naturally in the garden through personal processes such as journaling and reflection, social processes like dialog, creative processes like art, and environmental processes in which learning was imparted directly from the land. Kaiao garden stewards believed that the land itself is a direct teacher and that through the process of spending regular, meaningful time in nature and becoming in-tune with its natural processes, one not only learns but is transformed (C.Correa, fieldnotes, 12/2010).

KCG was place-based, focused on local issues, and grounded in Hawaiian culture, values, and knowledge. Yet, garden leaders welcomed people of all cultural backgrounds, encouraging them to embrace their identity as well as the diversity of the greater community and the values of the host culture. A spirit of unity was inspired on the basis that the human experience is a struggle, especially without a support network. For example, some people are struggling physically to survive and meet their basic needs, while others are struggling emotionally and spiritually to grow and find meaning in life. Relationships are also a struggle for many. More recently, those who are aware people are striving to become more ecologically responsible in their behaviors, which is not easy in today's modern world.

Who is there to help with these struggles? If people are lucky they have a good formal education, good families and good friends, but how many draw support from and provide support to their communities? What is it like for people to become more integrated? For the participants of this study it was largely transformative, even liberating. Many volunteers were moved enough by their experiences at Kaiao garden to write poetry and songs about it. One of those poems, written by a college student volunteer, is represented in Figure 1.1. Love is included five times in this short piece, demonstrating a genuine connection felt to the land and people at KCG. The poem includes other words revealing the student's experience. "Realization" and "higher thought" indicate education. "Proud", "thrives", and "flourish" indicate personal development. "Braided," "cords," and "bind" symbolize strength and resiliency in numbers, and indicate bonding and bridging among diverse people as opposed to assimilation. "Bountiful" and "ceaseless" reveal ecoliteracy, as an awareness and appreciation for cyclical patterns within nature. "Resounding compassion," "generously," and "infinite nurturing" speak to the development of social and emotional intelligence.

While community gardens have been studied for their potential to improve life through recreation, community, health, and social empowerment, there are comparatively few studies showing the potential educational impact of community gardens, specifically in terms of civic leadership, social capital and sustainability.[2] I discuss this in the following literature review.

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[2] For example, an advanced search within ProQuest Dissertations & Thesis (PQDT) with the keywords: "community garden" and "social capital" and "civic leadership" yielded only six results, most of which were published in the last four years. A second search with the keywords: "community garden" and "ecoliteracy" yielded 26 results. A final search for "community garden" within "education" departments yielded only 59 results. PQDT is the world's most comprehensive database of dissertations and thesis (ProQuest, 2013).

Figure 1.1

Poetry about KCG (written by UHH student Ryan McCormack, Hoeaea, 2010)

Pō Haili kula manu	Haili[3], the gathering place of birds, is concealed
I ka ua kanilehua	By the Kanilehua
Ka lehua hoʻnuʻa [*sic*] o Hilo	And the bountiful lehua of Hilo
Hilo mahi haʻaheo	Hilo, of the proud farmers
E mahi ʻai ka ʻai huna a ka ao	Who cultivate the hidden food of the earth
I ola mau i ka mau ʻole a ka ua	That thrives in the ceaseless rain
Ua hilo ʻia i ke aho a ke aloha lā	Braided with the cords of love
Aloha wale ē	Love indeed
[Translation not available]	The love realization of higher thought
	Brings forth resounding compassion
	Give generously and continuously, bind it!
	Hilo, where cultivation is a proud custom
	Of unearthing the secrets of the cosmos
	That flourish in the infinite nurturing
	That is bound to the coherence of love
	And love alone

[3] Haili is the traditional Hawaiian place name for the area where KCG was established.

CHAPTER 2.

LITERATURE REVIEW

Environmental Education: A Bridge to Sustainability

In 1962 Rachael Carson wrote a book entitled *Silent Spring*, which was one of the first publications to warn that human interventions in natural processes, such as the rising use of pesticides, might disrupt, damage, and even destroy ecological systems so fragile and complex that we may not realize the consequences of our actions until it is too late. Her premise was that one isolated event can have a ripple effect on many other interconnected systems. Carson used the example of pesticides, saying that it would eventually lead to a decline in birds, hence a "silent spring." While there have always been voices in opposition to policies which destroy land and uproot peoples – often native peoples – and pollute and misuse the environment, the modern "environmental movement" often traces its origins to this publication (Dator, 2010; Orr, 1992, p. 54).

Several environmental disasters also spurred concerns over the environmental and public health effects of industrialization and technological development. The Donora, Pennsylvania smog of 1948 and the London smog of 1952 involved severe air pollution which, collectively, led to thousands of deaths and respiratory illnesses (De Angelo & Black, 2008; Lowitz, Cleveland, & Black, 2007). These events came at a time when the public was already worried about nuclear war and the effects of radiation fallout due to the geopolitical climate of the time. The two large oil spills that followed, one off the coast of England in 1967, and the other off the coast of Santa Barbara, California, in 1969, generated additional public outcry (Venkataraman, 2008, p. 8). This coalesced in

the United States on April 22, 1970 with the first annual environmental awareness campaign known as Earth Day, in which an estimated 20 million people across the nation participated in peaceful demonstrations to draw attention to environmental issues (EPA, 2007).

Increasingly over the last few decades, environmental degradation due to industrial farming practices has come into the spotlight, spurring a revival in sustainable gardening education, within a broader environmental education movement. Until recently most Americans did not give a second thought to where their food came from, or how its production processes affected the environment and society. Since the drastic policies of Earl Butz, Secretary of Agriculture under the Nixon Administration, paved the way for large-scale monoculture farming, food has been historically cheap. For decades food has comprised of less than 10% of household income, half that of other countries, and therefore not much of a concern for the average American. And yet there are hidden costs that have accompanied cheap, fast food: declining health (an obesity epidemic that costs the healthcare system $90 billion a year); social injustice (unfair wages and human rights violations against many farm workers); and environmental degradation (soil depletion, fertility loss, and toxic leaching) (Pollan, 2007).

Today, there are dozens of American film documentaries about where food comes from, the effects of the Standard American Diet on obesity and other health conditions, the potential dangers of genetically-engineered foods, the struggles of small farmers for survival, and the effects that industrial farming practices are having on ecosystems. Community gardens, school gardens, and even prison gardens have become established around the U.S. to the point of almost becoming mainstream. Another example of shifting

perspectives on food and agriculture came directly out of the White House. When Barrack Obama was first elected President in 2008, one of the first things that First Lady Michelle Obama did was to plant a garden on the White House lawn, followed by the promotion of school gardens, healthier school lunches, farmer's markets, a book published on gardening, and a Let's Move campaign promoting healthy diet and exercise among youth (NPR, May 29, 2012).

Objectives of environmental education. The scholarly community responded to the public's demand for a greater environmental ethic by beginning to develop pedagogy around environmental literacy, a concept first publicized in 1968 by Charles E. Roth (1992). "Literacy" describes a human ability. Traditionally meaning the ability to read and write, literacy has been attached to a whole range of abilities: numeric, technical, and more recently, environmental and ecological (Orr, 1992, p. 85). The concept has evolved over several decades to generally mean, "the capacity to perceive and interpret the relative health of environmental systems and take appropriate action to maintain, restore, or improve the health of those systems" (Disinger & Roth, 1992). Environmental literacy generally includes six major areas: environmental sensitivity, knowledge, skills, attitudes and values, personal investment and responsibility, and active involvement. These can be summed up in four strands: knowledge, skills, affect, and behavior (Roth, 1992, p. 9).

More rigorous definitions of environmental literacy would come later, such as one from the University of Georgia Environmental Literacy Committee (2000). Students have acquired environmental literacy, according to the Committee, if they can understand and think critically about a basic scientific principles that govern natural systems, using these

to understand the limits and major factors associated with the earth's capacity to sustain life; (b) linkages among all living things and their dependency on each other as well as the physical environment; (c) consequences of human activity on local, regional, and global natural systems; (d) impact of changes within natural systems of life, health, and welfare; (e) cultural economic, and political forces – both past and present – that affect environmental attitudes and decision making; and (f) role of ethics and morality in individual and group decision making related to the environment (Cole, 2007).

Although several definitions for environmental education arose during the 1960s and 1970s, one of the most noteworthy and widely used in the United States was offered by University of Michigan faculty and graduate students in 1969: "Environmental education is aimed at producing a citizenry that is knowledgeable concerning the biophysical environment and its associated problems, aware of how to help solve these problems and motivated to work toward their solution" (McBeth & Volk, 2010, p.1). Roth and others later revised environmental education and environmental literacy to include relevant issues in social justice, economics, politics and culture (see Disinger & Roth, 1992; McKeown-Ice & Dendinger, 2000). For example, environmental education in the scope of social justice poses a different set of questions like: "Who determines what happens here? At what cost? To whose benefit? Why not somewhere else?" (Cole, 2007, p. 38). A rigorous inclusion of social justice issues falls under a branch of environmental education known as environmental justice. Environmental literacy is widely accepted as the goal of environmental education (Harvey, 1977), while environmental justice has struggled to gain support within the field.

This study draws broadly from this varied aims of environmental education, but focuses on ecoliteracy. The term ecological literacy, more commonly referred to as ecoliteracy, was first coined by David Orr and Fritjof Capra in the 1990s, and is a deeper conception of environmental education than "environmental literacy." An ecologically literate person has at least a basic understanding of ecology, human ecology, and sustainability and the ability to solve related problems (Orr, 2004).

The relationship between traditional ecology and human ecology is explained by Fredrick Steiner (2002). Ecology involves comprehending the relationships that living organisms have with each other and their natural environment. Human ecology is a new ecology based on the evolution of traditional ecology to consider how human systems are interrelated with environmental systems. It "emphasizes complexity over reductionism, focuses on changes over stable states, and expands ecological concepts beyond the study of plants and animals to include people" (p. 3). Also, it challenges traditional ecology's earlier assumptions of being a closed system. New ecology recognizes that "boundaries between communities blur. Open systems possess fluid, overlapping boundaries across several spatial scales from the local to the global" (p. 4).

Ecoliteracy is the ability to ask "What then?" with regard to our social and environmental interconnections (Orr, 1992, p. 85). Orr (2004) critiques the term "environmental education" for its mistaken implication that a course or two about the environment will somehow shift society's behavior toward sustainability. He says that what is needed is a "deeper transformation of the substance, process, and scope of education at all levels." "All education is environmental education … by what is included

or excluded we teach the young that they are part of, or apart from, the natural world" (Orr, 1992, p. 90).

Being ecoliterate, Capra (1996) argues, means "understanding the principles of organization of ecological communities (ecosystems) and using those principles for creating sustainable human communities" (p. 297). Capra (1996) acknowledges that there are many differences between ecological and human communities, for example: language, self-awareness, consciousness, and culture. There is neither justice or democracy nor greed and dishonesty within ecosystems and therefore they cannot teach us anything about these human values and shortcomings. He says that what we can and must learn from them is how to live sustainably. "During more than three billion years of evolution the planet's ecosystems have organized themselves in subtle and complex ways so as to maximize sustainability. This wisdom of nature is the essence of ecoliteracy" (p. 298).

Limitations within schools. The environmental education movement has not been without criticism and controversy. Sauve, Berryman, & Brunelle (2007) point to the increasing "institutionalization" of environmental education over the last thirty years (p. 2). While they acknowledge that institutionalization has enabled critically needed environmental education programs to be promoted globally, they cite authors and educators who also view institutionalization as "problematic when it corresponds to a top-down strategy, when it promotes a 'culturally-blind isomorphism,' when it reifies socially constructed knowledge that fosters and reproduces domination, when it

uncritically supports or imposes certain ways of thinking and doing, and when it does not offer concrete strategies and means of implementation" (p. 2).

The *Belgrade Charter* and *Tbilisi Declaration*, two founding U.N. declarations seeking to address the global environmental crisis, identified scientific and social aspects as equally important within environmental education; however, in the U.S. this education has overemphasized science, to the exclusion of cultural knowledge (Bowers, 1996; Cole, 2007; Nordstrom, 2008; Salmon, 2000). McKeown-Ice & Dendinger (2000) admit that relying solely upon a scientific paradigm has not benefited environmental education, stating, "Over the last three decades, we have learned that science alone will not solve environmental problems" (p. 37). This study demonstrates the power of diverse people working together as a community, blending science and culture, to define and address social and environmental problems.

Environmental educators and researchers have responded to the perceived deficiencies of formal environmental education through discourse that reflects on its shortcomings, revisits foundational concepts and themes, and suggests ways to broaden its scope and build a more substantive structure. Cole (2007) suggests reexamining environmental education through the multidisciplinary lenses of critical pedagogy, the environmental justice movement, and more recent definitions of place-based education. "Understanding that environmental education's key concepts of environment and environmental literacy are culturally specific—not universal—ideas opens the field for more diverse, locally appropriate, and inclusive pedagogies" (p. 35).

Many environmental educators have posited an objective scientific orientation to environmental education, and refuse to entertain indigenous epistemologies, preservation

advocacy, or any environmental pedagogy not based in scientific "truth." Hungerford (2010) writes, "It was obvious that substantive thinking in the field demanded that the environmental educator, while in the classroom, *not be* an advocate for a particular point of view concerning problems and issues, but instead be an advocate for the development of critical thinking skills that lead a learner towards an ability and willingness to carefully consider varying beliefs, values, motives, alternative actions, and personal decisions" (p. 4). Bowers (2001b) takes a critical stance of how schools distinguish high-status knowledge, such as scientific "truth" with low-status knowledge, such as cultural traditions.

> …[F]ormal educational institutions largely determine what constitutes high-status knowledge and what will be marginalized as low-status. Simply put, high-status knowledge is what classroom teachers and professors include in their curricula, and low-status knowledge is what is omitted. It should also be recognized that there are some forms of knowledge that have higher-status than others, with knowledge of how to control Nature being the most esteemed (p. 258).

Research suggests that situating environmental education in exclusively scientific frameworks limits research methodologies to scientific content and ways of knowing about the world (McKeown-Ice & Dendinger, 2000). Socially inclusive environmental education advocates do promote critical thinking, even a critical examination of the environmental education field itself. They certainly acknowledge their biases, as it is impossible for any education to be value-free by virtue of it being a social construct. The way a person experiences and perceives the environment is shaped by an individual's positionality or social identity (i.e. race, class, gender, sexuality) (Turner & Pei Wu, 2002). Many of the conservation ideas on environment and nature, which guide polices and practices affecting the human environment, belong to the dominant middle- and upper-class White culture. An example is the notion of wilderness and nature as

unpeopled, pure, pristine, and in need of protection (Cole, 2007). A very different view held by many indigenous cultures, and from which KCG was based, is that nature and human culture are interconnected (Nordstrom, 2008).

A simple and coherent argument supporting culturally-situated knowledge is put forth by David Orr (1994). He says that few people would deny that more education in science and technology helps to solve environmental problems. Yet, from a critical perspective, he contends, such an education removed from the value systems inherent in culture and place can be viewed as part of the problem. Many forms of environmental destruction that occur on a typical day – loss of rainforest, increased chlorofluorocarbons and carbon dioxide released into the atmosphere – are actually the work of highly educated people with all sorts of degrees. In contrast to being educated in the abstract, "knowing" something in its context entails understanding its effects on real people and communities (p. 14). KCG emphasized how important it is to go beyond the abstract and develop a relationship and responsibility to what is being taught in order for the learning to be deep and meaningful (E. Knutson, personal communication, February 10, 2011).

Opportunities within communities. Researchers have noted that the average citizen spends only 3% of his or her time in school, over the course of life (Falk & Dierking, 2002). Since education is a lifelong process, the majority of learning takes place outside of school in a variety of places and contexts and for myriad reasons. "The tendency in our culture is to delegate the burden of all such efforts to the schools but they are only one segment of our broader, though poorly integrated, educational system"

(Roth, 1992, p. 27). The educational system includes family, community, media, religious organizations, interest groups, and the workplace, in addition to schools (Roth, 1992).

Non-formal education is "any organized, intentional and explicit effort to promote learning to enhance the quality of life through non-school settings" (Heimlich, 1993, p. 2). Additional classifications include lifelong learning, free-choice learning, community education, community-based education, and adult and community education. Community education and community learning are preferred terms for this study. Environmental education is an approach, an integrating concept, and a way of thinking, more than a discipline. It is thus difficult to place in the rigid, discipline-focused curriculum of traditional schooling, but non-formal education responds to this style quite easily (Falk, 2005). According to Falk, a leading authority on community education, "most environmental learning is not acquired in school, but outside of school through free-choice learning experiences," and this is true worldwide (2005, p. 265).

This study of KCG validates the claim that community education can encourage curiosity and exploration of the natural world, change attitudes, evoke feelings, develop a greater sense of personal, cultural, and community identity, and make eco-management decisions about environmental issues (Ballantyne and Packer, 2005). Many of the perceived deficiencies of formal environmental education are thought to be strengths of non-formal environmental education, such as the development of social consciousness and social responsibility, which best occurs through real experiences in the community. At KCG, this social consciousness and social responsibility were nurtured with many participants going on to develop civic leadership.

Environmental literacy can be demonstrated through civically engaging in protection and stewardship of local, environmental resources (Lyson, 2004; Potter, 2010). Developing civically responsive behaviors toward the biophysical environment are essential in the equation of preventing and addressing environmental issues. Knowledge, skills, and affect are important but alone are ineffectual in enacting change. Individual and collective behaviors of stewardship are becoming increasingly important in addressing environmental issues, in conjunction with governmental rules and regulations (Potter, 2010). KCG was a place where individuals could practice and develop behaviors of stewardship alongside others in a safe, fun way.

The Society for Community Development (2007) defines responsible citizenship as "individuals who realize their obligations to take actions that ensure their community is healthy, safe, and secure … [who] participate in their community to promote personal and public good." Lyson (2004) extends the notion of civic engagement to civic agriculture in which environmentally sound behaviors manifest in terms of local production and consumption within a community in recognition of the many social, economic, and environmental benefits that ensue.

The social and ecological challenges before and ahead of us warrant a strong educational response, but this response should be balanced inclusive of culture and other "ways of knowing." It must be adequately funded and equally implemented within formal and non-formal learning communities. Also, it must include rich, service-learning *experiences* within nature to add meaning, supplement discourse, and provide community-based applications to local environmental problems. David Orr (1994) has

emphasized how important this education is to the planet, as well as present and future generations.

> Those now being educated will have to do what we, the present generation, have been unable or unwilling to do: stabilize world population; stabilize and then reduce the emission of greenhouse gases...protect biological diversity; reduce the destruction of forests everywhere; and conserve soils. They must learn how to use energy and materials with great efficiency. They must rebuild the economy in order to eliminate waste and pollution. They must learn how to manage renewable resources for the long run. They must begin the great work of repairing, as much as possible, the damage done to the earth in the past 200 years of industrialization. And they must do all of this while they reduce worsening social and racial inequity. No generation has ever faced a more daunting agenda (26-27).

In this passage Orr (1994) is not suggesting that the burdens of the environmental crisis *should* unequally fall upon the youth to solve, but that ultimately they *will* become the burden of the present and future generations who will inherit the earth. To focus solely on formal environmental education is to neglect the re-education or lifelong education of generations of adults. Intergenerational learning and collaboration are critical in contributing solutions toward more sustainable communities – and that can be achieved through environmental community education.

Social Capital Theory: A Bridge to Social Wellbeing

The core idea of social capital is that social networks have value – from personal happiness to social wellbeing to a healthy democracy (Putnam, 2000). Social capital is defined as "the value of social networks, partly stemming from the norms of trust and reciprocity that flourish through these networks" (Harvard Kennedy School, 2012). Social capital has two conceptually distinct forms, *bonding* and *bridging*, which cannot be interchanged. Bonding creates inclusive social ties whereas bridging creates external social ties (Putnam, 2000). Bonding and bridging were heavily evidenced in this study,

but bridging was most notable in terms of creating a diverse community project leading to tolerance, compassion, trust, reciprocity, mutual understanding, and social uplift between heterogeneous groups of people.

Although studies tend to focus on the positive effects of social capital, it is true that bonding can have positive or negative effects. Bonding can occur as a healthy friendship or create insider/outsider roles, prejudice, and gang mentality (Putnam, 2000). This study examines the valuable role that social networks have in improving life and liberty through social collaboration. The "capital" in social capital indicates the increased capability through relationship formation, interdependent asset accumulation, and the "social potentiality" of facilitating collective ends (Prendergast, 2005).

Objectives of social capital. Social capital creates intrinsic value, in contrast to financial capital, physical capital and human capital, which principally add extrinsic value by enhancing productivity and material wealth. Social capital also differs from cultural capital, which suggests that a certain culture may represent a source of status or power that when reproduced creates social inequality and cultural hierarchy. While social capital also defines itself in terms of "culture;" in this sense it is referring to cultural features such as trust and normative consensus, rather than exclusive symbols of prestige (DiMaggio, 2005). This study demonstrates the way that social capital can be used in bridge inequality gaps that other forms of capital serve to entrench; not through material gains but through access of shared resources.

The KCG experience was consistent with contemporary research on social capital. Botsman & Rogers (2010) describe people in the Western world slowly moving away

from the isolation and excess caused by individual consumption and accumulation. Instead, they are moving toward communities of collectively "owned" resources built upon and accessed through "collaborative consumption." Collaborative consumption describes the "rapid explosion traditional sharing, bartering, lending, trading, renting, gifting, and swapping reinvented through network technologies on a scale and in ways never possible before" (Collaborative Consumption, 2012). I think of it as social capital 2.0, which references the interaction and collaboration characteristic of social capital between peers, but across real *and* virtual communities.

There are many examples of how collaborative consumption, or social capital 2.0, creates an "explosion" of sharing. One example given by Botsman & Rogers (2010) is Adam Dell who started SharedEarth in 2010, a Web site dedicated to connecting land and gardeners. He got the idea after posting an advertisement on Craigslist, a virtual community, stating that he had spare land and was looking for someone willing to tend to it and transform it into a vegetable garden. He would provide the seeds, soil, and equipment and the other person would provide the labor. The produce would be shared 50/50. He received more than thirty responses within 48 hours. Inspired, Dell began thinking about the vast amount of unused land in America that, directed toward peoples' interest in gardening, could form the largest community garden in the world. Approximately one billion square feet of land was registered within the first year of EarthShare. LandShare is a similar idea that was developed in the UK around the same time of EarthShare. This social media tool connects more than 50,000 people in every zip code of the UK, who are either growers or landowners looking to share their value. (Botsman & Rogers, 2010, p. 87-88). I cite this as an example of how social capital,

ecoliteracy, and civic leadership are rapidly co-evolving, enabling average citizens to efficiently and creatively establish sustainable communities.

While collaborative consumption technically refers to the ways in which the internet and social media have enabled peer-to-peer economic exchanges bridging strangers and distance, it could also be applied to the ways in which people share intangible assets such as time, space, and skills through "collaborative lifestyles" (Botsman & Rogers, 2010, p. 73). Kaiao, and other traditional community gardens, are ancient symbols of collaborative consumption. Literally, they are collaborations in the consumption of healthy food; but through social capital, they become collaborations in the production of meaningful lives.

I was first introduced to the idea of collaborative consumption at the 2012 Hawaiʻi Agriculture Conference, which had as its theme, "Leveraging Partnerships for Profit." The basic idea was right; that networking and collaboration, as opposed to fierce competition, makes sense. As the world's resources become more strained and costly, people are simultaneously aspiring for more synergistic models of advancement. But should the emphasis of our collaborations in Hawaiʻi agriculture be "profit"? As a byproduct, profit is nice, but as a primary goal it can be problematic, after all, profit at all costs is what lead to the 2008 global recession and related environmental crisis.

The primary goal of collaboration in agriculture should be to create value in terms of productivity and health, while also achieving holistic sustainability. Collaboration can be utilized for different and multiple purposes, but for KCG the primary function of gardening was improving social and environmental health. Botsman & Rogers (2010) suggest that KCG was not unique as a social movement striving for something beyond

financial gain and consumer identity. Whereas the twentieth century of hyper consumption defined people by credit, advertising, and what they owned, the twenty-first century of Collaborative Consumption defines people by reputation, by community, and by what they can access and how they share and what they give away. It is based on a belief in the commons and trust between strangers. The old top-heavy, centralized, and controlled forms of social organization and productivity are giving way to diverse, egalitarian systems of sharing, aggregation, openness, and cooperation (Botsman & Rogers, 2010, p. xx). As these times warrant the development of new social and environmental behaviors, it makes sense to look to the enduring processes of nature as a guide.

Within nature direct and indirect collaborations are vital in sustaining life. Honey bees, for example, cannot survive in isolation, independent of the hive. They live within a collective intelligence, operating as a large, multi-creatured organism. Each bee synchronistically performs its specialized role for the benefit of the whole colony (Capra, 2006, p. 34). Bottlenose dolphins are another example. They live within close-knit family pods of six to ten dolphins, but will occasionally form heterogeneous networks with other pods to form groups of more than a hundred dolphins for the purposes of "cooperative feeding." They innately cooperate and coordinate their behaviors when hunting fish and looking after one another (Botsman & Rogers, 2010, p. 67-68). These are examples of survival mechanisms developed over millions of years. Indirect collaborations are also prevalent in terms of how energy is cycled through plant and animal life. If collaboration is so vital to the sustainability of natural systems, why would it be any different for social systems?

Daniel Goleman (2009) asserts the view that the ecological abilities necessary for human survival must be shared within the collective intelligence of a community and a society; something people master within networks and as a species, similar to the honey bee example. He says that the challenges before us are too varied, subtle, and complicated to be understood and overcome by individuals. "Ecological intelligence allows us to comprehend systems in all their complexity, as well as the interplay between the natural and man-made worlds. But that understanding demands a vast store of knowledge, one so huge that no single brain can store it all." Recognizing and finding solutions to these challenges requires a collective determination from a diverse range of people and perspectives. As Goleman (2009) urges, "Each one of us needs the help of others to navigate the complexities of ecological intelligence. We need to collaborate" (p. 47-48). But it is not just that people collaborate, it is that they collaborate diversely.

A diverse ecosystem is resilient due to a complex network of interrelated species and overlapping ecological functions. Biodiversity within ecological communities enable survival overtime by reorganizing around disturbances and drawing strength from multiple alternate sources. Sustainable human communities similarly use diversity in building resiliency (Capra, 1996, p. 303). This study found a vibrant community sustained by a web of relationships: civic leaders supporting a network of organizations with similar missions; friendships, mentorships, and social learning cutting across heterogeneous groups of people; and a collaborative transmission of knowledge through the plural cultures, traditions, approaches, and interpretations that participants brought with them.

Arjen Wals' *Social learning toward a sustainable world* (2007) notes that it would be naïve to assume that simply by putting together people of diverse backgrounds, perspectives, values, and so on, that synergy would naturally occur (Wals, 2013). Capra (1996) further points out that diversity does not always lead to resilient communities. When communities are fragmented and groups and individuals are isolated, diversity can be a source of prejudice and friction (p. 303-304). Social capital, also referred to as social cohesion, is cultivated through people working on a common task in a safe, pleasant environment is necessary in bridging differences (Wals, 2013).

Seeing the value of interdependency and diversity both in nature and in a learning community, KCG education was as much about enriching relationships as it was about enriching the soil. As in natural ecology, the social ecology at Kaiao was maintained organically. "When personal relationships and social capital return to the center of the exchanges," say Botsman & Rogers (2010), "peer-to-peer trust is relatively easy to create and manage and most of the time the trust is strengthened not broken" (p. 93). They argue that a community can be established so that freeloaders, vandals, or abusers are not generally attracted, but can easily be identified and weeded out. Meanwhile, those with open, honest, and reciprocal behaviors are rewarded

Overview of social capital theory. Social capital theory is considered one of the most salient constructs in the social sciences (Lin, 1999). According to Lin, Cook, & Burt (2001), its popularity is partly due to how it captures the essence of many sociological concepts (e.g., social support, social integration, social cohesion, in addition to norms and values). While social capital has been a well-established sociological concept for over

thirty years, applied across diverse disciplines such as political science, education, public health, and business, its fundamental ideas are not new (Portes, 1998).

The concepts underlying social capital date to classical thinkers, such as Aristotle, who advocated for community governance (Bowles & Gintis, 2000) and virtues such as benevolence (Coleman, 1994). French political thinker Alexis de Tocqueville, who observed the United States in the 1830s, mused that the key to Americans' unprecedented ability to make democracy flourish at that time was their propensity for civic association (Putnam, 2000). The work of Emile Durkheim and Karl Marx in the late 19th century, lead to the establishment of sociology as an academic discipline, making us aware that involvement and participation in groups can have positive consequences for the individual and community. For example, Durkheim saw group life as an "antidote for anomie and self-destruction" and Marx made the distinction between an "atomized class-in-itself and a mobilized and effective class-for-itself" (Portes, 1998, p. 2).

Social capital in regards to education was first mentioned by John Dewey in 1899 through his book *The School and Society*. By recognizing the social aspects of school subjects he believed that education could "unlock to the child the wealth of social capital which lies beyond the possible range of his limited individual experience" (Dewey, 1915, p. 104). Yet, "social capital" as a theoretical concept did not become established until the 1980s by Pierre Bourdieu, Glenn Loury, and James Coleman, and later evolved through contributions by other scholars, such as Putnam and Lin.

Bourdieu (1986) recognized that there are many ways to measure wealth and influence human productivity beyond money. He emphasizes the exchangeability of different forms of capital (economic, physical, human, cultural, and social), as they are all

defined as accumulated human labor and can ultimately be reduced to economic capital. However, the processes bringing about alternative forms of capital are less transparent and more uncertain than economic capital in terms of unspecified obligations, uncertain time horizons, and the possible violation of reciprocity expectations.

Whereas cultural capital (social class) and human capital (productivity) are developed individually, more or less, social capital (networking) is developed in conjunction with other people. Bourdieu (1986) defined social capital as the value one gains from personal connections including family, friendships, and groups of association and solidarity. According to Biggart, Bourdieu viewed networking as a conscious attempt at building social capital, which he likened to an "investment." As a social investment individuals can claim access to resources possessed by their associates and vice versa. Mutual benefit sustains group participation. Individuals receive benefits by virtue of their association with groups, such as access to jobs or valuable information. Similarly individual gains lead to group gains, such as increased solidarity and the exchange of goods, material and symbolic (e.g., recognition) (Biggart, 2008, p. 278).

Loury (1977; 1998) also connected social capital to economics by describing the set of resources inherent within family relations and community organization that support the cognitive or social development of youth, thereby developing human capital (i.e., enhancing individual productivity and wealth). Loury's research extended economic theories to racial inequality, based solely on discrimination, by demonstrating that social capital theory provides a richer context with which to analyze group inequality. For example, an individual's ultimate economic success is largely based on one's inherited social situation. Individuals are embedded in complex networks of affiliations, including

nuclear and extended families, religious and linguistic groups, ethnic and racial groups, and rooted in particular localities and neighborhoods. Access to resources varies according to one's social situatedness, or their location within a network of social affiliations (Loury, 1998). Given the weight of our social circumstances on our access to resources, Loury (1977) argued that absolute equality of opportunity is an ideal that cannot be achieved, challenging orthodox economics based on individualism.

> The merit notion that, in a free society, each individual will rise to the level justified by his or her competence conflicts with the observation that no one travels that road entirely alone. The social context within which individual maturation occurs strongly conditions what otherwise equally competent individuals can achieve (p. 176).

The KCG experience provides promise to Loury's (1998) conception of social capital as social situatedness that is largely determined through inheritance. Through conscious bridging within community education, people were able to begin the process of breaking free of inherited social situatedness. At KCG diverse people mingled and exchanged knowledge, culture, and information creating greater opportunities for people. Through bridging diverse people, KCG enabled participants to access resources that might not otherwise be available to them. At-risk teens, certain minority groups, and adults with disabilities gained access to college and employment opportunities, genuine friendships, and support by networking with people who had access to different resources. College students, teachers, and other professionals also gained from networking with these groups of people. Their gains included knowledge of community needs, experience in teaching and mentorship, and values such as compassion.

Loury influenced James Coleman (1994) who defined social capital as the advantage, or capital asset, derived from social networks. Social structures, Coleman (1994) asserted, create social capital through "means" such as reciprocity, expectations,

and group enforcement of norms, and "ends" such as privileged access to information. Like other forms of capital, he described social capital as productive, "making possible the achievement of certain ends that would not be attainable in its absence. Yet unlike other forms of capital, it inheres in the structure of relations between and among persons" (Coleman, 1994, p. 302).

At KCG I observed people exchanging support to one another and service to their community through reciprocity. People learned to count on one another and enforced checks and balances, governing safety and respectful codes of conduct. Information and resources flowed between people leading individuals to become more informed, and the project to gain capacity, despite limited funds. KCG leaders intuitively created strong and positive social networks for the purposes of social uplift, comparing it to a rising tide that lifts all boats (B. Searles, personal communication, October 7, 2011).

Social interdependence arises when individuals have interests in events that are fully or partially under the control of others. Coleman (1994) explained the reality of people's social independence in contrast to the modern myth of individualism. A dominant view of modern society is that people are successful or unsuccessful based upon their individual merit. From this limited perspective society is nothing more than a collection of independent individuals, each acting to achieve independent goals (Coleman, 1994, p. 300). KCG utilized social capital in challenging this dominant view through service learning activities that required collaboration and teamwork to succeed. Countless participants informed me that through regular participation at KCG, their perspectives on individualism had changed. Their trust in others deepened and their belief in community strengthened. Those with the most experience at KCG, the leaders, had

developed such strong social identities that their actions came from a place of aloha, without expectation of reciprocity. This was evidenced by their awe and gratitude by people reciprocating goodwill toward them and their peers.

Coleman (1994) argued that despite the conscious and largely successful historical effort in the West to promote a social framework of individualism, which has paved the way for capitalism, it is false that individuals naturally or necessarily act independently or wholly according to selfish interests. KCG leaders seemed to be quite selfless in striving to meet diverse social needs and increase community sustainability. The KCG leaders themselves realized that negative human emotions such as greed and selfishness could be overcome through service, values such as gratitude, through regular and meaningful group process. Group process, such as dialog and collaborative projects, seemed to lessen competitive behavior in favor of support (Chapter VI explores this in greater detail).

Robert Putnam (1993; 1995b) extended Coleman's notion of social capital to mean both the social connections and attendant features of social organization, such as trust, norms, and networks, that enable the pursuit of shared objectives by facilitating coordinated action. His influential work concerns forms of social capital that, generally speaking, serve civic ends. His theory of social capital holds that social trust is correlated with "civic engagement." The more people connect, the more they begin to trust one another, and engage with the life of their community (1995b, p. 666).

Some have claimed that social capital is an umbrella concept that has been so broadly interpreted and diversely applied that the original meaning of the term and its heuristic value risk being lost (Portes, 1998). The term has also been criticized as a

misnomer, given the divergent meaning of its root word "capital." Capital refers to something that can be owned, in contrast to how social capital refers to social attributes describing relationships among people. Bowles & Gintis (2000) suggest dropping the term altogether in favor of the more precise concept of "community."

Yet despite its limitations, social capital as a concept has many strengths, which have been outlined above. According to Bowles & Gintis (2000), "Those to the left of center are attracted to the social capital idea because it affirms the importance of trust, generosity, and collective action in social problem solving, thus countering the idea that well-defined property rights and competitive markets could so successfully harness selfish motives to public ends as to make civic virtue unnecessary." Where markets fail, community organizations can often provide a safety net for people, as was the intention of KCG. "Communities," therefore, "are part of good governance because they address certain problems that cannot be handled either by individuals acting alone or by markets and governments" (Bowles & Gintis, 2000).

Social capital adds to ecoliteracy an understanding of how strong and diverse relationships and networks among people can create synergy in sustaining a social movement and enabling barriers to be overcome, such as limited financial capital. This study emphasizes social capital, not only in terms of the bonding and bridging between people, but also the social and cultural bridging of knowledge, values, perspectives, identities, and actions. KCG demonstrates the wellbeing that comes to people and the stewardship that can come to place when social and environmental concerns are joined within environmental community education.

Community Garden Education: A Bridge to Sustainable Communities

Contemporary community garden projects are social organizations formed not just for the purposes of leisure (such as a bowling league), nor solely as a political movement. They represent something in between; what Putnam (1995b) calls "civic engagement." Social groups, such as community gardens, can foster civic engagement by enabling people to have a greater connection to and a greater stake in their communities, which may lead to greater political participation (Putnam, 1995b). Beyond providing opportunities for leisure and self-sufficiency, community gardens have, for the last forty years, served as platforms for community building by addressing social and environmental issues and promoting neighborhood renewal (Bassett, 1979).

Social capital theory has only recently been applied to research on community garden projects (Glover, 2003; 2004; Glover, Shinew, & Parry, 2005a; Glover, Parry, & Shinew, 2005b; Kingsley & Townsend, 2006; Pudup, 2008). This is a logical extension of the slightly earlier connection established in the literature between social capital and leisure, particularly voluntary associations of citizens (Hemingway, 1999; Putnam, 2000; Warde & Tampubolon, 2002). Troy Glover (2003; 2004), one of the first scholars to apply social capital theory to community gardens, says they have more to do with community than actual gardening, confirming the KCG experience.

He describes a community garden project as a collective gardening venture that entails the formation of a social network and draws upon the joint resources of community members to address neighborhood issues. They offer alternate spaces where people can gather, network, and identify together as residents of a neighborhood while establishing a greater sense of place (Kingsley & Townsend, 2006). The social

interactions these projects enable facilitate norms of reciprocity and trust that in turn promote empowerment and civic engagement (Cox, 2002). Glover (2004) believes that for these reasons, a community garden is a promising context for exploring the theoretical nature of social capital. He explains,

> [Community] gardens are venues for active citizen participation, which…is at the very heart of civic life and therefore central to social capital. Garden volunteers, not their city officials, deliberate to make decisions that impact directly upon the locality in which the garden is situated…conducive to greater democracy. By promoting local control…community gardens have the potential to empower residents to take on more active roles in the further development of their neighborhoods. In short, community gardens serve as potential sites for community building, a common indicator of the presence of social capital (Glover, 2004, p. 144).

While there is a growing body of educational research on school gardens, community gardens as sites for non-formal learning, have been more or less overlooked. Several reasons may account for this. Historically, community gardens have primarily been utilized for practical sustenance in times of war and economic depression. It was only in the 1970s and 1980s that community gardens began to emphasize social and ecological benefits, with sustenance falling to the background (Bassett, 1979). Also, it is only since the 1990s, but primarily in the last decade, that many of them have morphed into programs supporting various levels of community education. Pudup (2008) distinguishes between what she calls traditional "community gardens" and the more recent variation, "community garden projects," by the latter's "emphasis on individual change and self-actualization" (p. 1230).

Local needs and available resources shape community gardens leading to variations in form and function. Many community gardens do not have non-formal education component, although informal education, through social exchange,

undoubtedly occurs. This unfortunate lack of research and social awareness for community gardens as educational platforms for ecoliteracy, social capital, and civic leadership adds to the significance of this study.

Overview of community gardens in America. Urban community gardening has had a long history in the United States dating back to the late 19th Century, although communal spaces were used for subsistence, protection, and civic functions for early colonial settlements two centuries prior (Lawson, 2005, p. 2). It is likely that community gardens were carried over from longer analogous traditions in Western Europe and other countries of immigration (Lawson, 2005; Pudup, 2008). Traditionally in Hawaiʻi, people collectively gathered food from within their ahupuaʻa (land division), generally encompassing resources from mountain to the sea, and shared it with one another in aloha according to norms of reciprocity. This created a kind of community garden where everyone in a community worked together toward the common good of survival and wellbeing (McGregor, 2008, p. 25-26). KCG was established as a local and cultural adaptation of American community gardens, drawing inspiration from the rich heritage of communal agriculture in American and Hawaiian history.

Thomas Bassett (1979) was one of the first researchers to study the historical geography of US community gardening, and his analysis continues to be credited by studies on the subject. The history of community gardens, according to Bassett, can be viewed as "a series of community garden ʻmovements'" (p. 1). Each of the seven movements he identifies corresponds to a period of social and economic turmoil that threatened the "cultural framework" of the nation (p. 2). Community gardens, he argued,

are social institutions, accommodating and supporting the social milieu through periods of crisis and change. The seven eras and corresponding social crises are represented in Table 2.1. This table shows that community gardens have emerged in response to specific events occurring at the local, national, and international levels. Bassett theorizes that the replication of the idea stems from its success as a supportive institution during periods of social crisis (Bassett, 1981). Despite general replication, the goals of each movement varied, as they were shaped by the nature of the crisis and/or emergency

Patriotism was used to encourage participation with several of the garden movements of the first half of the twentieth century, such as the Liberty Gardens of World War I and the Victory Gardens of World War II. Approximately twenty million Americans planted Victory Gardens in the 1940s. Utilizing just some of the backyards, empty lots, and rooftops in America, citizens were able to produce, in their spare time, nine to ten million tons of fruits and vegetables. Greater quantities of canned goods could be shipped to troops oversees since Americans were growing and canning vegetables themselves. Voluntary subsistence production by citizens during wartimes had the double benefit of providing welfare assistance with minimal government cost and freeing up economic capacity for war related production and provisions (Bentley, 1998). But not all garden movements emphasized subsistence.

School Gardens differed from the movements that preceded and followed them in that they emphasized deliberate pedagogical aims in addition to the lesser role of supplementary food production. Beginning at the turn of the twentieth century, public school education across the nation used gardening as a means to address a range of educational, social, moral, recreational, and environmental agendas. Teachers,

Table 2.1

Seven Eras of Community Gardens (Reproduced from Bassett, 1979)

Garden Movement	Period	Social Crisis/Change
Potato patches	1894-1917	Panic of 1893
School gardens	1900-1920	Character formation of children
Garden city plots	1905-1920	Urban beautification
Liberty gardens	1917-1920	World War I
Relief gardens	1930-1939	Great Depression
Victory gardens	1941-1945	World War II
Community gardens	1970-present	Urban social movements

government agencies, social reformers, and civic groups broadly supported school gardens as a means to promote learning, industry and civic-mindedness (Lawson, 2005, p. 52).

Reformers sought to teach a strong work ethic and steady work habits to immigrant Americans. "School gardens and city garden plots at the turn of the twentieth century…typically were organized by upper and middle class reformers to achieve the moral, cultural, and esthetic uplift of poor and working class people, many of them foreign born immigrants and their children, who were becoming a ubiquitous presence in urban areas and in the eyes of reformers, a threat to social order and national identity" (Pudup, 2008, p. 1230). One school garden proponent in 1910 explained the garden as "a means to show how willing and anxious children are to work, and to teach them in their work some necessary civic virtues: private care of public property, economy, honesty, application, concentration, self-government, civic pride, justice, and the dignity of labor, and the love of nature…" (quoted in Bassett, 1979, p. 34). In addition to this nationalist agenda, by teaching work trades, schools hoped to improve retention rates of immigrant families who otherwise saw little practical value in keeping their children in school

(Lawson, 2005). School gardens were also believed to help shield children from urban crime and vice by providing productive activity for them to continue when they were outside of school. Finally, child development theorists saw school gardens as a welcome alternative context in which to engage children apart from the artificial environment of the classroom (Lawson, 2005, p. 52). Aside from this progressive rationale of child development theorists, school gardening within this era had predominantly conservative aims, mainly labor training and acculturation into the existing social order.

More recently, community gardens have been re-envisioned as social activist platforms for challenging the existing social order. At Kaiao, the community garden allowed marginalized groups of people, such as the Native Hawaiian teens or African diaspora communities, to access land, space, and resources for healing, regrouping, and empowering themselves. Since the 1970s and 80s, civic leaders have been establishing community gardens in response to citizen demand to strengthen community networks, beautify dangerous or rundown plots, improve health and fitness, and offer educational outlets for urban youth (Henderson & Hartsfield, 2009, p. 12).

Community gardens have also been prescribed for healing a range of other contemporary social problems. They have been used for such varied purposes as therapy, re-socialization, and training of incarcerated people; as urban oases where poor, socially, and culturally marginalized people can connect with nature and healthy foods; as memorials for epidemics such as AIDS; as community revitalizations and "crime diversions;" and in promoting wellness for hospital patients (Pudup, 2008, p. 1231).

To those who have experienced them, community garden projects appear to be ideal sites for community-building and ecoliteracy education of the general public.

Community garden education can allow for collaboration, experience, and openness to all kinds of people and purposes. Also, they can activate civic leadership, social capital, and ecoliteracy for the purposes of creating holistic sustainability. Their importance only grows as more people migrate to urban areas, spending much of their time within artificial and virtual environments, and less time within nature. While limited in scope, they can easily be developed through community ownership. With careful tending and ample amounts of love, community gardens can develop the social and environmental sensitivities that are most needed today.

CHAPTER 3.

METHODS

Research Questions:

The intent of this two-year, multi-method case study was to explore community garden education and the social movement surrounding it in Hilo, Hawaiʻi. This topic was examined through an in-depth study of Kaiao Community Garden (KCG) and some of its affiliations. In order to conduct a comprehensive and credible case study I used three different qualitative methodologies including participant observation/field notes, interviews with adults, and an examination of preexisting data, such as photographs and student journals. Together these methodologies helped me to best answer the following research questions.

1. Why did a group of diverse individuals come together to establish the Kaiao Community Garden project, and what inspired them to remain devoted to it, as volunteers, for so many years?
2. How did they organize and sustain a volunteer-run community garden education project of this nature?
3. What impact did the garden experience have for participants and various stakeholders?

The following sections describe how I sought to answer the research questions in terms of the methods that I used, the methodologies that governed their selection and use, the theoretical perspectives framing the study, and the epistemologies informing these theoretical perspectives. I also describe my role as a researcher, the criteria for bounding

the case, how I recruited participants, ensured credibility of the results, and conducted the study ethically with protection to human subjects.

Theory

A theoretical perspective is a philosophical approach to understanding and explaining the human world and social life based on a particular set of assumptions. Assumptions are statements about the nature of things that are not observable or testable, but are accepted as a necessary starting point. Assumptions often remain hidden or unstated; however, by identifying the assumptions underlying my theoretical perspectives I was able to deepen my understanding (Neuman, 2005). My research was framed through systems theory, which assumes that phenomena do not exist apart from living systems. Deep understandings are a byproduct of holistic and ecological thinking.

Capra (1996) notes that the Descartes's scientific reductionism dominated Western scientific thought between the 17th century and the first half of the 20th century, until the revolutionary emergence of "systems thinking." He points to systems thinking, or the process of understanding parts in relation to the whole, as an essential quality of ecological intelligence. Within living systems, properties of the whole are not shared by its parts. Analytical, reductionist thinking is deficient in explaining phenomena within ecosystems and human communities because analysis means taking something apart in order to understand it. Ecoliteracy requires just the opposite: The properties of the parts are understood only in terms of the larger whole. Ecoliteracy therefore emphasizes holistic learning: connectedness, relationships, and context (pp. 29-30). This theory was therefore consistent with qualitative case study research.

Ample evidence documents the extent, complexity, and significance of environmental problems and their impacts to present and future generations. But what is newly being discovered is that their solutions cannot be understood in isolation; they are systemic problems, meaning that they are interconnected and interdependent (Capra, 1996, p. 3). Capra (1996) argues that "Ultimately [environmental] problems must be seen as just different facets of one single crisis, which is largely a crisis of perception. It derives from the fact that most of us, and especially our large social institutions, subscribe to the concepts of an outdated worldview." There are solutions to the major problems of our time but they require a radical shift in people's perceptions, thinking, and values. (Capra, 1996, p. 4)

> The paradigm that is now receding has dominated our culture for several hundred years, during which it has shaped our modern Western society and has significantly influenced the rest of the world. This paradigm consists of a number of entrenched ideas and values, among them the view of the universe as a mechanical system composed of elementary building blocks, the view of the human body as a machine, the view of life in society as a competitive struggle for existence, [and] the belief in unlimited material progress to be achieved through economic and technological growth….All of these assumptions have been fatefully challenged by recent events. And indeed, a radical revision of them is now occurring (Capra, 1996, p. 6).

Conducting an educational study from a systems perspective on a community project, that was by itself counter-cultural, brings awareness to the "radical" but necessary shift in perception that Capra calls for (1996). The difficulty in switching to an ecological perspective is that it runs counter to specialized fields of education, Western values socialization, and social and economic motivation. For centuries people have been encouraged toward specialization, which is linear and reductionist. On the other hand, systems thinking allows for broad thinking that is holistic, ecological, and non-linear (Capra, 1996, p. 11; Orr, 1992, p. 87). It is aligned with another theory called deep

ecology, which Bodhi Searles studied prior to co-founding KCG (B. Searles, personal communication, October 7, 2011)..

"Deep" and "shallow" ecology are terms which emerged in the 1970s to distinguish between two schools of thought regarding humans and nature. Shallow ecology is the anthropocentric, or human-centered, view predominant in society. It describes humans as above or outside of nature, and nature as having only instrumental or "use" value to humans. Deep ecology is a "global grass-roots movement" which does not separate humans – or anything else – from the natural environment. It describes a network of phenomena that are fundamentally interconnected and interdependent (Capra, 1996, p. 7).

According to Capra (1996), a deep ecology perspective encompasses more than a holistic one. He illustrates this point in discussing how a bicycle can be perceived. From a holistic view it is a functional whole with interdependent parts. A deep ecology view adds to this perception by showing how the bicycle is embedded in its natural and social environment – where its raw materials came from, how it was manufactured, how its use affects the natural environment, communities, and so on. "Deep ecology asks profound questions about the very foundations of our modern, scientific, industrial, growth-oriented, materialistic worldview and way of life. It questions this entire paradigm from an ecological perspective: from the perspective of our relationships to one another, to future generations, and to the web of life of which we are a part" (pp. 7-8). In this vein, the social world is an ecosystem in which individuals, families, education sites, communities, societies, and nature thrive in symbiosis (Cohen, Manion, & Morrison, 2008).

With systems theory and deep ecology in mind I took a naturalistic or constructivist approach to my case study research. Constructivist inquiry emphasizes the importance of participant views, the context within which the participants are situated, and the personal meanings people hold about educational issues (Creswell, 2008). Using this approach, I co-constructed meaning based upon multiple, diverse perspectives to the same phenomenon (Crotty, 1998). I also used multiple methods of data collection that engaged six stakeholder groups, revealing multiple views of reality and allowing different voices and views to be heard.

Procedures

My role as researcher. As a researcher it took going beyond observer into participant-observer to finally make sense of all that was happening. Though the KCG leaders told me this from the beginning, I resisted the truth of Fremantle's observation that "genuine knowledge must be experienced directly" (quoted in Meyer, 2006, p. xx). Indeed, my participatory experience added insight, depth, credibility and personal relevance to my research. I dove in, becoming a part of what I was observing, and allowing myself to be transformed by my experience. Research must be a give and take I could not observe from the sidelines and expect to really understand what was going on and why my participants valued the Garden so.

Ultimately, I sought to conduct this study from an insider role, or "emic" perspective, to best understand the perspectives of my research participants. From an emic perspective I tried to understand the subjective meanings that my research participants placed on their experiences and collaborate with them in the co-construction

of reality. I realized that, had I attempted to conduct this study from an etic or "outsider" perspective, absolute objectivity would still have been unattainable (Cohen, Manion, and Morrison, 2008, p. 169).

At first I feared losing a researcher's objectivity, but this was not the case. Personal experience only grounded my observations. This can be explained in terms of Meyer's research (1998) in native Hawaiian epistemology. ʻIke, as she explains, is one word describing three intimations of knowing – to see with the eyes, to know with the mind, and to understand on multiple levels of mind, body, and spirit. I could see what was going on, through observing, and could learn from the experience of others, by conceptually analyzing, but to really understand in my *naʻau*, my gut, I had to experience it for myself. Literally translated as one's physical intestines, Hawaiians refer to the naʻau as the center of one's being where the mind, heart, and feelings together reside (Pukui & Elbert, 1986). Metaphorically it can be compared to the differences in looking at a piece of cake, reading the recipe, and actually tasting it. By tasting the cake, consuming it with your five senses, and digesting it in your stomach, it becomes a holistic experience. The cake literally breaks down into a form of energy that becomes a part of you. It is when you have a relationship with something that you can really know it, inside and out. A full experience, such as participatory case-study research, takes time to digest and understand.

It was natural for me to understand my participants' perspectives because I resided within the local community, had an interest in farming, and had advocated for healthy food systems in Hilo through the Hawaiʻi Slow Food organization. I was therefore sympathetic to KCG's mission, which ultimately sought to improve the quality of life here socially and environmentally.

This insider role fit with the naturalistic approach of case study research, which suggests that individuals' behavior can only be understood by a researcher sharing their frame of reference, understanding their interpretation of the world subjectively from the inside (Cohen, Manion, & Morrison, 2008). "Advocacy researchers are not objective, authoritative, or politically neutral. Advocacy researchers see qualitative research as a civic responsibility, a "moral dialogue," and as a means for bringing needed change to our society" (Creswell, 2008, p. 50).

As my research progressed my methodology expanded beyond case study research into action research. As a participant observer I found myself witnessing the struggles of KCG stewards to sustain their program. I became an insider to the group after months of participation and the stewards began to trust me enough to ask for help and advice. In that moment I was compelled to move beyond participant observation and into action research in which I assumed greater agency by advocating for my participants' project.

I did this by working with one of the stewards to write two grants through the Hawaiʻi Island Beacon Community (HIBC). KCG was one of 17 community projects awarded a HIBC grant from of over 300 applications island-wide and the only organization to receive two full $20,000 grants totaling $40,000. When both grants were selected among the top 5 choices, but only one was awarded based on a minor technicality, I appealed the decision and after many letters and phone calls, the decision was eventually overturned in the stewards' favor. These monies bolstered the stewards' education program and reinvigorating them with some much needed financial support. I also attended many meetings, contributing knowledge and advice intended on helping

them to sustain the program. My willingness to advocate for my research participants seems to have had a significant and positive impact on their lives. I was just happy that I could reciprocate the help that they provided me in completing my research.

My interest in gardening education stems from my own experience moving from urban Honolulu to 10 acres of family land in Hilo, Hawai‘i, and learning to live simply with greater self-sufficiency and community interdependence. Although I did not grow up in a family that farmed or strived for self-sufficiency, and it was not a part of my formal education, I recognized the value of this education later in life. I sought out organic gardening education and found what I was looking for not at the university but in the community. This education has come in the form of conferences and workshops, local demonstrations and classes, associations and clubs, and my local community garden. It has expanded my view of the environment and agriculture, and made me a more responsible citizen in an age of environmental disconnect and degradation. While I am an advocate of community-based agriculture education, I strived to be as objective as possible in evaluating the effectiveness of the KCG project in the interest of expanding knowledge on this field of education.

Recruiting participant help. Case study research is not possible without the help of many participants. Before setting out to study KCG, I sent a letter to Bodhi Searles, KCG co-founder, explaining my interest in community gardening education. I explained the intellectual purposes of my research as well as my personal goals, including conducting original dissertation research and completing my PhD in Education. Her response was very welcoming. She shared my intentions with the other garden leaders, including Eric Knutson and Julie Kaneshiro, and I found them to be equally enthusiastic.

Thus I gained entry into the research setting and achieved approval by the "gatekeepers," those who provide access and allowed the research to be done (Creswell, 2009).

I entered KCG as it was faced with challenges of leadership loss – first Meyer, then Knutson, and Searles. Kaneshiro remained till the very last day and served as my primary guide and companion. She introduced me to many of the teachers, counselors, administrators, and participants of the garden, invited me to garden steward meetings and even helped me to get in touch with past leaders and participants, who I would have otherwise not had the opportunity to interview. Participant relationships snowballed with one introduction leading to another, until I was familiar with the social networks converging at KCG. Serendipity also played a role. There was one occasion when I bumped into a past participant at the local farmer's market and we scheduled an interview and another occasion when I happened to meet the family member of a past KCG leader, leading to an interview. I generally interviewed individuals whom I observed and formed relationships with at the garden. All of the participants said they were happy contributing to the knowledge of this study.

There were many diverse groups with varied purposes for participating at KCG. I realized that with the garden in decline, and participants coming less frequently, I would need to identify as many potential participants for interviews and statements as possible. I was really interested in how the garden shaped people's lives over time. In total I documented the perspectives of 60 regular participants among 11 different programs involving six different stakeholder groups. I continued to identify participants for interview and field statements up to the two-year mark, when I eventually reached a point known as "theoretical saturation." This occurs when the data appears to be repeating

itself. Following Cohen's (2007) advice, I continued collecting data just beyond this point to be sure I had conducted a comprehensive case study.

Bounding the case. A research study should be explicitly bound by time, location, participants, topic, and data to be collected. This case was an in-depth study of Kaiao Community Garden, an outdoor non-formal educational site located in an urban neighborhood in Hilo, Hawaiʻi. The scope centered on the workings of this organization but branched out to a few interviews with leaders in affiliated organizations. My scope at KCG focused on the current state of its educational programs, the process of strengthening these programs, and in meeting community needs while remaining a sustainable organization. However, I also needed to reconstruct Kaiao's formation through oral history research and learn about organizations within its social network. Broadening the study in these ways added to contextualized data analysis. The research was limited to the converging topics of gardening education, environmental sustainability, the social movement toward greater self-sufficiency that was interwoven with KCG, and the challenges of sustaining an organization on little more than volunteer support. This project spanned a little more than two years from February 2011 to March 2013; roughly one year for research and analysis and one year for writing the dissertation and defending it.

Data collection. Participant observation and field notes helped me to become familiar with the nature and function of this organization and some of its affiliated organizations. It also helped me to understand the cultural and philosophical context surrounding the testimonials people gave me. Examination of preexisting journals used in educational exercises, including student writings and drawings, gave me an additional

window into what students learned. Ultimately, it was my interviews with adult participants that provided me with the most in-depth information for answering the research questions.

Participant observation. As a participant observer I spent hundreds of hours at KCG. I took notes in my field journal of observations and conversations I had at KCG and at off-site meetings. My field recordings added statements from 39 people across six stakeholder groups and among seven programs, beyond the in-depth interviews I had with 22 other people. By adding the method of participant observation to interviews I expanded my participant base to 60 and added a greater breadth of perspective to the depth provided by my interviews.

In my field journal I noted the perspectives of KCG volunteers; a school teacher from Kua o Ka La Virtual Learning Academy; a UHH professor of agriculture; 20 students ages seven to 21 from Goodwill's Ola I ka Hana program (OIKH), Goodwill's Adult Day Health (ADH) program, and Kua o ka La Virtual Learning Academy; three parents of Kua o Ka La Students, and three staff of affiliated organizations including the Hawaiʻi Island Beacon Community (grant coordinator), Goodwill's ADH program (manager), and the BGC (teaching staff) (see "Memos" in Appendix C).

Observation is a well-accepted form of qualitative data collection, defined as "the process of gathering open-ended, firsthand information by observing people and places at a research site" (Creswell, 2008, p. 221). There are two types of observation methods, participant observation and non-participant observation. This study primarily used the former, as I engaged in the very activities I set out to observe. However, there were occasions in the beginning, such as at KCG steward meetings, where I assumed a less

participatory and more observational role. The purpose of observing in this way was to experience things from the views of participants (Creswell, 2009). The type of observation undertaken is often associated with the type of setting in which the research is taking place. In this case, the outdoor, non-formal garden education site is considered to have a natural as opposed to artificial structure. Participant observation is most appropriate in this kind of setting (Cohen, Manion, & Morrison, 2008). This methodology has varying degrees. For instance, the researcher's emphasis can be on observation (observer-as-participant) or on participation (participant-as-observer). In this case I was an observer-as-participant. An advantage to this type, however, is that I was able to record information, or field notes as it occurred (Creswell, 2009).

Pre-existing data. I used existing data collected by KCG on students (21 years and younger) during the same year that I collected my own data on adults. KCG stewards and school teachers had students use journals to record their environmental observations, knowledge they gained, and how they felt. Entries included writings and drawings. Stewards also required all student groups to participate in a "circle share" at the end of the day, which is a sort of informal focus group. Group sharing included responding to the garden leader's prompt, which may involve saying something you learned, something you felt, or perhaps something you are grateful for in relation to the previous lesson. Depending on time, it could involve one word or a longer description. When possible I recorded this oral evaluation in my journal.

Creswell (2009) describes some of the advantages and disadvantages of using existing documents, including public and private records. In this case, I dealt with private records, namely student journals required of school teachers who bring their students to

the garden. A disadvantage of this type of data is that not all people are articulate and perceptive. Some of the student journal entries were more well thought out than others, and some were incomplete. In addition, because the journals belonged to the teacher and needed to be given back to the students at the end of the semester, I had only a narrow window in which to view the journals.

One advantage of this type of data is that I was able to see the language and words of the student participants, which made for richer descriptions and increased the validity of my study. Furthermore, I was able to access information from students in an anonymous unobtrusive way. A final benefit was that preexisting data saved me the time and expensive of collecting the same data myself (p. 180).

Personal interviews. I conducted 22 semi-structured interviews with key players across 10 programs and four stakeholder groups, adding depth to the breadth of perspectives I collected from the 39 people I interacted with during my participant observations. I interviewed nine KCG leaders (original and emerging); four school teachers/counselors from Connections Public Charter School, Goodwill's OIKH and ADH programs; four UHH college faculty from within the Departments of Education and Agriculture; and five heads from four affiliated organizations including the BGC, Lihikai Hawaiian Cultural Learning Center (LCC), Natural Farming Hawaiʻi, and Let's Grow Hilo (LGH) (see "Interviewees" in Appendix C).

Interviews in this case were semi-structured with open-ended questions, lasting between 30 min and 2-hours, and usually took place in the garden or at the University of Hawaiʻi Hilo. All of my interviews were conducted in person, other than one which needed to be conducted over the phone for the convenience of my participant. By semi-

structured I mean that I set out with questions, but allowed the interview to flow as a natural conversation, with questions being answered in a different order than originally planned or not answered at all, and allowing new, follow-up questions to arise. Although I did not strictly record oral histories, I included a couple of life history questions into the beginning of the interview outline to put into context participants' views (see Appendix B).

According to Seidman (1991), one of the most important skills in interviewing is keeping quiet and actively listening. I took my participants' language seriously. For instance, if participants used certain words like "fascinate," I would ask for elucidation. To facilitate active listening, I took notes, in order to keep track of what my participant mentioned so that I could come back to them when the timing was right. It was important to follow up, but not to interrupt. On occasion it was appropriate to share personal experiences with my participants to connect and encourage the participant to continue reconstructing his/her own experience. At times I was tempted to reinforce participant responses either positively or negatively, such as through affirmative language like "yes," but I tried to avoid this as much as possible. It was important for me to follow my hunches in terms of follow-up, but to also tolerate silences, as thoughtfulness takes time.

As semi-structured interviews, my questions followed as much as possible from what the participant said. My pre-formed questions served only as a guide, and I remained open to diverging, and building on what the participant was willing to share. While a little diverging was permissible, it was also important to keep the participant focused on the subject of the interview. The interview structure was cumulative, so if something was not understood it was important that I asked questions for clarification,

such as when vague words are used. It was also important to ask for concrete details that could ground participant's attitudes and opinions.

Caveats. The personal interviews in this study yielded rich qualitative data; however, there are certain caveats with the data. The human memory is selective and sometimes faulty. Consistency in the testimony (reliability) and accuracy in relating factual information (validity) was key. I looked for consistencies in people's accounts and when there were accounts that did not conform, other sources were consulted. By critically approaching the interview process I minimized the potential fallibility of human memory and established it as trustworthy evidence (Yow, 2005).

I realized that at a basic level I was influencing the project simply by who I decided to interview and what questions I thought were important enough to ask. I avoided asking leading questions, interrupting, or otherwise influencing what the narrator said. I enjoyed engaging my participants with tough questions, while also making them feel safe to share their introspections (Yow, 2005).

I did not shy away from establishing affinity for my participants, for how it adds meaning and depth to the account. Yet, I did not try to portray the KCG stewards only in a positive light. It was important that participants were represented honestly, as real people with virtues *and* flaws, successes *and* challenges. Without representing the interpersonal struggles of my participants, I would be limiting the opportunity for everyone to grow from their experience. Of course I needed to be sensitive about what I included and how, putting their interest before my own. At the other end of the spectrum was the challenge of interviewing participants who were in direct conflict with the KCG project. I tried to suspend judgment as best I could in order to see the world through their

eyes (Yow, 2005). I was aware of not overstepping my influence in the writing, organization, and presentation of the material.

The fallacy of researcher objectivity is now widely accepted with researchers no longer content to distance themselves from research questions, participants, interpretation, and representation. As a researcher I acknowledge the intersubjective realm in which I was co-constructing meaning with my participants. This allowed me to infuse my own reflexive presence into my work and assume interpretive authority with my participant relationships. At the same time I withheld taking such liberties that might overshadow the voices of my participants with my own voice. For example, I included the voices of 60 participants across six stakeholder groups and within eight narratives, while also including my own interpretative voice.

Data analysis.

Transcription. Although transcribing my interviews was time consuming, having the interview written out allowed me to return to the interviews later to check for accuracy. It was important to start with the whole transcribed interview, rather than dissecting parts and making premature judgments about what was important and what was not. The interview or focus group recording was not only transcribed verbatim in the participant's natural language, but nonverbal signals were also recorded. This included: coughs, laughs, sighs, pauses, changes in tone of voice, outside noises, telephone rings, and interruptions that occur on the tape. The name or title of the speaker, such as "interviewer" precedes each dialog in the transcripts (Seidman, 1991).

Coding for themes. I organized and analyzed the data through a reiterative process using Microsoft Word and Access software (I will explain coding with the aid of computer software later in this section). This process involved isolating key excerpts from a large body of transcribed data and assigning codes, repeating this process until higher and higher level codes emerged. The first round elicited roughly 1,000 descriptive codes, which were narrowed down in the second and third rounds to about 400 concepts and 13 categories respectively. In the fourth round these categories were refined into four themes that helped me to answer the research questions and formulate a theory on the "Educational Dimensions of Holistic Sustainability" (Appendix G).

In Appendix E, Tables 1-5, I illustrate some of the concepts that led to the development of categories and themes. The category "bridging" was established based on concepts of integration (e.g., combining diverse groups), connection (e.g., networking and mentoring), and enabling (e.g., respect, dialog, and resiliency). The category "bonding" was established based on concepts of personal connection such as reflection, self-knowledge, and peace; of interpersonal connection such as sharing and supporting; and of environmental connection such as developing stewardship traits. Together these categories of bridging and bonding point to the theme of social capital and how its presence contributed to KCG's success and its absence led to its decline (see Appendix E, Table E1 *Dimensions of Social Capital: Bridging and Bonding*).

The category "indictors of civic leadership" was established based on concepts of orientation that were democratic and community-centered; of methods such as teamwork; and of social responses of empowerment and synergy. The category "inhibitors of civic leadership" was based on concepts of orientation like hierarchy; of methods such as

control and distrust; and of social responses of blame, rumor, and competition. The category of "indicators" articulates how KCG generated civic leadership, which initiated a response of elevated social capital. Conversely the category of "inhibitors" articulates how the approach and methods of the BGC administration toward its staff and KCG appeared to be counterproductive in generating civic leadership and in turn lowered social capital within and between both organizations.[4] These two categories point to the theme of civic leadership and how its presence contributed to KCG's success and its absence lead to its decline (see Appendix E, Table E2 *Indicators and Inhibitors of Civic Leadership*). Additionally, evidence for how KCG supported dimensions of ecoliteracy and dimensions of holistic sustainability are represented in the Appendix E, Tables E3, E4, E5.

According to Hahn (2008) this reiterative process of organizing a mass amount of free-form data with the goal of focusing ideas helps the researcher empirically answer the research questions. Step by step, relevant sections of unsorted data are coded with a single word or phrase that corresponds to emerging concepts, categories, or themes. By preparing and formatting raw data, it becomes available for evaluation, synthesis, and analysis. Hahn (2008) has several metaphors for this process. "The researcher must separate the wheat from the chaff, the most important information and physical objects must be identified, described and labeled for future reference" (p. 9). He also likens the task of sifting through large amounts of data to a miner panning for gold from a streambed of gravel.

[4] The relationship between civic leadership and social capital emerged during level 4 coding forming part of my theory on sustainable community garden education.

> The miner sees no gold when she first looks at a gold-bearing streambed, just a lot of rock, gravel, and sand. To find the gold the miner must systematically sift through piles of unsorted material to isolate the precious metal. Like the miner, the qualitative researcher must progressively sort through mass quantities of free-form data to find answers to research questions. The miner intelligently digs into carefully selected sites hoping to unearth nuggets hidden in unconsolidated gravel. The qualitative researcher focuses on data elements most likely to yield answers (Hahn, 2008, pp. 5-6).

Hahn's (2008) description of how data become progressively sorted and refined until "nuggets" of wisdom are revealed is an apt metaphor for my data analysis experience. I focused my search intelligently on the data elements most likely to answer the research questions. My coding process involved four steps.

Level 1 coding reduced the qualitative data to a much more manageable focus to that which helped me to answer the research questions. These descriptive codes were created rapidly by assigning a word or short phrase to data sections. The goal was to identify and label sections of the data that spoke to me and were directly relevant to the categorization of ideas surrounding the topic. There was no attempt to duplicate words or phrases or categorize at this point. Level 2 coding began concept formation by grouping or discarding Level 1 descriptive codes. Level 3 coding also known as focused coding began with Level 2 concepts but further refined the data into relatively few categories. Level 4 coding also known as thematic coding involved refining the data into a select number of themes, as well as a reexamination of categories and themes and theory generation.

After transcribing my recorded interviews, I generated four levels of codes. For example, a descriptive Level 1 code such as a "safe learning environment" gave way to a conceptual Level 2 code of "social inclusion," which gave way to a categorical Level 3 code of "bonding," which along with similar kinds of Level 2 and 3 codes clearly

indicated a Level 4 theme of "social capital" (see Appendix E, Table E1). This, however, oversimplifies the process slightly as each Level 1 code was not singularly refined into Level 2, 3, and 4 codes all at once. Each level of coding was done in its entirety before proceeding to the next level and multiple software applications were used.

Microsoft software assisted me in organizing and analyzing a large body of text data efficiently using my computer. Hahn (2008) recommends using these practical word processing tools in his book, *Doing Qualitative Research Using Your Computer* because it "eliminate[s] unnecessary inefficiencies, thus freeing you to work faster and think more deeply" (p. 86). Level 1 coding was done in *Word*. I simply compiled all of my transcripts into one document and converted it into a table with three columns. In the far right column each concept was listed in a new row. The middle column was left blank and reserved for assigning Level 1 codes and the far left column was automatically numbered in a sequential fashion which would later aid me in locating data by row number. Every time I created a Level 1 code, I "marked" my entry, creating an alphabetical index showing all of my Level 1 codes and corresponding page numbers (see Appendix D, Figures D1 and D2).

Level 2 and 3 coding procedures were done in *Access*. These successive levels of coding provided me with a documented and well-organized inductive reasoning process for answering the research questions. I assigned Level 2 codes along with corresponding excerpts of raw data using the Access control panel. This databased the codes within a visible table that could quickly be ordered, filtered, and searched. I repeated this process with Level 3 codes, where they emerged (see Appendix D, Figures D3 and D4). I then relied on the automatically generated Access reports for the further refinement of Level 3

categorical codes and the generation of Level 4 theoretical codes. To achieve this I printed Access reports, cut on the dotted line separating Level 2 and 3 codes, and manually sorted and resorted into piles until I was confident with their groupings (see Appendix D, Figure D5).

Constructing Narratives. Storytelling is integral to understanding lives; all people construct narratives as a way of making sense of reality and as a process of constructing and reconstructing identity (Marshall & Rossman, 2010, p. 23). Phenomena are not random but linked in meaningful ways such as through shared and divergent experiences, chronologies of events, motivations, and personal meanings. How my participants described their experiences at KCG in terms of the meanings they attached to it was very important to me in reconstructing the history of this organization so as to understand how and why it was established and what impact it had on participants. Constructing the narratives added another layer of depth to the data analysis. The narratives were written after coding Levels 1-4. Yet the narratives allowed me to think deeper about the Level 4 theoretical codes. For example, the initial Level 4 code of democratic leadership gave way to civic leadership and environmental education was broken into the distinct but overlapping concepts of holistic sustainability and ecoliteracy.

I was neither involved with KCG during its formation nor at the height of its growth, so I relied entirely on the stories that my participants, as diverse stakeholders, could recall. As a participant observer I only witnessed the last third of KCG's lifespan, during its gradual decline. At the same time, I also conducted in-depth interviews with original KCG leaders, volunteers, and participants; teachers and counselors; university faculty; and the heads of community affiliations who were able to fill-in the gaps. I began

to realize that KCG was very different in the four years before my study, during the program's steady growth, than over the two years that I observed its decline.

There were different phases in the life cycle of KCG, from its collaborative birthing and identity formation; to a prolific growth and ability to meet diverse needs; to battling change and transition, and eventually succumbing to decline. In order to construct a full picture of what a community education project might look like, I provide eight narratives that include the voices of multiple stakeholders. Individually these narratives may be mere snapshots, but together they contribute to an understanding of why and how KCG was formed and sustained. Moreover, the narratives provide validation in recognizing the tremendous work of community leaders and participants'. These are *their* stories, and I have tried to present them with integrity.

Human Subjects.

I followed the ethical principles outlined by Gates, Church, and Crowe (2001) that contribute to ethnical research relationships. I upheld fidelity, for example, by developing trusting researcher-participant relationships where knowledge was co-created in a spirit of mutual respect and understanding. This does not mean that as a researcher I always agreed with my participants. "It is not necessary, or even desirable, for the researcher and narrators to construe meaning in the same way. It is crucial, however, that participants feel that the meaning of their personal stories is honored and not violated" (Gates, Church, & Crowe, 2001, p. 153). This was one of my aims in constructing multiple narratives on KCG in participants and stakeholders own words. But there were other precautionary measures that I took as well.

I attended to the risks inherent in research that employs personal information through offering confidentiality and anonymity. All youth and the adult participants who asked for anonymity were given pseudonyms. My only editing of the transcripts was in replacing the first names of participants with last names to maintain consistency. For easy reading I chose this minor editing in place of extensive bracketing.

Prior to beginning the study I sought training in working with human subjects and sought approval for my study from the U.H. Mānoa Center for Human Subjects (CHS). In 2008, I took a National Institute of Health (NIH) Web-based training course and received certification in "Protecting Human Research Participants" from their Office of Extramural Research. In early 2009 I obtained an exemption from CHS and in early 2011 I submitted modifications to my existing application to reflect my current research, which was approved.

Validity

Conducting a case study of a dynamic grassroots community project is not easy, as I have discovered. Adding to the difficulty was the fact that I was initially an outsider coming on the scene while the project was in flux. It was important that I took time in getting to know each participant, in order to develop rapport and trust before asking them to share their thoughts and feelings with me. Knowing that the data was more reliable if there are a large number of observations, I spent hundreds of hours observing KCG and getting to know 60 individuals who eventually become my research participants (Cohen, Manion, & Morrison, 2008, p. 408). I can say with certainty that my participants felt

comfortable in sharing their memories and reflections with me. Collectively, these statements helped me to piece together the history of KCG up to its decline.

Diverging and converging ideas along with layered meanings came up at every point in the research. Yet, I was able to gain coherence and strengthen validity by collecting data from multiple data sources, and multiple observations, and multiple levels of participants overtime. Sixty participants spanning 11 different programs and six stakeholder groups shared their perspectives with me over the course of two years. In the analysis stage, I spent several additional months carefully reading over transcripts and engaging in cycles of reiterative coding, until well-evidenced categories and themes emerged. Maintaining validity was of the utmost importance, which is why I did not rush the data gathering and analysis process, but allowed it to unfold naturally in time. Knowing that validity is the measure of data worthiness I sought reliability, accuracy, fidelity, authenticity, and transferability at each stage of the research process (Cohen, 2007, pp. 133-137).

Another way that I increased validity was by remaining aware of my values, biases, and boundaries as a researcher. One of the dangers of immersive case study research is becoming blind to the peculiarities under investigation (Cohen, Manion, & Morrison, 2008, p. 404). Being aware of my advocacy stance toward environmental community education, I realized there were times when I needed to hold back my participation and observe, such as the decision-making process of KCG leaders addressing challenges to their project. By maintaining some level of distance and boundary I minimized the risk of adopting the norms and behaviors of the group to the extent that I ceased to be a researcher.

My participation and observations at KCG over two years gave my research context-boundedness because I was able to examine the data within its situational context. I employed the use of thick description in which participants' voices come through in the language used to describe the phenomenon and generate themes. I considered the social and cultural situatedness or appropriateness of my interpretations. Also, I used inductive analysis to generate themes from raw data. Finally, participants were given fair representation in terms of how they are portrayed. These were in keeping with the validation strategies of constructivism (Cohen, 2007, p. 134).

CHAPTER 4

ASSESSING NEEDS

We [were] awakening our responsibilities through loving relationships with land and people – Kaiao Community Garden ʻOhana (Searles, n.d).

Establishing a Diverse Community Garden

It all started with an idea among friends, which grew and grew into a transformational community garden called Kaiao. The first work day at this community garden in Hilo, Hawaiʻi was in January 2007 when a group of people came together to make the first inroads for the Garden. They were University of Hawaiʻi at Hilo (UHH) students Bodhi Searles, Eric Knutson, and Eric Hansen; UHH professor of education Manulani Meyer and professor of horticulture Bruce Mathews; community resident Laura Clint; a Big Island Substance Abuse Council therapist; Hamakua Community Development Project coordinator; Hawaiian Force business owner; Malaʻai ʻŌpio (MAʻO) Farms coordinator from Oʻahu; and over 60 "uncles, aunties, and kids" (J. Kaneshiro, personal communication, February 15, 2012). "We came together with hearts and hands ready to help one another, ready to work; while learning from the land and culture, from each other, and our own experience of hands turned to the soil," Knutson recalled (E. Knutson, personal communication, February 10, 2011). But the idea for the garden, the friendships that supported it and the preparation work started years before, converging with the leadership of Bodhi Searles.

Searles grew up in New York and at age 18, "jumped into the hippy-movement." "The whole ʻreturn to earth' idea started making much more sense and became a part of my lifestyle and who I was." In her 20s she met Osho, her spiritual teacher whose lesson

she continues to carry with her today at age 50: “Embody spirituality in the work you do and follow your joy.” Searles said she was drawn to “things that were more organic and marginalized by mainstream society” such as natural food cooking, alternative therapy, and community-based living. “When I look back on my life it was there from the beginning – a questioning and a search for roots, land, and community.

After traveling the world and experimenting with various alternative professions, Searles found herself working as a farm manager at Laʻakea, a permaculture farm in Puna on Hawaiʻi Island started by medical anthropologist and ethnologist Beatris Pfleiderer. There she learned about Meyer, well-known and respected in the Islands, who had researched Native Hawaiian epistemology while a doctoral student at Harvard University. Meyer was one of Pfleiderer’s students and a friend of Jimmy Naniʻole who also worked with Laʻakea Farms and started a school garden at Nawahīokalaniopuʻu Hawaiian Language Immersion School. Laʻakea Farm was eventually sold, and Searles was not sure what her next step would be, when she ran into Meyer the first time. Coincidently Meyer had a cabin and a dog and needed someone to watch over them, as she frequently traveled. “I need somebody there, come! I don’t really know you but I trust you,” Meyer told her. They developed a quick friendship and lived together for several months until June, when Meyer left for her sabbatical in New Zealand. Literally on her way out she said, “Connect with my friend Laura [Clint]; she wants to start a garden in Hilo.” Searles took her words to heart, almost as a “directive from God” about the path her life would take.

That summer of 2006 Searles took a 12-day workshop called “The Work that Reconnects” from Joanna Macy, a Buddhist practitioner and deep ecologist. According to

Searles, Macy's basic teaching was that "our troubles of the world are because we have forgotten the earth. The deeper our disconnection the deeper we are fragmented in our own selves." Searles learned about processes that reconnect communities. During that time the "relevance of the garden" became clearer to Searles, for she believed Macy's premise, "that capitalism is going to collapse and the industrial growth society is going to completely fall apart." Capitalism did not completely fall apart, although Macy's prediction was close; it collapsed in 2008 with a global recession that has not eased by 2013. As Thomas Friedman (2009) wrote in a *New York* times op-ed, "2008 was when we hit the wall – when mother nature and the market both said: 'No more'" In his essay, he posed the question as to whether the financial crisis represented something more fundamental than a deep recession. "What if it's telling us that the whole growth model we created over the last 50 years is simply unsustainable economically and ecologically…?" (Friedman, 2009).

Macy prompted Searles, among other participants, to be civic leaders and take action. What you need, Macy said, was to "get involved with *lifeboats*." The idea was to find a safety net, a support system, and "trust all the natural processes that spin off of a natural approach to life." Macy talked a lot about systems theory and a Buddhist concept called "dependent rising," or "connectedness in action." The main idea is that nothing arises on its own; things are interdependent and raise together (B. Searles, personal communication, October 7, 2011). In *World as Lover, World as Self*, Macy explains this interdependency. "I used to think that I ended with my skin, that everything within the skin was me and everything outside of the skin was not. But now you've read these

words, and the concepts they represent are reaching your context, so ʻthe process' that is me now extends as far as you" (Macy, 1991, p. 12).

At the end of that workshop Searles knew that she was going to return to Hilo and start a garden. She connected with Meyer's friend Clint who suggested that Searles first fly to Oʻahu and talk with Gary and Kukui Maunakea-Forth of MAʻO Farms. They encouraged her to visit the "Food Project" in Boston. Searles wrote a People's Fund grant proposal and the first $2,000 went toward tools and a plane ticket for her to attend a 4-day intensive workshop about how to start a food project in her community that focused on youth and education. MAʻO Farms staff had been mentored by the Food Project, which emphasized food sovereignty, youth leadership, and sustainable communities.

Searles and Clint later connected with another community member who wanted to establish a *kalo* (taro) farm project in Wainaku, Hilo. The three of them contacted people from the Hilo Big Island Substance Abuse Council and the Hilo Farmer's Market and had many brainstorming meetings together. They envisioned a kalo farm project with a processing facility, offering leadership training for adults suffering from substance abuse along with a youth leadership component, and having a healthy product to for the community. However, the critical piece that was not able to come together was a secured land-base, so the project fell through.

Clint and some college students who rented from her then began forming a new vision. They saw a thriving, community garden project where the tall grasses stood outside their kitchen window. It was on vacant land leased to the Boys and Girls Club of Hilo (BGC) (E. Knutson, personal communication, February 10, 2011). Clint proposed the idea to Searles, who informed the Maunakea-Forths of their new plans, asking them

to fly to Hilo along with a group of their youth leaders to help with the negotiations. G. Maunakea-Forth came with ten students. Together they met with the BGC Board and asked for permission to start a garden on a piece of their vacant, overgrown land. The adults just stepped back and let the youth leaders run the meeting. They expressed how MAʻO Farms had improved their lives in Waiʻanae, Oʻahu and why it was important to establish something similar in the town of Hilo. In their book *Place-based Education in the Global Age*, Grunewald and Smith (2008) support the idea of youth taking on leadership roles necessary to contribute to the well-being of their communities. Yet in order for this to occur they must first be seen by a community's adults as capable contributors and potential leaders. This is exactly what happened in this case (p. 355).

As a result, the BGC board consented to a garden project on 1.5 acres of their 17-acre Hawaii County leased land that would serve the BGC youth as well as the general community. Thus, in January 2007, two years after Searles had begun her quest by attending the workshop in Boston, the garden project began to take hold. Searles saw the possibility of it becoming a world peace garden with Hilo's multicultural community all working together; the ideas were still unfolding.

Searles enrolled at UHH in a directed studies undergraduate program centered on Hawaiian Studies, agriculture, and education. In every class she took, Searles found a way to focus on the garden. "As an older student my teachers were thrilled that I knew what I wanted to do. I knew what I wanted to read and what I wanted to write about." Searles wanted to read about food sovereignty. By then Meyer had returned from her sabbatical and Searles was now her student. "Meyer ran with it in her education classes and made sure that all her ED 310 classes came down to the garden. There was a great

influx of students coming there. Four times a semester there were 50 or 60 students coming and helping with the initial stages of the garden." Searles also invited people from her Hawaiian Studies, geography, and agriculture classes, where she found kindred spirits eager to help. Two of those people were Knutson and Hansen whom Searles met in her first semester horticulture class taught by Bill Sakai (B. Searles, personal communication, October 7, 2011).

Hansen and Knutson each lived nearby the Garden, so it was easy for them to help out on Saturdays. Searles and Knutson had their farm plots next to each other at the UHH agriculture farm. Knutson said his plot was more or less dead; none of his seeds took and it grew full of weeds, but Searles' and Hansen's vegetable gardens were beautiful and abundant. Searles started giving Knutson and Hansen rides home and said "We're starting a garden at the Boys and Girls Club. You [guys] should come check it out!" Shortly after, Knutson and Hansen started "cruising" over (E. Knutson, personal communication, February 10, 2011). Searles, Knutson, and Hansen were all popular with diverse friends in town and college friends in multiple disciplines. Once they were hooked into the garden, so were many of their friends.

Knutson's whole reason for coming to Hilo and attending UHH was to reconnect with land and food. He grew up in Colorado playing outdoor sports and initially enrolled in an exercise science program at Fort Lewis College. He said his program never touched on food, and at one point he realized that he knew nothing about gardening and was completely disconnected from the natural world. "Even though all my sports were in nature, snowboarding and mountain biking, I was focused more on the activity, not necessarily the intention to go into the natural world and take part in something." He

dropped out of school and told his family, “I don’t know what that means but I want to learn how to grow food.” A family friend suggested going to Hilo. Knutson learned that the town of Hilo had a college with an agriculture department and he said to himself, “That’s food, right? That’s where I’m going! I’m going there to learn how to grow food!” (E. Knutson, personal communication, February 10, 2011).

Hansen was also a newcomer to Hawaiʻi, drawn to Hilo from his home state of New Jersey, through a study exchange program. As an environmental science major he sought an intimate knowledge of Hawaiian plants and their cultural uses. He also liked to work with his hands and meet new people. Helping friends, working hard, and having fun outdoors was, to Hansen, a perfect way to spend his free time (E. Hansen, personal communication, December 6, 2012).

When they began, the place was wildly overgrown. It took about a month of major clearing before they could invite the general community to help. Vines were draped over tall trees forming canopies; head-high California grass covered loads of buried trash; large chunks of lava from ancient volcanic flows sat between pockets of hard soil. The only edible plants there were the less commonly eaten ʻape and *hoʻio* fern. But the property was lined with several fruit trees including *ulu* (breadfruit), cacao, macadamia nut, orange, and lemon. The stronger people used *o’o* (digging sticks) to remove chunks of lava, exposing rich soil for planting. The others hand-cleared the grasses and shrubs with sickles, picks, and machetes before laying down cardboard and old carpet to repress future growth. Hansen remembered it being a “huge undertaking” but “not feeling overwhelmed” because it was a team effort. “The positivity of Searles and Meyer’s spirit was like, ʻOkay, come on guys! Let’s do it! No worries; we get ʻem!’”

The ability to attract large community support often comes down to charisma, a quality of leadership. “Meyer and Searles were powerful speakers,” recalled Hansen. “Sometimes they gave me chills. They could draw you in, magnetize you; stop you in your tracks and make you think. When you have people with such a strong positive aura it…radiates out and you want to do the same. That kind of energy is instrumental for a community project, continued Hansen. “I would feel so positive around them. I would find myself singing more because I would be in such a good mood. So I think their energy is important in explaining why people would come back as many times as they did” (E. Hansen, personal communication, December 6, 2012).

After only one month of hand-clearing, the group was able to run a rototiller through the area to soften the soil. In the beginning it took a lot of adults who were physically fit, but within a few weeks little kids from the BGC and the surrounding neighborhood were clearing *honohono* grass with sickles. “That first garden day I met Clint and her dad and a whole bunch of people. I met my best friend Ariel Star, along with 60 others. Little did we know that was the start of [Kaiao] (E. Knutson, personal communication, February 10, 2011). Soon, people were coming from all over to help.

Meyer, Searles, Hansen, and Knutson were the core group members who were always there, but new people were continually joining them. Meyer and other faculty at UHH brought their college classes during the week and some even gave extra credit for participating in service learning on Saturdays. Inmates were invited from the nearby prison and were instrumental for the big jobs. A diversity of people came from throughout East Hawaiʻi: college students and professors; hippies; Hawaiian elders; young kids from the BGC, charter schools, Hawaiian language immersion schools. “It

was all a true community effort. There were two and three year-olds, retired people, prisoners, young people in their 20s and 30s, people who brought their dogs and just wanted to mingle." It was a mix of people with different cultures, economic backgrounds, and educations. The sheer diversity of people all working together, voluntarily, to improve their community was unlike anything Hansen had ever seen. "Everyone had their own approach but came with the same purpose: To grow food and build community. It was really transformational" (E. Hansen, personal communication, December 6, 2012).

Being inclusive of cultural diversity meant being open to different philosophies, and trying to find commonalities. People brought Hawaiian, Eastern, and Western approaches toward land and people. Native Hawaiian cultural practitioner Auliʻi Mitchell said, "There are parallels between different people's views, commonalities among our philosophical and religious beliefs. Meyer is a Buddhist, I bring in the Hoʻomana, the Hawaiian religion, Searles shared many religious and theological beliefs. There wasn't only one, no. It was the ability to be able to work as one (personal communication, February 27, 2012).

Businesses and organizations also contributed. Home Depot donated tools; tree trimming companies donated truckloads of mulch; and Garden Exchange donated gardening materials including watering cans for the kids. Sakai had just received two grants: the USDA National Institute for Food and Agriculture in the Division of Community and Education grant and the Alaska/Native Hawaiian Serving Institutions Educational Program grant. To support his students' efforts he put $1,000 of his department's grant money into "community outreach," purchasing clearing tools, organic fertilizer (chicken manure and calcium carbonate), and weed mat for the community

garden. He also allowed Searles to borrow a rototiller from the UHH Farm. Each subsequent year Sakai continued to contribute a thousand dollars to the Garden, which went towards such things as replacement tools, fertilizers, a juicer to process fresh juice from the garden, and a classroom platform for teaching. (B. Sakai, personal communication, March 19, 2012).

Within a month of Knutson's participation, his parents had funded the purchase of a greenhouse, and Meyer was supporting it mentally, physically, emotionally, and spiritually, not to mention financially. "She just kept throwing money at whatever we needed to grow this thing," Searles recalled. So it was extraordinary to watch it go from weeds and an idea, Clint's idea, to something happening. (B. Searles, personal communication, October 7, 2011). While small grants and donations were coming in here and there, it was really social capital which sustained the garden: People willing to give their time and energy, and work with others, in building up their community.

Hansen said it worked because it was manageable, being small-scale and having a lot of community help. As one of the core Kaiao volunteers, he said it only took up two or three hours of his time in the afternoons during the week and besides, it was fun. On Saturdays he and his friends would work in the Garden from 9:00 a.m. until 12 noon. Afterwards they would eat lunch together, or "go cruise to the ocean." Hansen found himself planting food not just at the community garden, but in his own backyard. "I realized that there is nothing better to do with your time. When I wasn't surfing or working and needed a break from studying, I'd have my hands in the garden. I found myself out there at night with the headlamp just pulling weeds!" (E. Hansen, personal communication, December 6, 2012).

The garden methods were sustainable and traditional, but also pragmatic based on what knowledge and resources were available. Participants planted by the cycles of the moon as native people around the world have done, utilized Korean Natural Farming methods, as well as Western methods for making compost and vermicompost (A. Mitchell, personal communication, February 27, 2012). Polynesian staples such as kalo, sugar cane, *ʻuala* (sweet potato), *ʻulu* (breadfruit), banana were most commonly grown. But over the years various other crops were cultivated such as kale, Swiss chard, lettuce, peppers, basils, papaya, lilikoi (passion fruit), lemon grass, New Zealand spinach, pohā berries, zucchini, eggplant, oregano, rosemary, thyme, parsley, and sunflowers (E. Hansen, personal communication, December 6, 2012).

One key to KCG's success as a volunteer-run project was implementing garden plots in phases over time. "That's probably the key to any garden project, to do a little at a time and not be too ambitious beyond what's manageable." A second key to their success was planting crops that were low-maintenance, well-suited to Hawaii's tropical environment, and could easily be grown organically, such as the Polynesian staples. And a final key to their success was what KCG leaders would sometimes tell the youth, "The main ingredient is love." According to Hansen, "It did really well because we just put in so much love from the beginning. If you had a constant amount of people, little kids doing diligent things like meticulously picking weeds, and other people doing harder things, it was really self-regulating. It takes a dedicated community, but it's possible to keep a volunteer-run community project like this going." (E. Hansen, personal communication, December 6, 2012).

Knutson said that the garden had enough land and healthy enough soil to produce significantly more food than they did, but production had not been the focus. They did not bother keeping track of pounds of produce harvested per mouth, as other garden projects sometimes do to measure their success. “As much as we are a community garden, we’re really running programs for the kids using the garden as a backdrop for exploration” (E. Knutson, personal communication, February 10, 2011). It was a safe place for people who had never gardened before to learn, experiment, and be supported. UHH Student Jesse Potter sometimes felt isolated in his efforts gardening at home, but enjoyed working with others at KCG and being able to see the transformation; of people and of place (J. Potter, personal communication, January 17, 2011). Even people who had not gardened before were surprised to discover a passion in growing and eating fresh food.

Noe Thompson got involved while teaching 8th graders for Nā Pua Noʻeau, a summer enrichment program based in Hilo for kids from every island. Meyer, who formerly worked at Nā Pua Noʻeau, invited students of the program to utilize the Garden. Thompson and the other teachers would rotate all 80 kids through the Garden in groups of 20. They would help pull weeds and pick fruits like orange and mango from the trees. In the greenhouse they picked cucumber and tomatoes. They got to see the difference between a store-bought vegetable and a fresh vegetable. Students said, “Wow, it doesn’t really taste like a vegetable! ʻCause it’s so juicy! Not like after it ages.” Thompson said that the kids loved feeling the worm compost in their hands. “It was great for them to get into the dirt, knowing that all of that helps to feed us. You can get your physical nourishment from there but still you gotta know where it all comes from and that it’s all

connected." After that Thompson started coming to volunteer on Saturdays and continued helping for the next five years. Thompson pointed out that if you lived in the college dorms, or in an apartment like she did, this was a place that you could come to be outdoors and garden.

Thompson believed that Kaiao's strength was all the information that it provided. She learned about healthy living and eco-friendly living, being encouraged to make small strides in subsistence production in place of consumerism. She also learned how to start a garden and maintain its fertility with local, cost-effective inputs, while simultaneously reducing waste. Participants learned basic Korean Natural Farming, traditional and sustainable methods for boosting soil bioactivity and hence fertility by cultivating and applying Indigenous Micro Organisms (IMO), in addition to other locally-made inputs.[5] Participants were also exposed to modern methods of cultivating "red wiggler" worms, which consume certain organic wastes and produce a rich fertilizer byproduct called vermicompost. "I took whatever was provided from Kaiao, whether it [was] recipes or different techniques for gardening and tried it in my own backyard." Thompson also had the opportunity to visit different garden sites throughout the island and participate in a gardener seed exchange in Kona. The trips were organized through one of Searles' UHH agriculture classes, but her professor, Bruce Matthews, graciously allowed a few community participants to come along. On the trips Thompson observed that "no two gardens are the same and environmental conditions vary. Like in Hilo we have rain, in Kohala there's drought, in Kona it's all rocky. It's good to meet other farmers and find out what they do" (N. Thompson, personal communication, February 17, 2012).

[5] For more information about Korean Natural Farming and its application in Hawaiʻi see Cho (2010) and Prell (2010).

But the natural environment was not the primary draw for everyone. For others, it was the social environment. Julie Kaneshiro started volunteering steadily about a year after the Garden was established. As Meyer, Searles, and Knutson were starting up the garden Kaneshiro was introduced to the group through mutual friends. Most of her high school friends had left Hilo to live and work in other places so she was happy finding new friends who shared her interests in healing and philosophy and who were "looking at how to support the greater community while doing something together that they all enjoyed." For Kaneshiro it wasn't a community garden, so much as a worthwhile "project with friends," and it was not long before Kaneshiro was one of the Garden leaders.

True friendship was the glue that bonded people together and developed social capital at Kaiao. It supported personal growth, leadership and community-development and enabled community problem-solving. "I think that's the beauty of working with friends, one person doesn't have to have all the answers," Kaneshiro mused (J. Kaneshiro, personal communication, February 15, 2012). Leadership at Kaiao was shared among friends and supported by a wider network of community project leaders offering support and inspiration. "We would have massive breakfast conversations. It was ideas every day," Searles recalled. "We saw how all of our projects and friendships connected with one another and how we could support one another" (B. Searles, personal communication, October 7, 2011). They encouraged one another through books, philosophy, and quotes like "*Ke ua nei*. It's time to do what you always wanted to do and just keep going like the rain"[6] (C. Correa, fieldnotes, February 15, 2012).

[6] This quote Kehau Tamure of Na Palapalai has added meaning for people who live in Hilo, one of the rainiest cities in the world.

Born and raised in Hilo, Hawaiʻi, Kaneshiro's early experiences prepared her to be a community-minded leader. Kaneshiro's parents were active community organizers and had been involved with the Hilo Kiwanis for roughly 30 years. Kiwanis is an international service club which seeks to change the world through service. Kaneshiro was influenced by her father's participation at Kiwanis meetings and service projects throughout the community. Her father was also active in the Okinawan organization which helped to strengthen her own cultural identity as a fourth generation Okinawan. Kaneshiro studied acupuncture and Chinese Medicine at a school in Oregon and upon returning to Hilo learned lomilomi massage and set up a Chinese Medicine practice. She continued to travel around the world and learned the arts of Korean Natural Farming and working with natural plant-based dyes.

Also drawn by friendship was Japanese foreign-exchange student, Naomi Hagura. Hagura had met Searles in a "Hawaiian Language in Action" college course in their first semesters at UHH. She learned about the garden when they were paired up to introduce each other on the first day of class. Hagura had gardened before and was eager to make new friends, but when she accepted Searles' invitation to help she realized that it was not a garden, but an overgrown jungle. She watched from afar and as the jungle started transforming into a more manageable garden, she started participating. "I have to spend most of the time studying so I wanted my free-time to be spent with friends doing something really positive and practical. Kaiao was perfect. We've done many things at the garden as friends. Friendship is really what kept me coming back" (N. Hagura, personal communication, February 16, 2012).

For Hagura just participating as part of a group was, as she called it, “healing.” Knutson affirmed that KCG “really pulls people who need healing through food, people, and love. (E. Knutson, personal communication, February 10, 2011). “I think that was my main purpose of going to the garden,” Hagura explained. “I felt included and safe. It was really wonderful to come here as an international student and have a place to belong.” At that time Hagura said she did not know she was capable of teaching art, but KCG emphasized that learning occurs through experience. She planted indigo and demonstrated how to prepare and use natural pigment dyes. Her first art class involved the BGC youth in painting planter boxes with hand prints. “They were multicolored and looked really cheerful. Then the kids wanted to paint other things and we had to say, ‘focus just on painting the planter boxes!’” As an artist Hagura noticed that when she felt comfortable in a group she could easily express herself. “A safe environment really leads to creativity ‘cause you don’t feel worried about what people think of you.”

Feeling safe was important to Hagura not only as an artist but as a Japanese national who was still learning English. “I didn’t speak English well for first two years so I was really closed off from connecting with others. I could not always carry adult conversations, but with kids it doesn’t matter.” Hagura was comfortable working with the BGC afterschool kids every Monday, Wednesday, and Friday. “Gradually I began socializing with kids and adults and it helped my English speaking. It started by just listening with a smile.” As her mentees, the children made Hagura feel special, like when they remembered her name. “I was healed by coming! The kids don’t judge. Just come and hug you. It’s really open” (N. Hagura, personal communication, February 16, 2012).

Other college students started coming and volunteering, when friends started introducing other friends. Matt Peters and his brother Ryan Peters were friends of Knutson. For them it was a refreshing change of pace from the rigors of school and work. KCG was informal, off the clock, and a fun way to meet people in the community and learn. “Here, we don’t work for money, we work on love. I probably would not be volunteering if my friends weren't also volunteering 'cause the community element is a really strong piece that has made the garden what it is” (M. Peters, personal communication, February 24, 2012).

For Knutson, the “community element” that kept driving home for him is that “we have a responsibility to each other to work together. Humans have evolved by taking care of each other.” Of course with friendship and community comes occasional disharmony. “*Pilikia* [problems] sometimes arise like, ‘I don’t feel included.’ We’ve all felt like that at certain points. But that’s a big part of community, we’re all in this together.” Depending on who was “running” the garden at the time, the “vibe” would be different, causing some to feel excluded. The main point that Knutson conveyed was that the people dynamics constantly changed day to day depending on who was leading and participating at the garden, but as a whole it was “completely inclusive; come one come all.” (E. Knutson, personal communication, February 10, 2011).

Participants learned that there was intelligence in doing things as a community. To Hansen, KCG in Hilo developed a really unique spirit of bringing people together, which he had not seen in other towns throughout the islands. In Wailua where he now lives, for example, he has not observed people really working together in the taro fields. “It could be so much more productive and the work could be easier if people worked

together as a community instead of as individual families. . . . I've never felt such a strong sense of community since working at Kaiao." Hansen said that his experience at Kaiao led him to rethink doing projects individually. "If there's a project you think you can get done by yourself, you should still get other people to come help you and find a way to help them in return. You learn more; you might see a skill that you didn't know how to do before, and it's just good to hang out with people." Since leaving KCG after three years of service, he continues to help the neighbors of his community (E. Hansen, personal communication, December 6, 2012).

The Hilo neighborhood community association, Halai Kumiai, took notice of KCG and started coming around in its second year. A *kumiai* is a group of people who voluntarily unite to satisfy their interdependent economic, social, and cultural needs and aspirations through a collectively-vested and democratically-controlled community association. Literally translated from Japanese, it means "group-join" and is similar to a co-operative. In the 1920s Japanese immigrants formed kumiai on Hawaiʻi Island as a means of community-building for sustainability. Constituents valued sharing, caring, social responsibility, and solidarity, considering themselves responsible for the welfare of other members. In times of crises or need, whether individual or collective, the kumiai pooled money and resources, and offered assistance to other members (Lee, 2007, pp. 77-78). A kumiai is a demonstration of social capital, where people in a neighborhood take care of each other, and watch over each other. "Auntie Sherly down the street will tell you, 'We're tight; we're strong. We know everybody, and we know what you're doing, so no mess around!'" (E. Knutson, personal communication, February 10, 2011).

Halai Kumiai was formed 60 years ago “to promote harmonious and friendly relationships and mutual welfare among its members; to offer assistance in the case of bereavement and disaster; and to provide a voice to its members” (Halai Kumiai, 2012). The kumiai hosted their association picnics at the garden, supported it through small donations, and helped advertise it by word of mouth.

Observing this traditional community dynamic in which everyone is accountable for and accountable to everyone else inspired the KCG members, who slowly realized they were coming together for the very same reasons (E. Knutson, personal communication, February 10, 2011). The KCG leader’s willingness to support others naturally attracted new volunteers and partnerships, but the KCG leaders also reached out to invite many schools and organizations. “It’s a community garden so people gotta come and share. On a human aspect to just help, get the word out, to share with other people that that’s a healthier way of living” (N. Thompson, personal communication, February 17, 2012). One group KCG networked with was Lihikai Hawaiian Cultural Learning Center (LCC), based in Keaukaha, a Hawaiian homestead area in Hilo.

Keoni Turalde and Prana Mandoe, founders of LCC, instantly connected with the people of KCG. “It’s been very awesome because when you need their help, they’re there for you. That’s why I will always support them.” Although Kaiao is not a large garden, not even two acres, he told me, it's enough for the community and the kids. “People come from all over, even outside of Hawaiʻi, to see that place. The land over there means a lot to the kids and adults 'cause there’s nothing like it anywhere else in Hilo. You gotta go apply to the college to learn the same things, but this is free and open for the community” (K. Turalde, personal communication, February 13, 2012). LCC was a strong partner of

KCG, helping to sponsor Hoeaea Food Sovereignty Conferences. Thompson told me that it makes sense for groups with similar missions to pull resources. “You have to partner up and that takes leadership and your own effort because you gotta go and find places where you can partner up” (N. Thompson, personal communication, February 17, 2012). This kind of networking demonstrates social capital.

Another group that the KCG stewards reached out to was the Big Island Substance Abuse Council. The organization had been looking for a place to do service learning, and thought KCG would be perfect. Howard Peʿa, or “Uncle Howard,” as everyone called him brought 15 clients from drug court and taught them how to plant taro. Peʿa is a native Hawaiian elder trained in hoʿoponopono, a Hawaiian mediation process. When Peʿa met the KCG leaders, he said to himself, “Wow, I like them; they’re beautiful people.” He told the KCG leaders that he was going to bring people from drug court but not to worry. “When Peʿa get involved, they behave, nobody get out of line.” The service learning project was successful but it ended when the grant funding ran out. Peʿa, however, continued volunteering at KCG and became a cultural *kupuna* (elder) there. The leaders always emphasized the garden, but Peʿa, a trained hoʿoponopono (Hawaiian mediation) counselor and spiritual man, would tell them. “Oh no, it’s not the garden, it’s you folks. You are beautiful. It’s not the house, it’s those who live inside, it’s not your body, it’s your soul.” (H. Peʿa, personal communication, February 17, 2012). As important as Peʿa became to the culture of KCG, he may have never participated if the KCG leaders had not reached out to his program.

Another way that KCG leaders created a buzz about their project and recruited new participants was through the Internet, or social capital 2.0. Searles and Knutson each

took a Media and Technology in Education course at UHH with David Manning, who encouraged them to focus their technology curriculum on the content of the garden. Web sites and YouTube videos were a great way to document and inform people of their work. Social media, such as blogging and using Facebook added a layer of social networking, as participants were able to add to the social capital by "inviting" new friends to the Web page (and thereby the garden), posting pictures, sharing and exchanging information, and commenting to one another in virtual communities and networks. Some participants even created blog entries about the garden, reinforcing and extending the social network. Although social media did not play a huge role, it did provide another avenue for bridging social capital. While social "capital" was a primary means of support, financial capital, in the form of grant funds, was also sought to a limited extent.

As one of KCG's grant funders, HIBC provided two small grants to help KCG participants envision their own health programs around Healthy Eating and Active Living (HEAL). The KCG leaders created a 10-week garden-to-kitchen curriculum tailored to different populations including elementary and middle-school students and adults with disabilities. Participants had the opportunity to learn to grow fruits and vegetables using sustainable methods and prepare simple, healthy meals using those same ingredients. One of the things that made funding KCG attractive was the fact that unlike school gardens, it was open to the entire community, and was a place that people could still go back to long after the grant funding ended. HIBC Outreach Coordinator Marie Horike explained, "If participants have an interest in gardening, it's a place they can be a part of. It's like if you need bananas or papayas, come and get. Kaiao is really open to the community and I

think that is different than any other project we've funded" (personal communication, December 7, 2012).

The KCG also received a small grant through the Kohala Center to do an eight-week intensive session with the artist Mele Meyer, Manu's sister. That is when they painted a 75-foot mural. "Mele asked each participant to draw an image of the garden from their own perspective. Everyone's image was then combined into a collective art mural. The participant didn't actually draw the mural design, but their image was used and so they feel they participated" (N. Hagura, personal communication, February 16, 2012).

Hawaiian-inspired art is about identity, place, loss, resiliency, and faith (Meyer, N.D.). The mural was a colorful, flowing abstract piece with rich symbolism: seeds and spirals signifying the perpetual and interrelated nature of life; moon phases signifying traditional methods of planting; earthworms signifying fertility and ecological health of the soil; sun and water signifying an appreciation and awareness of the elements; and immense hands reaching out toward staple plants like taro, sweet potato, and breadfruit signifying food sovereignty and *malama ʻāina*, the relationship between stewardship and sustenance. A group-envisioned mural at a community garden is a powerful symbol in itself. It signifies a place that values social collaboration, where everyone's contribution is an importance piece to the larger picture.

Projects were often based around the needs of participants coming through the Garden. "All kinds of learning unfolded through the garden as an educational pivot point," Searles recounted. A friend and fellow teacher in Ka'u called Searles one morning and said "They're trying to send us to Texas to give us our professional development. I

don't think we need to go, let's do something here." So Searles and Kaneshiro created a place-based teacher education class through the UHH College of Continuing Education and Community Service entitled "Awakening to Place" (B. Searles, personal communication, October 7, 2011). KCG, through the networking of Searles and Meyer, extended and received support through UHH.

Many students who participated at KCG were education majors. With the support of her department, Meyer brought down the entire cohort of students. "Often times we're caught up with the bureaucracies of teacher education, getting them trained and certified, but the Garden brought up a value component of what's really important. Without that we're just producing more teachers. But what kind of teachers do we need? What kind of values do you want them to hold? What is meaningful assessment?" Kaiao garden was a way to instill some of these values into teachers. They learned to embrace sustainability, and the use of culture and natural environments (D. Manning, personal communication, February 27, 2012). Risa, one of the students of the UHH Teacher Education Program who participated at KCG, noted, "One does not have to possess a formal teaching license to truly be a teacher. Those who have the manaʻo and generosity of spirit can deeply enrich those who have the heart and ears to hear and be moved to action (Searles, 2009).

The UHH Agriculture Department also utilized KCG as a community and place-based extension site for their classrooms. UHH horticulture professor Norman Arancon, for example, had students designing small garden plots around his seven criteria for holistic sustainability including ecological soundness, economic viability, cultural sensitivity, social justice, appropriateness of technology, and whether it utilized holistic science and served total human development. He saw how KCG supported total human

development by providing an educational place that everyone in the community could access and grow from.

He explained each criterion in greater detail, within the context of a garden. For a garden design to be ecologically sound, harmful insecticides, pesticides, herbicides, or fertilizers must not be used. Are manual weeding, weed-mat, and mulches used in place of herbicides? Is integrated pest-management used in place of insecticides and pesticides? Are compost, inter-season cover crops, and intercropping with nitrogen-fixing plants used instead of chemical fertilizers to increase fertility? Finding holistic, sustainable solutions in one area of the model can have positive affects for another area. Intercropping, for example, can not only increase fertility but also profitability because in one area several plants can be grown and if one fails because it was attacked by insects, there will be another crop that can be a source of food or cash. This leads to economic viability.

He defined economic viability, feasibility, and profitability broadly. Making a profit is not of sole importance. Does the garden design create other kinds of value, for example, creating an oasis in the middle of a city, where children can learn about where healthy food comes and what it tastes like to bite into a fresh cucumber or tomato? What is the value of increasing the health and wellbeing of a neighborhood? Might this defer costs down the road? Through adopting ecologically sound fertilization methods, how much do you save in not having to buy fertilizer? If financial capital is limited is there sufficient social capital to sustain the project?

Culturally sensitivity for a community garden entails planting foods that have significance to the surrounding culture. Traditional varieties of taro, breadfruit, coconut, sweet potato, and banana are all culturally appropriate in Hawaiʻi and tend to grow better,

requiring less financial inputs, than some other food crops. Cultural sensitivity can also be extended in other ways. If there is an educational component at the community garden, is it place-based and culture-based? Is it culturally sensitive toward diverse participants? This concerns issues of social justice and equitability

A community is socially just and equitable if it is inclusive of diverse participants, creates opportunities for personal growth or empowerment, and is democratic in function. People are treated fairly and respectfully. Does it use appropriate technology? Manual labor is appropriate at a community garden with a small area.

Are we considering the garden holistically? For example are we not just growing a plant but also thinking about how our methods affect the environment (that is a science), and the people who eat it (that is another science). It is not just about harvesting vegetables and making money but also replenishing the soil fertility. Are we not leeching the fertilizer so it pollutes our waterways and rivers? It is not just about producing food, but food that makes people healthier. When we are sensitive to all of the ways that a garden can impact the lives of people, it has a chance to be utilized not only as a place for growing food but a place for total human development.

Arancon helped the KCG stewards think about the general design of KCG. While it had fruit trees, kalo (a starch), and a consistent water source, there were not many vegetables growing and it was too shady. He recommended removing some trees to create more sunlight and adding an animal component as a way of recycling food refuse or crops that are attacked by pests. It could be chopped up and fed to chickens, for example. Because this probably would not be enough food, he recommended also growing plants just to feed the chickens, which would be more sustainable than buying

chicken food. In return you get free chicken manure and eggs (N. Arancon, personal communication, February 17, 2012).

Matthews utilized the Garden to introduce students to basic gardening, for example, creating compost, taking soil samples to analyze and adjust the inputs accordingly. When Bodhi's Horticulture class under Mathews analyzed the KCG soil it was actually richer in phosphorous and potassium than you would normally find for that area, possibly attributable to the fact that it was enriched through organic cultivation by the Hilo Boarding School and the Hilo Boys Club that previously utilized the land for growing crops. The class was able to connect horticulture to the history of a place.

Getting students out of the traditional, ridged academic setting and into the community had indirect benefits for Matthews and his students. The relaxed atmosphere of the garden allowed Matthews to get to know his students on a personal level and allowed them to learn from each other and the community, in addition to their instructor. "It made for great interaction; a lot of students who won't say a word during class on campus felt relaxed to open up in a community-based setting." To Mathews, it was also an opportunity to learn the value of civic engagement. "In the old days [young] people used to think, 'It's my duty to perform community service. I'll gain experience that may lead to something where I'll have a job down the road.' But if they don't see something that's going to get them immediately ahead they just walk away from it." Unfortunately, Arancon's and Mathews' classes at Kaiao stopped due to the liability concerns of UHH administrators (B. Matthews, personal communication, February 14, 2012). Yet some college students were drawn to volunteering at KCG on their own, because they saw value civic engagement had for themselves and others.

Matt Peters, neighborhood resident and environmental studies major, chose to volunteer because it was an experience he never had before. “I hadn’t worked with kids or disabled adults before and I wanted to know what that was like,” (M. Peters, personal communication, February 24, 2012). White, a college roommate of Peters’ from the same department, volunteered to return the mentorship he had received as a young person. “[The Hawaiʻi Youth Conservation Corps] totally changed my life. I was invited into nature by really knowledgeable people such as natural resource managers and Hawaiian cultural practitioners.” It led White to pursue a bachelor’s degree in Environmental Studies. He wanted to “return that gift to people while also learning how to grow food” and said that Kaiao was the perfect place to learn how to do both of those things well (A. White, February 28, 2012). Kaleinohea, a Hawaiian language major, was drawn to the KCG mission of “promoting a close knit and connected community.” (K. Cleghorn, personal communication, October 22, 2011). Other college students and young adults were drawn to KCG’s alternative education.

Jesse Potter, UHH agriculture student, discovered a love of interacting with and teaching kids. “I don’t know much but I think learning can occur while having fun in the process.” He realized that “if you want to change anything in this world you have to start with educating the kids. What’s their world view? Are they seeing math, reading and science as a ticket to a job like [formal] education perpetuates, or can they see beyond that?” (J. Potter, personal communication, January 17, 2011). This critique of formal education was shared by many volunteers at KCG, including Drake Weinert who said, “I feel like today’s mainstream education is trying to enumerate everything you should learn

instead of teaching you how to learn" (D. Weinert, personal communication, September 23, 2011).

Community learning at Kaiao was something different than schooling; it was practical, place-based, and experiential, opening up a new world of exploration. Potter's experience lead to his double-majoring in education, and upon graduation, starting a nonprofit organization to teach school groups about planting taro in Waipiʻo Valley. Weinert's experience also led to his establishing a non-profit organization called Natural Farming Hawaiʻi. His organization's vision is to strengthen people and communities through Natural Farming methods in food production, community-centered model gardens, and sustainable farms. Its values are to model sustainable farming, respect the land for future generations, empower people, and build community (Weinert, 2012).

In addition UHH, KCG leaders reached out to local K-12 schools creating school-community partnerships in environmental service learning. For the youths who visited the garden regularly, it became a sacred place. Knutson noted, "They come in and get quiet within themselves, knowing it's a safe place to have a wonderful day or a [bad] day. They know that they can work it out in the garden, physically and emotionally. The ones that have been there longer take the others under their wing. And these are kids that maybe wouldn't extend themselves like that under normal circumstances but just kind of transform when they get here. They show each other how to be in a place that they respect. (E. Knutson, personal communication, February 10, 2011). Gruenewald & Smith (2008) emphasize the importance of having young people develop a sense of connection to place and community so they will be more likely to invest their intelligence and energy in efforts to restore and preserve that which they value.

> When they have developed skills and understandings that allow them to differentiate between life-enhancing and life-destroying activities and practices, they will be better able to resist those who would exploit and colonize them and to participate in activities that will regenerate the social and natural commons once central to the perpetuation of human communities. As experienced collaborators, they may be able to join with others to form effective organizations able to advance the welfare of the many rather than the few (p. 346).

Protocol was an important part establishing Kaiao as a sacred place of learning. It brought awareness, appreciation, and purpose to group work. Protocol Director Taupōuri Tangarō of Hawaiʻi Community College's Haʻakūmalae explained succinctly that protocol is "an organic process of connecting." "From time immemorial, protocols have kept the human species around the world in a heightened and active awareness to their environment, their resources, and their spiritual and social relations by defining a system where all of these living components intersect equitably" (T.Tangarō, personal communication, 2010).

Before entering KCG, the realm of their practice, garden participants would do opening protocol, to ask for permission to enter, and wait to be invited in to work. Certain *pule*, or spiritual chants, were then done by the group before and after working to invoke those Gods traditionally connected to their work. In the beginning it served to "bring in the collective consciousness" and allow everyone to work as one." At the end it served to bring closure to the group's work by thanking the physical and spiritual forces that supported the work (A. Mitchell, personal communication, February 27, 2012). The closing pule was usually Oli Mahalo, also known as the "Gratitude Chant," written by Kehaulani Smith (see Figure 4.1).

Figure 4.1

KCG Cultural Protocol: Oli Mahalo, Hawaiian Gratitude Chant

ʻUhola ʻia ka makaloa lā	The makaloa (many-eyed) mat has been unfurled
Puʻai i ke aloha ā	In love, food was shared
Kūkaʻi ʻia ka hāloa lā	The great breath has been exchanged
Pāwehi main a lehua	The lehua honors and adorns
Mai ka hoʻokuʻi a ka hālāwai lā	From zenith to horizon
Mahalo e Nā Akua	Gratitude and thanks to the Gods
Mahalo e nā kūpuna la, ea	Gratitude and thanks to our beloved ancestors
Mahalo me ke aloha lā,	Gratitude, admiration, thanks, and love
Mahalo me ke aloha l	To all who are present, both seen and unseen

Source: B. Searles, personal communication, January 12, 2011

Opening and closing Hawaiian cultural protocol was standard at KCG. Additional exposure to Hawaiian language, traditions, and perspectives depended upon whether there were cultural practitioners as leaders or participants. The native Hawaiian cultural practitioners who were also KCG leaders for a time were Meyer; her cousin Mitchell, who was a *kumu hula* (hula teacher); Thompson, a *manaleo* (a Hawaiian language speaker from birth); Uncle Howard, a Hawaiian taro farmer and spiritual *Hoʻoponopono* practitioner (traditional mediator); and Pomai Freed, a bright young high school graduate of Hālau Kū Mana Hawaiian Charter School who taught cultural protocol.

Hula was also danced in the garden. When several of KCG's cultural practitioners, like Meyer, moved on, Searles and Kaneshiro asked Mitchell to teach hula to provide a cultural component to the garden. It was also a way that Meyer's *mana* (energy) would still be there, through her cousin. In this way, thirteen women, ages 20-50, learned the hula. Most were already a part of the garden. But some came because they knew Mitchell, and so they were introduced to KCG. The hula *hālau* [hula class] meet at the Garden on Saturdays, would work until noon, have a light meal, and then learn hula on the teaching platform that the UHH Agriculture Department had provided. The hula

was taught in a less stressful way without the *kapu* (restrictions) generally placed on students in a hālau. "[The women] were excited because not only were they dancing in the garden, they were dancing in the realm of the ancient goddess Hina." Hawaiian mythology specific to Halai, the hill area around KCG, was a significant part of the project's identity.

The goddess Hinaikapūpūʻai grew vegetable food in ancient times. Sister Hinaikawai and Hinaikeahi lived on Halai Hill. According to legend, once there was a heavy drought and people were starving, so Hinaikeahi took it upon herself to make a huge *imu* (traditional underground oven) and put herself inside, mystically creating food for the community after three days. Because she had the gift of *ahi*, or fire, her response was *pono* or correct, and she did not perish. However, when famine later struck again, her sister, Hinaikawai jealously tried to secure honor for herself by following in her sister's footsteps, but because she had the gift of *wai*, or water, and not fire, she perished in the imu, and the people went hungry. Yet, if she had utilized her own gift of water, she may have achieved the same purpose of feeding the people by saving the crops from draught. The implicit lesson at KCG was that everyone has unique gifts to be discovered and used selflessly, in service to the community. It also demonstrates the importance of being humble and recognizing the value of different leadership styles. This story was also a metaphor for the physical, emotional, and spiritual nourishment that KCG volunteers sought to provide to their community.

As a hula hālau, the dancers were able to honor Hina, the female energy; Hinaikapūpūʻai, the one who grows the vegetables; and her sister Laka, the goddess of hula. The hula involved the garden in the *kino lau* (alternate form) of Hina, her

embodiments or plant manifestations including vegetables and water. Laka's kino lau is *palapalai*, *ʻilima*, *ʻēkaha*, and *maile*. In order to dance, the women had to make a traditional altar with the *kino lau* of the goddesses they were honoring. *Halapepe* and *lauaʻe* were traditional-use plants also cultivated in the garden. Mitchell told his students that all Hawaiian cultural practitioners must take care of their *papa*, their foundation, whether it be the sea or the earth. A healthy, sustainable earth foundation is essential for perpetuating such traditions as hula, he explained. "There was a lot of manaʻo that went into teaching the hula; we didn't just dance there. We interwove the garden and hula. It was really wonderful" (A. Mitchell, personal communication, February 27, 2012).

Stewardship at KCG meant discovering a shared *kuleana* (privilege and responsibility) toward a positive interrelationship between land, community and self. Respect and responsibility is what made Kaiao a *wahi pana*, or sacred place of learning. Ecological and indigenous ideas were embraced by participants of all ethnicities through a cultural context of Hawaiian language and culture. Kaneshiro experienced Kaiao as "A magical, sacred space. A place where you could really let go and have some distance from all of the things that you are carrying on your shoulders." Whether it was in sharing, or artwork, or hands in the soil Kaiao created a "sense of place" where a "deeper kind of healing" could occur (J. Kaneshiro, personal communication, February 15, 2012). Mary Barns, a kinesiology student from Colorado was in awe of the connection that Searles, Kaneshiro, and Knutson all seemed to have with the *ʻāina*. As a resident of Hawaiʻi, she too wanted to deepen her understanding and relationship to land, culture, and community through the practice of *malama ʻāina*, caring for the land (C. Correa, fieldnotes, October

20, 2011). Edward Kanahele in McGregor (2007) explains that a sense of place gives meaning to peoples' lives.

> A place tells me who I am and who my extended family is. A place gives me my history, the history of my clan and the history of my people. I am able to look at a place and tie in human events which affect me and my loved ones. A place gives me the feeling of stability and belonging to my family both living and dead. A place gives me a sense of well being [*sic*] and knowledge that I am accepted by all who have experienced my place (p. 5).

In recognition of the diverse epistemologies that came along with KCG's multicultural environment, people repeated the Hawaiian proverb, *Aʻohe kaʻike ka hālau hoʻokahi*, not everything learned is learned in one place. It described their pragmatic approach applied to community-building, agriculture, and education. "We used whatever methods worked! Everybody who came to the garden and had knowledge to share was welcome. It was very validating. Their knowledge was heard, and it was shared, and it was used. That's the beauty of it" (A. Mitchell, personal communication, February 27, 2012).

Everyone came together with different levels of experience, but social learning enabled them to teach and learn from one another. "The conversations between the people who come and work together in the garden elevate my understanding of sustainable farming practices and community happenings, which helps me to better understand my role and responsibility as part of a local and global community," said Hawaiian language and Agriculture double-major Jesse Cleghorn (personal communication, October 22, 2011). Social learning is by nature unstructured, so there were no boundaries on what could be learned. "You may be working on making a sweet potato mound and then learn something completely unrelated from the person you are working with," Kaneshiro reminisced (J. Kaneshiro, personal communication, February

15, 2012). At times there was disagreement about “the right” way to do something. Someone might say, "My dad has been growing kalo for forty years and he does it this way." Searles, Knutson, and Kaneshiro would humbly reply, “Not us!” But they were open to trying the new method proposed. “It was an opportunity for everyone to learn, but also a chance to empower somebody else to share what they [knew] and how they learned it. When you just scratch the surface of interest people really come with an abundance of what they know about their home,” Knutson said (E. Knutson, personal communication, February 10, 2011). It was an organic process of learning.

“KCG is all hands on,” Thompson told me. “*Ma ka hana ka ike*, learning is in the experience.” Although Thompson had a master’s degree and could have taught at a “Western” institution, she preferred teaching in a community setting. “Western education says you need four walls, but when you’re trying to teach gardening, an open field is the most appropriate learning style” (N. Thompson, personal communication, February 17, 2012).

In addition to experiential learning, KCG embraced social learning and group process. Together these educational approaches equated to a new kind of learning; one that was meaningful and fun, engaging and empowering. *Transformational education* was an idea that Meyer and Searles stumbled upon serendipitously. Meyer had a teaching slot to fill and was looking for new ideas and sources of inspiration. She and Searles came up with the idea of “transformational education” and found that it was a preexisting educational approach. At KCG Searles employed her conception of transformation education: “A community process of communicating…of looking at transformational ideas that are linked to one another and that link to bigger and bigger systems that help

you understand that you are a participant with creation." Transformational education at Kaiao meant getting uncomfortable with others in a safe way. Participants might "free-fall a bit, but [would] eventually spread their wings and fly" (E. Knutson, personal communication, February 10, 2011).

Upon graduating with her Liberal Arts degree in Agriculture, Hawaiian Studies, and Education. Searles pursued a master's degree in education. Her master's thesis was entitled *The dharma of community: A pedagogy of awakened education in Hawaiʻi: A heuristic case study of Kaiao Community Garden* (Searles, 2010). Searles' study was on KCG's educational and spiritual impact on its leaders. From her interviews she discovered five main themes: self-reflection, sacredness of place, responsibility, freedom, and aloha as compassion. She looked at each one of those themes as triangulations bringing into play culture, education, friendship, sustainability, and transformation. Searles believed that these elements help people understand themselves and their purposes (B. Searles, personal communication, October 7, 2011).

Facilitating transformational community education requires a different kind of leadership style; one that is democratic, decentralized, and flexible. Weinert and Searles agree that "when you try to centralize and control a community project it kills it, strangles it dead and people won't want to pick it up." Instead Searles and Weinert encouraged volunteers to find out what they liked to do and later, if they were comfortable, to take on a leadership role in a way they found engaging. Searles would tell volunteers to "follow their joy." Weinert added that while a leader should not tell people what to do, the leader needs to be assertive. "It's hard to unify ʻcause everyone has their own passion and vision and their own dream of how to do this. And when you try to say, ʻThis is how to do it,'

you kill their spirit, then they ditch and they're gone, so it's really been tricky to get people together and accommodate everyone."

Leading a community project can be a double edged sword, Weinert confessed. "People will often come to you saying, 'I want to volunteer,' and if you say 'do what you love,' they're like 'What do I love?' They are looking to the leaders of the project to help them sample the water a bit." The key to civic leadership is to have open communication. Weinert would make suggestions and tell people that if they did not like it they could come back and he would find something else for them to try. "It can be difficult because everyone is different. But the goal is for people to trust you enough to tell you directly if they do not like something, rather than 'talk stink' behind your back." In order to keep up the momentum in a volunteer project, he explained, everyone has to be happy in their roles. "As a leader it means helping people to adjust, to find their place and be able to contribute meaningfully" (D. Weinert, personal communication, September 23, 2011).

The garden was a place of intergenerational learning where older participants mentored younger ones to find their place within the community, or their means of contributing. UHH student Potter said that "Aunty Searles" once told him that "before you can truly speak, you have to listen inside." "You have to find out what is your gift because you have something to teach." Searles encouraged leadership among the younger participants, asking them, "What do you guys want to do? If you want to raise chickens, raise chickens. If you want to do a community art project, do it!" It made Potter nervous, "What *do* I want to do? Can I just like weed?' [laughs]. Potter came to KCG between the ages of 22-24. He said it gave him direction. "I was going to college but I didn't know

what I wanted to do. This gave me a lot of clarity without forming a rigid idea" (J. Potter, personal communication, January 17, 2011).

Developing community leaders is important work in establishing community sustainability. Citizens are often in the best position to raise awareness for local problems and initiate creative solutions. Often it is the work of civic leaders in building the capacities of their neighbors. "I've been pretty crucial in holding it together by just showing up," Weinert confessed. "Ninety-five percent of it is just showing up! Sometimes I don't know what I'm going to present at the Natural Farming meeting, but I show up and it happens, and people are like ʻOh, great meeting!'" (D. Weinert, personal communication, September 23, 2011). K. Maunakea-Forth called her work in food sovereignty education as "holding a place for future generations" (P. Mandoe, personal communication, February 25, 2012). A lot of people think that grants or government support are what make a community project successful, but Searles, Weinert, Turalde, and Mandoe all said that it is not as effective as grassroots action.

The County of Hawaiʻi is a good example, which spends thousands of dollars creating Community Development Plans (CDP) that are out of the scope of most people. "It's all these fancy words that ʻuncle' doesn't understand so ʻuncle' isn't going to give his input…and maybe the County thinks that's okay, but he's the community, so what are we developing?" When Weinert looks around town as to who's doing action, "it's the people who go and just do it, they don't wait for this or that and they're so much more effective." Uncle Howard started as a KCG volunteer and recognizing the need, went on to start the Panaʻewa Farmer's Market. He did not do it for pay but out of a civic duty to his community. Community projects who receive grants must narrow their focus so much

that they become inhibited from responding the way they normally would (D. Weinert, personal communication, September 23, 2011). Social capital offers a less rigid way of "funding" community projects, but requires peoples' willingness to jump in whether it was easy or not (B. Searles, personal communication, October 7, 2011).

There were moments of frustration at Kaiao and other Hilo community projects; when leaders wanted to give up. Their commitment to achieving their project mission often pulled them through. "I think about all the books that I read and if those people didn't write books, how would I get that knowledge?" Weinert explained, "Sometimes I get frustrated, and then I'm like no, I gotta stay with it. The more I could show the value of growing food and of building community, the more people can pick it up." Yet the work of civic leaders like Weinert was paying off. Many of the small community-based sustainability projects in Hilo started growing and converging. "Everyone is coming to it on their own as opposed to being forced into it, which is why it's working. The network has been just people coming from their heart towards this." Networking with similar organizations bolsters everyone's sustainability. But if no network is in place it is impossible for people to communicate and share resources. "There's a ton of people doing this kind of community work but what we really need is to unify. It's that tricky thing of not being able to tell people what to do but needing a common vision."

Weinert said that there was no one community activist organizing all of it. "You ask me who's involved and I don't know. There's plenty of people doing good stuff but I don't know who." He wanted Meyer to call a community meeting. "She's been an instigator in a lot of this, a core rock. But one of the hard things about community

meetings is having it be productive, having people show up and having ideas come out, where people don't feel shame and can hear it openly."

The meeting should not get people too excited, thinking this is going to solve their problems, but it could begin a conversation and let people see where it leads, said Weinert. "It's not just a matter of meeting other likeminded people. It's what you are willing to bring to the table." If you come expecting others to help you with your project, you are wrong. If you go to the meeting and think I'm going to help all these other people with their projects, you are right. "If everyone comes with that attitude then we can really get a lot done. I don't know where the solution lies, but a meeting would be nice" (D. Weinert, personal communication, September 23, 2011). This meeting has not happened yet, but I believe it will eventually come, as civic leadership grows through the power of community-based environmental education and service learning.

One invitation by Searles to "cruise by" Kaiao led Knutson to become a community educator-leader, returning steadily over the next five years. His growth through service learning, as evidenced by the rich passages to follow, exemplifies the highest goal in environmental education: social intelligence, emotional intelligence, and ecological intelligence, combined to form ecoliteracy. To positively impact one person's life this profoundly is the highest achievement in education. Knutson's experience not only shaped his life and the lives of KCG participants, but rippled out into the lives of his family and friends. He described the transition process of becoming a young, civically-minded leader.

> There [was] just something that called to me inside, and it felt really right. My choices started shifting and I would find myself at the garden more and more. Not to have fun with my friends, goofing off or whatever. I don't know how to describe it. It was just a different pull. And I went with it….It was kuleana, an

> effortless effort that kept me there. Kuleana is a decision to make your mind strong and commit to something even though it's not always the easiest choice or the most fun. The vision at Kaiao just kept affirming "stick around, stick around." During that time I started eating more fresh vegetable and I went through this body transformation and mind transformation. I tell you when you work hard, when you get your heart rate up and you're not eating so much sugar, it changes the nature of your relationships. My friends started noticing what I was doing and started coming around the garden too. We've all been shaped by food consciousness and kids and sharing (E. Knutson, personal communication, February 10, 2011).

The story of Kaiao Community Garden is one of transformation, not only of the land, but also of ideas, education, and community. In learning how to produce food together, KCG participants learned what it means to be human, and what it means to be part of something greater than oneself. Weinert stated that when he grows kalo he has so much that he can't help but give it away. In the same way, KCG leaders tried to help people move away from models of scarcity toward social and environmental models of abundance. Knutson embraced the ideals of Kaiao in his heart, stating

> The industrialized world has made it easy for us to survive without growing our own food or interacting with our communities. But change starts with people who care, who have been transformed by food and community, and who share in the responsibility of perpetuating it for others. Nature can really teach us how to take care of each other and there's really no point to life unless we can take care of each other and help one another. This is the revolution that will change the face of the planet. It's happening in Colorado, California, and here in the middle of the Pacific Ocean. It's happening in lots of little communities and spreading like wildfire. That revolution is here and now with us (E. Knutson, personal communication, February 10, 2011).

Being at KCG every day and seeing kids and adults transform over the years, it was clear to Knutson that KCG was a place of transformational education. "It blows everyone I know away that we've been doing this for so long. It really affirms that there's a determination there and a vision that has not faded. I believe in the power of hands meeting soil and what happens from there is people's own experience, but it's powerful,

it's rich." Knutson said that he and others were "transformed by the perpetual knowledge derived from land, people caring for each other, and food coming from the earth going into [their] bodies. You can't beat good food, you can't beat good people, and you can't beat the work. Even though it's hard work it makes you feel good." Knutson acknowledged that even though these ideas are not new or complex, they are important to make accessible to people, who might not otherwise have firsthand experience (E. Knutson, personal communication, February 10, 2011).

CHAPTER V.

CREATING SOLUTIONS

Paddle together until we reach sovereignty and freedom – Prana Mandoe, personal communication, February 25, 2012

Networking under a Common Vision

At the same time as Kaiao Community Garden was getting off the ground, similar organizations in Hawaiʻi were becoming established, their leaders were becoming friends, and their ideas were converging with food sovereignty conferences throughout the Islands. "Food sovereignty is the term used to describe people taking responsibility for and control of their food systems" (Aronson, 2009). It is also the ability of a community to feed itself through an understanding of the relationships that sustain our life. "For our Native Hawaiian community, this movement is a process of re-empowerment. For our community of all cultures, working for food sovereignty means slowing down, finding the food production work that activates us, and doing it well" (Mandoe, 2009).

Food security and food sovereignty are sometimes used interchangeably but often serve opposing agendas. According to Schanbacher (2010) in *The Politics of Food,* food security as a solution for global poverty is a term used by multilateral institutions such as the World Bank and the IMF to justify the need for more economic growth via market mechanisms. Food security is also used as a justification by corporations and other proponents of the need for GMO (Genetically Modified Seeds) seeds, which can be seen as a grave threat to food sovereignty as cross-pollination of naturally-bred seeds and sterile GMO seeds can threaten genetic diversity and self-sufficiency in terms of the free

and natural reproduction and saving of seeds as cultures have done for thousands of years. Critics of the term argue that "a purely market-based approach to food security remains entrenched in neocolonial power structures that have failed to create a just global food system" (pp. xiii-ix).

Food sovereignty has been established worldwide as a concept and a movement of a wide range of people including peasant and landless farmers, women, indigenous people, rural workers, and youth. Food sovereignty activists argue against the theory underlying food security and the policies that have emerged from it, which reinforce globalization and human capital. Food sovereignty conversely considers human relations in terms of mutual dependence, cultural diversity, and respect for the environment. It is not only access to food, but access to living a self-sufficient life; access to healthy, nutritious, culturally relevant types of foods; and the ability to continue diverse cultural traditions associated food (Schanbacher, 2010).

The first food sovereignty conference was in 2005, entitled Hands Turned to the Soil, sponsored by MAʻO Farms in Waiʻanae, Oʻahu. In 2008 the Waipā Foundation sponsored Hoʻoulu ʻĀina Food Sovereignty Conference in Waipā, Kauaʻi. People from all the islands had a chance to come together over an issue that was important to them. There were people from different parts of each island as well: Hilo, Kohala, Kona, Puna, Hana, Keanai, Kahului, Lahaina on Maui, Haleʻiwa, Waimānalo, Waiʻanae, and Hawaiʻi Kai to name a few. It drew long-time Hawaiian activists such as Walter Ritte, emerging youth leaders including many from KCG, and regular people seeking greater community involvement. "Everybody came together as ONE - it was powerful learning about everybody, talking to them, looking at them. There was such diversity, not only one kind

of person; different ethnicities, age groups – infant to kūpuna" (K. Turalde, personal communication, February 13, 2012).

The movement grew strong enough that in 2009 Oʻahu, Kauaʻi, and Hawaiʻi Island each sponsored their own food sovereignty conferences, with unique names and styles. In 2007, 2009 and 2010 LCC, KCG, and their affiliations sponsored "Hoeaea" Food Sovereignty Conferences and the style was grassroots community organizing. Prana Mandoe of Lihikai Hawaiian Cultural Learning Center (LCC), a non-profit organization in Hilo dedicated to perpetuating Hawaiian cultural traditions, said the goal of each conference was to teach and inspire skills related to farming, producing, growing, processing, and eating sustainably from our ʻāina. "Aunty Kukui Maunakea-Fourth was very clear that the Hawaiian culture needed to come into it. She had taken MAʻO Farms youth to [food sovereignty] conferences on the mainland America and they had come home inspired, wanting to do something here themselves" (P. Mandoe, personal communication, February 25, 2012).

Mandoe recalled K. Maunakea-Forths words to the younger generations at the Hoʻoulu Food Sovereignty Conference on Kauaʻi, "'We're holding a place for you and it's not an easy thing to do.' I always remembered that because it is actually an incredible accomplishment, just to hold the space; to hold the knowledge and create a place for people to grow food" (P. Mandoe, personal communication, February 25, 2012).

Searles said that the concept for the first Hawaiʻi Island food sovereignty conference was started through an informal conversation among friends. The Maunakea-Forths, founders of MAʻO Farms, came over for Thanksgiving at Meyer's home, joining she and Searles for dinner. K. Maunakea-Forth basically asked, "So when are the outer-

islands going to step into Hands Turned to the Soil?" Meyer replied that she was not a farmer, so K. Maunakea-Forth said, "Just go. Just be the fire starter." Meyer was well-known for her gifts in envisioning and beginning something. "Okay, we'll do Hoeaea," she agreed (P. Mandoe, personal communication, February 25, 2012; B. Searles, personal communication, October 7, 2011).

Hoeaea means "returning to freedom through freedom." It is a realization of freedom, or *ea*, through our expression of independence and self-sufficiency. The idea was that sustainability cannot be understood before understanding oneself. The first step is for people to confront the feelings of helplessness, disconnection, and dependency they may have. Then, they can realize that they have the ability to choose another reality, one that makes them feel empowered, connected, and free. Our relationship toward people and land changes from competition for the consumption of limited resources to the experience of an abundance of resources, through the cultivation of land, friendship, and community (B. Searles, personal communication, October 7, 2011). It is a new and old way of thinking, organizing, and caring for the things that is the basis for sustainability. During the conference, new layers of meaning were added to the name.

Mandoe recalled Meyer coming and telling the group that she had discovered a whole new level of meaning to the name Hoeaea. When pronounced slightly differently it meant "Paddle together until we reach sovereignty and freedom." *Hoe* means to paddle, *a* means until, and *ea* means sovereignty, freedom, or breath. Mandoe explained that in today's culture, people do not really have the freedom to grow their own food. "You may think, sure you can do it if you want to, but actually that's a great self-determiner that we've both been relieved of and deprived of. Not everyone wants to be a subsistence-

based person. And, yet, it's a struggle if you choose that lifestyle." She pointed out that standard schooling does not encourage you to get a good education to become a farmer or gardener. It encourages youth to want to be information technology professionals, nurses, doctors, lawyers, or scientists. "Being able to provide sustenance for ourselves is a form of sovereignty. It's personal independence, or rather personal interconnectedness" (P. Mandoe, personal communication, February 25, 2012).

Food Sovereignty education is important because it not only imparts traditional ecological knowledge, skills, and values with the ultimate goal of impacting more environmentally sustainable and self-sufficient behaviors; it also identifies social and economic barriers and seeks culturally appropriate solutions. Some of the barriers that participants of my study identified include economic barriers like the low wages of farmers, the price of food, and access to resources like land, water, and materials; social barriers like priorities, status, and power; and cultural threats to plant biodiversity, the perpetuation of food traditions, and the ability to save and access seeds due to global capitalism's homogenization of culture and its introduction of genetically engineered seeds.

Mandoe said that as a parent with a full-time job that also comes home with her, it's very hard to make the time to grow her own food. She said she would like to do a lot more in the garden but there are only so many hours in a day. The way our economy and lifestyle is set up does not really give people the time, she said. But if you were to quit your job and become a farmer you would find that "it's not easy to make a living that way. Growing food is not a respected, honored and revered profession, which is unfortunate because we all need food. It's more important than computers when you

come down to it. You can't eat a computer or a car." She pointed out that farming is not something that will necessarily earn you a steady paycheck or the type of respect that you would get if you were a CEO of a corporation, other than maybe from your local community. "If you really want to raise your own food, you have to make major lifestyle adjustments and pretty much accept that you're not going to have big money. You're not going to be going on family vacations. You may or may not be able to afford your mortgage or have one. It is countercultural" (P. Mandoe, personal communication, February 25, 2012).

Both Weinert and Mandoe said that they would really like our society stop seeing producing food as a free-time activity outside of one's responsibilities. And yet "the rhythms of our modern life really go counter to a food producing life. Subsistence farmers and fishermen are disrespected and looked down upon because they don't get a paying job. But it's very difficult to be a serious farmer or fisherman and hold a job because the time schedule doesn't match up!" (P. Mandoe, personal communication, February 25, 2012). But if people start working together as a local community, it does not have to be such a sacrifice because it sets up a field of support. Weinert said that many of us have bought into capitalism's expansionist idea that "I gotta open four stores just to make it, and then I'm gonna be rolling in cash. No! It's like, I gotta get tight knit with my community and make sure we have what we need locally so that we can really provide for each other (D. Weinert, personal communication, September 23, 2011).

A few generations ago, the culture in Hawaiʻi was different. Howard Peʻa, a respected community elder and KCG volunteer, recalls being poor growing up but said his family of thirteen ate good food, which they either raised or harvested from their

environment. “We ate guavas, pig, fish, and poi. Today you gotta buy it at the store” (H. Peʻa, personal communication, February 17, 2012). Fast, cheap food also threatens a traditional diet. Thompson observed that it’s easier these days to pay for a cheap fix than to take the time and learn how to better yourself physically, healthfully, spiritually, emotionally (N. Thompson, personal communication, February 17, 2012). Yet, as the cost of living rises, Turalde said, people think twice when they go to the supermarket. A person can spend fifty dollars for just a few organic vegetables. When he goes to his car and looks at himself in the mirror he might think, “My God, I can do that myself! I can plant string beans in my own backyard instead of paying $3.00 for a one-pound bag, or $6.00 for a one pound bag of lūʻau (taro leaves). If you plant one kalo you will get one pound of leaves and kalo to eat, plus six huli (taro top used for planting) that you can replant. However,” Turalde asked, “Where is this person going get the seeds from?” (K. Turalde, personal communication, February 13, 2012).

One of Turalde’s main concerns is the introduction of genetically engineered seeds to the Islands of Hawaiʻi. People are lured into accepting it because it provides jobs but he fears it could create long-term damage, particularly in terms of access to seeds. Seeds have been saved and shared for thousands of years throughout all cultures, but the introduction of genetically engineered seeds threatens farmers’ ability to continue this tradition, mainly because the seeds are sterile and patented. Because of this, places like LCC and KCG are crucial places that serve as banks of multiple varieties of naturally-bred seeds and cuttings, enabling people to have free access to them (K. Turalde, personal communication, February 13, 2012).

M. Peters, KCG volunteer, pointed out that certain foods are not priced properly in the stores; they are subsidized. Their prices do not reflect their true cost of production so it is difficult for the small farmer, whose products are not subsidized, to compete. With small and organic farmers unable to compete against big agri-businesses, they are forced to compete against other small farmers. As a farmer, M. Peters knew that the competition is tough for local leafy greens on Hawaiʻi Island. There are also not enough agriculture leases made available to farmers and often those who have leases are not necessarily utilizing them for agriculture purposes, since regulation is low (M. Peters, personal communication, February 24, 2012).

Many Hawaiians and others living in Hawaiʻi today do not own their own land because it is so expensive. A study of 325 metropolitan cities ranked Honolulu, Hawaiʻi as the least affordable housing market in the entire U.S. (Bloomberg News, January 22, 2012) and the least affordable place to rent in relation to median incomes for those areas (Sauter & Stockdale, March 21, 2012). At the same time, poverty in Hawaiʻi ranks seventh in the nation at 17% (HANO, November 15, 2012). Mandoe concedes that there is a lot you can do in a small area or with containers, but there are still many resources that are needed and they cost money. If you are renting it depends whether the landlord will allow you to have a garden or not, and many would prefer that you not dig up the yard. Not everyone has water to irrigate; water also costs money. If you are lucky and own land, often it is marginal land without good soil because that is most affordable in Hawaiʻi.

According to Weinert, the distribution of land and wealth is one of the biggest obstacles to food sovereignty. “Someone from the mainland with millions of dollars

comes here and buys a choice spot, while someone who works in Hawaiʻi all their life still does not have their own land. There's a big disparity there." Weinert said there are two main classes in Hawaiʻi: the local class, many of who become service workers, and the rich class, who made their money elsewhere and are retiring in Hawaiʻi. The rich class, he said, do not contribute anything, besides their dollars. "They just spend their money and occupy this land, depending on the service class to make things work. Meanwhile we are bringing in more rubbish to this island ʻcause there's less domestic production. Local people are the ones unloading stuff from the ships and making it available for the rich people who came here with the money." Elina Bravve of the National Low Income Housing Coalition explains that popular tourist destinations like Honolulu tend to have a "significant wealth gap between the summer residents and tourists and the full-year-round residents who serve them in restaurants and hotels." Wealthy buyers increase home prices, "while most locals actually work in the service (or tourism) sectors of the economy — which don't pay much at all" (quoted in Sauter & Stockdale, March 21, 2012).

"Are we doing enough as a society?" Mandoe is glad that the issues are becoming more visible in the main stream, but said, "No, it's not enough! Not at all!" She felt that the global economic system is controlling of people's opportunities and not a system that particularly cares about the lives of the poorest people. "There's a lot of people are trying to do something but the powers that organize the bigger structures that we live within haven't made the space. The economic forces are not really supportive of local food because you have to make sacrifices in order to afford it."

Some groups create "eat local" campaigns and, according to Mandoe, complain that locals are not involved. It is because for many locals, eating local and organic is "completely unaffordable. You might be able to do that as an individual but as a single mother of three who has to go to work every day, you can't do that." At the same time, we can shift our buying priorities. Where you buy things, how much you are willing, if able, to pay for things, where they were produced are all important. "Certainly there are many families who might think that they cannot afford to buy local or organic but maybe they could afford something different if they dropped say the Pepsi or Steinlager habits. We can help people see that that's a reality but we can only adjust those priorities within our own families" (P. Mandoe, personal communication, February 25, 2012).

Weinert's parents tried eating entirely off their land for one month, proving to themselves that it was possible. Granted they are semi-retired and have large acreage and few bills, so they could devote the time and energy required in fulltime farming for themselves. Weinert said that it was a big change for his mom who was used to opening a bag of pasta for dinner along with some minor food preparation. But eating off their land meant bringing in raw, dirty sweet potatoes and beets that needed to be topped and the buds removed. It added two or three hours to her day. (D. Weinert, personal communication, September 23, 2011). These are some of the barriers for working people—lack of time and energy.

Acknowledging these barriers, participants at Hoeaea food sovereignty conferences discussed possible ways to achieve food sovereignty: shifting priorities and time to become more centered around growing and cooking food; learning the skills of preparing healthy foods to cut costs; creating seed banks; encouraging policy makers to

make access to land, water, and resources more available; improving the social status of farmers and fishermen; collaborating with others in the community; and empowering people through food self-sufficiency. LCC in Hilo was chosen to host these conferences because it is one of the few Hawaiian education centers that is open to the public and has ʻāina which it makes available to people.

Ten years ago, Turalde and his wife Mandoe had the vision to create the non-profit center at a site thirty yards from Onekahakaha Beach in Hilo. LCC sits on 12-acres of leased land located where "Native Hawaiians who had no place else to live once occupied. Their struggle to avoid eviction [in the 1930s] ended with a promise from Hawaiʻi County to make the land available for cultural uses" (Kupihea & Tolentino, 2010). Turalde held the County to its promise, which was fulfilled under Mayor Harry Kim. However, the land was not returned in the same condition as when it was taken.

The area used to house one of the largest loko iʻa, or Hawaiian aquaculture fishponds, in East Hawaiʻi. Named ʻAwaʻao, it was built and utilized by Hawaiians for hundreds of years. The County, however, eventually brought in many truckloads of rocks and dirt and covered up half of the fishpond. "They never understand the value of what was here: a lot of spring water and fish you could eat." Kupuna (elders) in the area still tell stories about this fish pond; what it was like, how it was managed. Turalde said, "The only way you going learn history about a place is to talk to the kūpuna [because] before long their knowledge could be lost." Hawaiian kūpuna who still have knowledge of our subsistence traditions in Hawaiʻi are 75-80 years old. Turalde said that talking to the kūpuna is key to learning about Hawaiian subsistence lifestyle and getting it back. LCC

was able to renew its lease for another 10 years, but the threat of losing the land is always there.

> New people want to take over the lease and develop a hotel across the street from our Center. Because they come from the mainland and have a big corporation with lots of money, they think they can come here and build hotels and stores. People like us, locals and Hawaiians, we don't have a lot of money like big corporations, but we can do a lot of planting and farming, fishing and hunting. What we eat, they no eat so they don't understand the importance of preserving the ʻāina in order to preserve these food sources but they can learn to be part of us and how to respect. Because if they no respect, we might not respect them, too (K. Turalde, personal communication, February 13, 2012).

But that is the goal of LCC, to teach people who are from here and even those who are not, about the importance of Hawaiian traditions in subsistence living and allow them the space to gather with others and practice it. It's a place where people can camp in Hilo, have their family party, or practice the Hawaiian martial art of *lua*, for example. "It's rustic and very simple. We have a porta-potty and a hose for water. But we make the place available for free to the community." All LCC asks is no drugs or alcohol. With little financial resources, LCC was established with community leadership, built up with the help of social capital, and a holistic, culturally-grounded conception of sustainability.

But Mandoe said that it has not been easy. Over the years her family has put a lot of their own money into keeping their Center running. "You talk about a not-for-profit organization; that's a destination for your personal income!" When they started, the land was a complete jungle. They had no idea there was even an ancient fishpond there. "We had to buy the weed eaters, the lawn mowers, the gas, the oil, the chain saws, replacing machines, the wheel barrels. I mean it's not millions of dollars, but you also have to buy insurance." Mandoe is the grant writer, but because she also has two small children and a

full-time job teaching at a local school, she is not always able to do it consistently. And grant funding comes with its own challenges.

Mandoe explained, "You can come up with a project and write in money for the maintenance of the land through the project, if you're fortunate and it's that kind of grant, but you still have to complete the project within the timeframe and do a write up, so it's a lot of work." Mandoe said that LCC has been successful in being awarded grants, but she does not want to be a full-time grant writer or project manager. "Turalde's skill set is the malama ʻāina, cultural work, good relationships with people. Whereas my skill set is the writing, but I'm lucky if I do my own taxes on time!" She acknowledged that running a community project does not necessarily take "big bucks," but she is sure that her own family could have a very different yard and house if they did not spend all of their time, energy, and money at LCC. But she said, "It's a service to the community" (P. Mandoe, personal communication, February 25, 2012).

Mandoe and Turalde knew that with developing community projects, "the money comes later. We just had the time and the love…the land, and one cane knife," Turalde said. It took a little time for others in the community to see the vision. "A lot of people like help, but first they like see with their eyes [your character, intensions, and commitment]. People pass me every day and see me in my wheel chair carving Hawaiian drums, fishing, or working the land, my every day practices for the last 15 years.

Turalde is confined to a wheel chair after a car accident left more than half of his body paralyzed. He has been able to rebuild his strength by leading an active lifestyle around his cultural practices. He continues to fish, carve, and plant. He is the kind of person who was not afraid to use the electric weed-eater seated from his wheelchair or

tackle the land-clearing alone. He was willing to lead by example, but knew that ultimately he needed community buy-in. He recognized that lots of individuals, schools, and different organizations lack ʻāina of their own to malama. These groups were invited to be part of the development of the cultural learning center, to have a place to learn, see, touch, and practice the values that we have of the land. Before LCC was established Turalde saw different groups try to create similar organizations. "They wen' talk about ʻem but they neva' do it. You gotta do it."

Community leadership is about taking action, even if you have to be the first. If you are community-minded, fair, and committed, you can make connections with others and inspire them to help. Often people trying to develop community projects "never think to ask similar organizations, groups, or schools to collaborate." Essentially Turalde was telling me that you cannot have a community organization without the community. You need them and they need you, so as a leader you need to do community outreach and treat others democratically so that they feel included. "Working in the community means asking the group, ʻWhat's the next step? How much work is this going to be? What resources do we need and how are we going to get it?' If you don't involve the community in the planning process you might be there with only two guys and you're not likely to succeed." He said, if you are not going out and making connections in the community then you're "standing there like a tree looking around in a circle; you not going to go too far. You gotta spread out and go get them 'cause they're waiting for you to be a part of the process." Turalde was talking about not only serving participants, but actually involving them in creating the change they seek.

Turalde said that the process begins with looking to different groups or individuals and seeing what kind of value they have and whether they want to collaborate. “We all have something to share with everybody,” he said. Value does not only come from money, but also from knowledge, friendship, social connections, resource connections, time, and people power, among other things. “You gotta reach out there and look for them, look for the people, 'cause different organizations and schools, they need places like over here, or like Kaiao Garden or like MAʻO farms, to be able to reach their hands out into the dirt and spread their fingers” (personal communication, February 13, 2012). Turalde even accepted the help of clients of Big Island Substance Abuse Council, inmates from Hale Nani, and small children from Lanakila Learning Center (Kupihea & Tolentino, 2010).

Once individuals, schools, and organizations discovered what LCC had to offer and that it was truly open for everybody, people came to participate. “The main thing is you gotta get out there, and once the community feels good about it, then you gotta learn to move like they move, as one. Eventually you start getting more resources, make more connections with different people, different organizations, new students; or go to the internet, so people can find you.” What guides LCC’s vision of community development is thinking about how to get the land back to what it was before: abundant, resourceful, and utilized by people living in the area. Tall grasses and invasive trees needed to be cleared to make way for planting native trees, canoe plants, medicinal plants, and fruit trees that everybody in the community could use. “I tell them come inside and take whatever you need, ʻulu, tī leaf, lauhala…it’s not only for me, it’s for everyone” (K. Turalde, personal communication, February 13, 2012). The plan is for the fishpond and

the food planted there to eventually become a vital food resource for the Keaukaha community in Hilo (Kupihea & Tolentino, 2010). The Hoeaea conference presented these values and practices to an even broader audience, inviting new ways of interacting with land and community.

Meyer's leadership role with Hoeaea was foundational. Her gift was not only in realizing new possibilities, but in getting others to realize them as well. Leadership is not about having all the answers; it's about asking the right questions. Meyer embraced this notion, studying books such as *The Answer to How is Yes: Acting on What Matters* by Peter Block (2003). The premise of the book is that often we ask "How?" to do something before asking "Why?" something is or is not worth doing. The question of "How?" puts the emphasis on the control of people, time, and money and is a subtle way of avoiding commitment and action. When we ask "How?" too early in the idea phase, our critical natures come into play, sabotaging creative problem solving. Asking the deeper question of "Why?" brings our attention to what really matters and activates our commitment to action. Meyer put this idea into play when she called a community planning meeting for Hoeaea.

> Meyer invited many kūpuna and friends and asked the question "Can we feed 300 kids [locally-sourced food] for five days? Who's in?" And someone said, "Oh I'll bring sweet potatoes," and uncle Turalde and Mandoe from LCC said, "We got the spot, we got work to do." Someone else said, "We'll bring pop-up tents," and QLCC said, "We'll do the dinners once every other week so you guys can all get together and plan." And then somebody said, "I got the fliers," and somebody else said, "I'll bring the greens," and then somebody else said, "I got all the kitchen stuff," and then somebody else said, "I got three pigs," and somebody else said, "I'll come and help build the imu," and then somebody else said, "I'll take everybody diving for fish," and then somebody else said, "I'll do a weaving workshop," and then somebody else said, "I'll bring 500 coconuts and we'll do a coconut demonstration," and everybody just invited their friends. Now that's grassroots! You wonder, "Why aren't we doing this every day?" (E. Knutson, personal communication, February 10, 2011).

Meyer did not ask people *how* an event like this could happen on a large scale with little to no financial resources. That might have opened the door to naysayers. Instead she simply asked a "Yes" or "No" question related to values, followed by a commitment question. The question of "How?" did not even need to be asked, it naturally worked itself out. This is an example of community leadership, social capital, and sustainability in action. This wealth of social capital was built upon a foundation of friendship and trust.

Turalde considered MAʿO Farms as being a "beautiful organization" whose co-founders were his friends. When he first saw MAʿO Farm on TV, mentoring kids and adults in how they can produce food for their community, he found their work to be inspiring. He thought, "Wow, we could do that on Big Island!" The chance to collaborate with them and with Searles and Meyer, led Turalde to say, "Shoots, let's go! Let's move forward; let's do it together!"

It was exciting and collaborative, but that does not mean it was easy. There were no quarrels but there were differences in approach. Some people like Meyer were more faith-based in their logistics, trusting that it would all fall into place, while others like Mandoe felt more secure developing concrete plans, because after all, hundreds of people would be coming. The community spent almost an entire year planning for just five days of experiencing food sovereignty (K. Turalde, personal communication, February 13, 2012).

The results were three grassroots community education events that people say were truly memorable, even life-changing. About 130 people, including youth, adults, and families, came to the events in 2007 and 2009, and perhaps double that number came

in 2010. Each event gave participants five days of immersion education into malama ʻāina, as well as traditional and modern food production, cooking, and eating. Mandoe said the conference goals were for people to immerse themselves in food producing lifestyle, activate their kuleana – chosen work that they love, build relationships and community, and produce and eat healthy food

The overall theme of the conference was living a healthy and sustainable lifestyle in traditional and modern ways. "While participants learned how to maintain the fishponds, weave baskets, carve and make dyes, they were also taught the importance of recycling and composting" (Mandoe, 2009). Participants also learned how to harvest, clean, and pound poi (traditional Native Hawaiian staple food made from taro) using a traditional pōhaku kūʻiʻai (rock grinder for making poi); rebuild Hawaiian rock walls; cultivate Indigenous Microorganisms for agriculture; and process coconut milk by hand.

Resource conservation and management from a Hawaiian perspective is dependent upon resource use. "When we eat local, it causes us to pay attention to the health of our ecosystems, whether on land or in the sea." For example by bringing endemic seaweeds back into the local diet and learning how to collect it in the wild, people learn about the importance of harvesting it correctly and caring for its ecosystem (Mandoe, 2009). While teaching participants about sustainable hunting, fishing, and farming it was only consistent to eat as much locally-sourced foods as possible. This was made possible through a community effort built upon social capital.

Hoeaea built many community partnerships. Queen Liliʻuokalani Children's Center helped with planning and registration; Michael Gornick and a group from the Pole Star Foundation built a hālau, a Hawaiian style, covered structure with open walls; the

Keaʻau Youth Business Center donated the use of their portable kitchen; Hale Paʻa Kaua lua (Hawaiian martial arts) group provided security for the event which Mandoe said was "essential"; Goodwill Industries of Hawaiʻi brought student volunteers; Kua o ka Lā Public Charter School lent their tables and chairs and their alumni lead a coconut milk demonstration; Wendy Haumane and her group from Lanakila Learning Center helped with facility construction; Hawaiʻi People's Fund provided the necessary funds for tools such as a riding lawn mower, trailer, and garden tools; Kamehameha Schools was involved with the envisioning process; the Keaukaha Homestead Association helped to spread the word; and in-kind donations from countless other individuals, businesses and organizations.

Food donations were a whole other category of support, which again was tied to hands-on curriculum. A quarter-cow was donated from a farmer in Laupahoehoe which made for hands-on lessons in butchering and cooking. The cow provided beef stew, beef tomato, and other dishes. Keoki Kahumoku and his nephew, Dustan Tsuhoda, provided three pigs. Young women and men learned how to slaughter and clean the animals and prepare such foods as *hulihuli* (rotisserie) pig, kālua pig, sausage, and smoked meat. They also learned how to prepare an imu to cook it. Youth cleaned fish that Turalde and his family caught by cross net. Tanya Beirne and Jen Kalauli taught a workshop spear-diving off of a boat and Turalde's son Oli taught another workshop on throwing net. When mealtime arrived, participants enjoyed steamed mullet with Chinese parsley and green onion, sweet-sour palani, smoked ʻulua, and fried reef fish (Mandoe, 2009).

Jerryl Mauhili, a Hamakua homestead farmer gave many *ʻuala* (sweet potatoes); Richard Hā of Hamakua Springs gave various produce; Pacific Tofu provided locally-

processed tofu; taro, taro leaf, and coconut milk was harvested on site at LCC and made into poi and lūʻau stew; others brought greens and pumpkins; KTA and Island Naturals gave gift cards. Mandoe told me, "It was incredible. We had so much food and so many resources planned and available to us." Nearly all of the food they ate was locally sourced.

The organizers encouraged pre-registration but the way it actually worked was that people just came. It took on its own life. Two people from QLCC worked fulltime just to register new participants. "People wanted to learn, they wanted to help, they wanted to do things, they didn't necessarily want to register and stay the whole time. We would have liked to keep it to those who pre-registered but it just didn't work out that way." The organizers charged participants just $20 for all five days and asked them to bring whatever food they could. But in true Hawaiian style, no one from the community who wanted to participate was turned away for not having the means to contribute. There was a moment while people kept coming that the organizers worried about being able to feed everyone. But as a community, everyone tried to pick up the slack. "People brought food the whole time so that we did not go way over budget having to buy food from other places. There was plenty of food and when everybody left there was still food. So that was a really beautiful thing. People really came and shared" (P. Mandoe, personal communication, February 25, 2012).

Amidst the unregistered conference participants, Kamehameha Schools Summer Program was allowed to come through with 70 kids for a few hours while the festival was underway. It was this kind of flexibility which made for a truly community-based event, and again demonstrates that *The Answer to How is Yes*.

Some people who came brought a wealth of experience in planting and preparing food, others had only limited experience but "everybody found something to learn." Hoeaea offered a combination of big, group projects such as clearing large areas of land and developing food gardens, and smaller breakout sessions for workshops and discussion. In 2009 Mayor Harry Kim, Council Woman Emily Naeʻole, and Patrick Kahawaiolaʻa of the Keaukaha Homestead Community Association were among the speakers. In 2010 one evening was designated for a large group discussion under a tent. Participants sat down at tables in small groups and problem-solved together about barriers to food sovereignty. They wrote down their best ideas and shared them among the larger group (P. Mandoe, personal communication, February 25, 2012).

Mandoe recalled that the one thing the Hoeaea organizers wanted participants to take away from their experience was to learn something about how to eat from the ʻāina. It definitely got people interested and excited. "People still come up to me today," Mandoe said, and it's February almost March and still say, ʻOh I missed Hoeaea this summer, you didn't have it. Are you having it next year?' People really had a good time and felt they learned something in the process." It also allowed for social networking with others of similar interests. People said that they started gardening more after the conferences. "It's hard to judge. You don't know if it sparked a child's interest to become a farmer or if anybody changed their eating habits. People had a lot more opportunity to eat vegetables than they normally do. But I would say really the long-term effects were with relationships between people and going on to work together in other contexts" (P. Mandoe, personal communication, February 25, 2012). Turalde echoed Mandoe's

assessment, “I know a lot of people who started off here at Hoeaea and wen’ reach out to other people” (K. Turalde, personal communication, February 13, 2012).

Hoeaea, like many community projects centered on gardening, sought to develop a better work ethic among youth. Mandoe said that she sees a lot of young people who are very poor workers in that they don’t stay at a job, they skip around; they think work is social time; they think that having to bend down to pull a weed is a great torture being inflicted upon them. She said that youth do not appreciate the value of work because they are not expected to or made to work, which is why if we expect them to be capable by the time they graduate high school, we need to teach our young people how to work. Young people need to be taught the skills of observation and silence, she said.

Mandoe gave me an example of how Hoeaea taught youth the value of working in silence. She called it “one of the most wonderful and memorable moments” in the garden. She explained directions to a group of youth and afterward said that for the next half an hour they would be working in silence. Kids are not used to that, she said. “It was a challenge for this group but they did it. They said it was really hard. You heard the sound of the rakes and the breeze and people noticed more of what things looked like, the quality of the sunlight.” Mandoe believes that observation, silence, and learning to have a longer attention span are crucial lessons that youth should learn. “Our society has such short attention span. TV and social media are constantly blasted at us and then we have ADHD. I know that those things aren't going away, but I also know that they are culturally constructed realities that didn't always exist.” She believes that we are so sensitized to helping people who really do have ADHD that we have forgotten to teach people how to have a long attention span. “How do you do that? Well, certainly

providing the opportunity, support and environment for people to work at something for a length of time is a start" (P. Mandoe, personal communication, February 25, 2012).

Turalde said that while Hoeaea got everybody together and excited, the larger issues remain. "Nowadays who has the time to live it? We're so busy now that it may be 2 years before we get back into the garden again." He said it would take a crisis to strike before people would see the value of traditional tools and knowledge. "Then we will return to our oʻo [digging stick], our laʻau [plants], our pōhaku [stone], and our laulima [hands] and get back to an organic way of farming again." For now, Turalde and his four year-old daughter Tina spend their days welcoming school groups to LCC and perpetuating traditional Hawaiian knowledge and skills. "Some people say, Tina should go school. I say, ʻWhat you mean school? This is school'" (K. Turalde, personal communication, February 13, 2012).

Recently Weinert went down to the farmers market to sell his produce. On the way he ran into someone he knew who was unemployed. The person said, "Oh, lucky you got one job" and Weinert thought to himself, "I harvested all this stuff out of my yard, I went down to the farmers market, I bought a booth, I bought a table, and a table cloth and I sat there all day and sold my stuff. No one gave me a job, I made it." He told the acquaintance to look in his own yard; he could plant kalo there. "It's this deep-rooted feeling of disempowerment that hangs on people that is false. We don't look at our hands." Weinert's hands have calluses on them because he said that is where his value comes from. "I dug up 15-20 lbs. of sweet potato the other day, just in a small patch the size of a table. I feed my whole house for a week with maybe 4 hours' worth of work. That's empowerment!" (D. Weinert, personal communication, September 23, 2011).

Pride through Service-learning

It's not just a garden, it's a place where everybody helps one another. – Kaliko (OIKH Student, age 17)

"To be honest, I was kind of a little hesitant about going to the garden," Kealoha Daubert recalled. "I think it was because I [hadn't] worked manually in a long time 'cause we didn't have a yard. I was fighting my boss on it and you know, we were actually forced to go. Finally I just gave in." Daubert was a Youth Support Specialist for Ola I ka Hana (OIKH) "thrive through work," an alternative education program at the Hilo Goodwill Industries of Hawaiʻi. Over the past 8 years this program has helped out-of-school youths, ages 14-21, who have dropped out of the traditional school settings, earn a General Educational Development (GED), equivalent to a high school diploma. Part of the program involves job skills training, life skills, and soft skills training to become productive adults. The program coordinator had been trying to find a community service learning project for the teens. Her only requirement was that it be something small in which the program participants could work one-on-one with adult mentors in the community. She contacted the Boys and Girls Club, not knowing about the garden, and was referred to Searles.

On the youths' first visit to the garden, Searles introduced them to all of her friends (the other stewards) and made them feel welcome. "Every time we visited the garden," Daubert recalled, "we always had that welcoming feel. There was no *hakakā* [quarrels] between anybody. It was just a free-flowing garden where we're just able to let everything go." Describing the garden as "free-flowing" referenced the way information and ideas flowed naturally through a healthy learning community. A diversity of

interpretations and learning styles – even the diversity of mistakes – were allowed to surface for the enrichment of the entire community (Capra, 1996, p. 304).

From the first time Daubert visited, she said it felt like something just blew right past her, wiping away whatever negativity she was feeling. She said that this feeling of peace continued to come every time she visited the garden, like something was lifted from her shoulders, even if just for a short period. "Ever since then I would fight with my boss saying, 'you know what, we cannot do anything else on Thursdays; I want to go back to the garden. This is what we need to be doing.' It was just because of that feeling. It was amazing." (K. Daubert, personal communication, December 13, 2011).

Most of the youths' families received welfare assistance. All belonged to ethnic minority groups: mostly Hawaiian (73%), but also Hispanic (13%), Pacific Islander (7%), and Native American (7%) (C. Correa, fieldnotes, December 8, 2011).

The KCG stewards had never worked with "at-risk" youth before and told me that they were a little intimidated at first. These were tough kids. Daubert's colleague Adam Nako, also an OIKH Youth Support Specialist, said, "Often there are substance abuse concerns and a culture of violence among them. When they first come it's usually "F" this "F" that – the gamut of swear words. That's their everyday vernacular. We don't stand for it. We have them do push-ups." Nako tries to instill soft skills, demonstrating other ways of solving problems besides with their fist, but said it is hard. "For a lot of them, that's all they've known. That's what they've seen, that's what they've experienced." (A. Nako, personal communication, December 13, 2011).

Daubert explained to the stewards that the majority of the youths have had hard lives at home. Many of them were on youth probation, some even on parole. "It's just

unfortunate because these kids really are great kids. I mean, they can have the utmost respect for [others] and I only wish and hope that the community can see them the way we're able to see them. The majority of them are hardworking kids. They just need a chance." Daubert said that she does not view them as "at-risk" youth, but as "at-will," since they are willing to learn other ways to accomplish things in life. "It takes time for us to get the respect from them but I think the consistency of our staff and just showing them that they mean something means a lot, that we're willing to listen to their stories and not judge them for their past, but for what they want to become, or have become…which is better community members" (K. Daubert, personal communication, December 13, 2011).

These youths are most in need of support in order to rebuild their self-esteem so they can go on to lead successful lives. A lot of them have been told throughout their life that they are not going to be anything in life, or that they are dumb, and they start to believe it. "No matter how tough and rough these boys and girls act, I'm sure they would love to have a parent that's gonna hug them and tell them they love them and support them regardless. When their families are not supportive they turn to friends for that reinforcement in their life. Sometimes it's not the best friends" (A. Nako, personal communication, December 13, 2011). Learning this, the KCG stewards realized that they were in a position to be a positive friend, mentor, and support system for the youth

Usually the group would consist of between 15-20 students. A typical day would begin at the foot of the garden in the presence of the stewards, where they would do Hawaiian protocol as a group. Pomai Freed, one of the KCG stewards taught them a simple oli (chant) asking for permission to enter and learn, leaving all worries behind.

The KCG stewards would then welcome them into the garden either through a return chant or through a simple "Aloha mai." One by one, Daubert, Nako and each of their students would be greeted by each of the stewards (usually Searles, Kaneshiro, and Knutson) with hug and a *honi*.[7] They would then discuss what needed to be done in the garden. In the past they would break into small groups, but later Daubert asked that the kids all to work together on the same project to have a greater sense of accomplishment and support at completing a major task together. Then the group would form a circle and do their "internal weather reports" to see how everyone was feeling before getting started.

The weather report was a lighthearted prompt, asking them to compare their feelings to the weather. The stewards explained that even though the weather might be sunny on the outside, on the inside we might be experiencing something different. The prompt worked by minimizing their fears in directly disclosing their feelings to the group, but providing enough disclosure to build trust, and thereby social capital. Though it was initially intimidating for some, they were taught that becoming aware of one's feelings and being able to verbally express them was a form of empowerment.

Responses usually ranged from thunderstorms (very unhappy) to overcast to sunny and even blazing (very happy). Sharing feelings in this way not only made individuals aware of how they felt, but also made the group aware of how every other person was doing. If you were feeling bad it was reassuring to know that you were not the only one. It was also eye opening to see how peoples' feelings changed after working at KCG, whether it be from the exercise, the feeling of giving back to the community, being outdoors, working side-by-side as a team, or sharing food around a picnic table.

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[7] A honi is a Polynesian greeting to touch noses on the side in greeting Pukui and Elbert, 1986

Whatever it was from day to day, everyone seemed to notice that by the end of their stay the vast majority of people's moods would change for the better.

When the work was done they would come together again as a group and again do the internal weather report. "The majority of kids, their weather reports [would] totally change for the better. And then we [would] do the "Oli Mahalo," giving thanks to Akua [God] for being able to give back." After the students and teachers would return to their school, they would discuss what they did at the garden. Some students said that they learned how to take charge and take the role of leader (K. Daubert, personal communication, December 13, 2011).

For these youth, Kaiao was their first experience learning teamwork, cooperation, and leadership. Nako noticed it translating back into the classroom when they would be asked to work together. Nako reported, "I've noticed they're able to make a plan and delegate tasks. It is just like at the garden when one person loads the wheel barrow and the other hauls it over to the compost pile. They're taking that leadership initiative to cooperate and delegate and work together." He was not sure if it was a direct link that the youth were able to make, but he thought Kaiao was teaching them leadership. "They never had an experience where they had to work together on a big project," he told me "and so they're learning these behaviors and skills. And it's not necessarily the focus of why we're there but it's those intangible things that they're learning on their own which is so beneficial for them" (A. Nako, personal communication, December 13, 2011).

At Kaiao, Nako said he worked as hard as he could because he wanted that to rub off on the youth. "There's one girl who always has such a bad attitude about going. But the last two times that we went she came back saying, "That was a really good day. I

really enjoyed working with the others." Seeing them take ownership of the garden and feel pride for what accomplished convinced Nako that it was working. "They are proud, for example, that the bananas and taro they planted are so big now" (A. Nako, personal communication, December 13, 2011). But the youth were not the only ones gaining eco-literacy.

Daubert and Nako said that the garden stewards educated and helped them personally to become more food secure and it has made a difference in each of their family's budgets, health, and quality of life. Uncle Howard Peʻa, a volunteer at Kaiao, helped Nako's family start small garden beds in recycled semi-truck tires. "It's always nice to pick your own or harvest your own," Nako stated. "Especially when you're cooking and you're like ʻOh, do we have this?' and then you realize ʻYeah, we have this in the garden!' And also when you have extra food and you can share." Nako said he learned several gardening methods from Kaiao that he uses at home now. He lays down recycled cardboard to let the māla [vegetable garden] rest so weeds do not encroach and to protect the soil. Instead of raking up all the avocado leaves and taking it to the dump, he started a compost pile to create new soil. These are things he said he did not do before but does now. A lot of the pumpkin, tomato, and papaya he grows came straight out of the compost bin that he uses. As the plants sprouted all he had to do was transplant them into the ground. This is another technique he learned. He said his three-year old twins now enjoy playing in the garden with their toy shovels. (A. Nako, personal communication, December 13, 2011).

Kaiao also had a "major impact" on Daubert and her family. "I really do enjoy the time up there because I get to learn all these new things about how to be self-sufficient

and how I can grow my own produce organically. It's made a difference not only in our health, but our pockets as well ʻcause those things are expensive." Kaiao inspired Daubert and her family to start home gardening. She now has four planter boxes at home and is trying to start a loʻi on her one-acre lot. "We harvest food from our garden at least twice a month. Eggplants just keep growing like crazy. We have our herbs that we use every week. We have all our fresh jalapenos, bell peppers, kale and boy choy." Before coming to Kaiao, Daubert and her family had never ate kale or bok choy or choy sum. Searles gave her some from the garden to take home and told her how to prepare it, with olive oil, garlic, and some tofu. She was not sure how her family would react to it, but they loved it and now cook with it often.

The stewards told the group to harvest whatever they grew at Kaiao and take it home. It was a chance for many of them to get introduced to new foods. Some of the things they got to sample from the garden were ʻulu, kalo, spinach, fresh herbs, pohā berry, papaya, raw cacao, lilikoi, raw macadamia nuts, figs, sweet potato, corn, tapioca, sugarcane juice, and different varieties of lettuce including red leaf, romaine, and mānoa. "Oh my God it was so awesome. It was like lunch every Thursdays at the garden!" (K. Daubert, personal communication, December 13, 2011).

The garden has not only improved her students' health and wellbeing, it has also improved the health of herself and her family. Since coming to the garden she has changed the way she prepares her family's food at home. "It has especially helped my husband ʻcause he was obese with borderline diabetes, borderline high blood pressure, and borderline high cholesterol. But now that we've changed our diet and incorporated

more fresh produce, he's no longer any of those and it's made our daughter become more active."

Nako and Daubert said that their partnership at Kaiao also had a positive impact on their work lives as OIKH youth specialists. They said that outside of the formal classroom, it was easier to talk with certain kids. They thought that the atmosphere of the garden allowed students to feel less intimidated by their classmates and open up more. At the garden, Nako and Daubert had lots of good conversations with them, learning much about their students' perspectives and family backgrounds.(A. Nako, personal communication, December 13, 2011).

In addition to greater teacher-to-student interaction, the youth had access to KCG stewards who served as community mentors. Daubert and Nako saw this as a chance for students to pick up positive communication and socialization skills. "I think a lot of it is helping them to learn discipline and respect," Nako said. A lot of them don't know how to act or respond in certain situations. We had a discussion a couple months ago about conflict resolution and they couldn't verbalize how to solve problems without physically fighting."

According to self-reports, 67% of youth had learned about different varieties of fruits and vegetables, 40% had the opportunity to taste fruits and vegetables they had never tasted before, and 20% said they consumed more fruits and vegetables because of their experience at KCG. Knutson noticed that a lot of the youth did not eat breakfast in the morning, but after they ate breakfast at the garden, they felt better and worked well together (E. Knutson, personal communication, February 10, 2011).

Pua, a student and first-time gardener who said she learned a lot at KCG, was asked for specific examples of things she learned. “I learned about the different plants and vegetables and how much lettuces they have [varieties] and how some healthy food can taste good! Like the tomato one, the salsa. Yeah, I like that, ‘cause everything was from the garden – the tomatoes and the onions and all the other stuff. But it tasted pretty good. I liked it.”

For many youths it was surprising to learn that there are many varieties of common fruits and vegetables. At KCG biodiversity is important, and the stewards planted several varieties of food plants, when available. It was also surprising to many youth that raw fruits and vegetables could be chopped and combined into a tasty, healthy dish like salsa. Pua reflected on why the KCG stewards had them taste different fruits and vegetables. “I think it teaches you how to like, be healthy, and for me, like because I’m gonna have a baby it teaches me how to eat healthy.”

Keoni, another first-time gardener, said he “learned about the different kinds of fruits and where to find it and what it looks like.” Alani added, “And how to plant it...and how to take care of it, keep the weeds down.” They said they learned the importance and usefulness of certain plants, such as kalo. Alani and Keoni also gained experiential knowledge in the area of healthy eating. Keoni recalled, “Yeah that was the first time we ever tried fresh juice.” And “the first time we ever made it,” Alani added. While fresh squeezed orange juice was a new experience for many of the youth, all of them had tried orange juice from concentrate. Most said they now have a preference for fresh orange juice. Trying this new food was not much of a stretch for them, but tasting freshly made “green” juice, juice made primarily from leafy greens such as kale, parsley, cilantro, and

arugula in addition to juice from other sweeter vegetables like carrots and apples, was really memorable for the youth. Alani said "Ho, it was good, but..." Keoni finished her sentence, "...it had a weird earthy taste."

Another new experience was learning how to pick ripe cacao from the tree, cut it open and eat the fleshy antioxidant-rich, fruit-covered seeds. Nearly every participant enjoyed tasting cacao for the first time, which they learned is the original, raw form of chocolate. They found its fruity taste comparable to "Starburst candy." The metaphor was so strong that some youth, like Kehau started calling it the "Starburst fruit," which on the one hand is a misconception but on the other is a step towards knowledge creation: relating new knowledge to prior knowledge. The KCG stewards could only hope that with time and repetition the new name would sink in as it did for other youth. But practically speaking, Kehau could recognize the tree and the fruit as a source of food, which previously she could not.

Another new food experience was sugarcane juice. Few people I know have ever tried sugarcane juice, though sugarcane grows all over Hawaiʻi Island and is a popular drink in places with similar tropical climates like India, Thailand, and Brazil. A friend of mine loaned me a sugarcane press, which costs around $1,600 in the U.S. (another reason why few people have tried the drink), and I in turn made fresh sugarcane juice for the youth. When I asked Kaliko whether KCG introduced him to any new experiences he said, "Yeah, eating new fruits. And I never had pure sugarcane juice. I never had that before! But once I tasted it, it was actually pretty good! It tasted straight like sugar...pretty close to honey." I told them that unlike processed sugar, sugarcane juice has lots of minerals and some people drink it as a health tonic. "I would have never thought

to eat that until coming here," Kaliko admitted. For him KCG was "a place to try new things and it's all good!"

Through experiential learning the youth gained many practical skills in gardening, which also made them better environmental stewards. Kimo said he learned "what you can and cannot eat" and "how to grow plants in different ways, like the banana tree." I asked him to explain:

> Well instead of replanting [the banana tree], you can cut it in half and turn it over and make the roots face toward the top so that the plant grows faster and then the keiki's just start shooting up. That's the one we have by the fence. And we planted like four. Knutson taught us to plant the banana tree in that way. And he said he wanted to do it with us.

Kimo described an uncommon method of planting the banana tree upside down so that the roots are facing up. The purpose of planting in this way is to get more banana shoots that can produce more trees and food in a shorter period of time. This was an example of a specific gardening technique learned, but there are also more general environmental skills that the youth learned.

Nani saw the learning experience as teaching youth practical life skills. She said, "It teaches me how to take care of [my] own area." Isabella added that she learned how to work with garden tools. Kehau agreed, "Oh yeah, I learned how to use a sickle, cause before I would just use my hands to pull the weeds out." Nako had told me earlier that he could tell some of them had never used a rake before, or a sickle, just by the way they were awkward with it. He was happy that these young adults were gaining exposure to skills that they might not have gained growing up (A. Nako, personal communication, December 13, 2011).

Pua said that she learned "the skills for the garden work, like what to do and how to plant things." Having never gardened before, everything was new for her. "I learned how to plant, ʻcause I never really know how to do that. Outside gardening never really was my thing." Keoni, who had never gardened before either, said he learned how to "clear out the bushes and pull weeds" to make an area to plant. Although he is Native Hawaiian, he says he never took care of a kalo patch before, "I didn't even know what it was called until we went there [KCG]. So I learned something about my culture there."

Alani learned to "clean the bananas." She would cut down dead banana leaves, and trees that had already fruited, adding them to the compost pile, or cutting them into small pieces and mulching below young banana trees. The youths said they noticed that more light and air comes in and the banana trees grow stronger and healthier when they were maintained in this way.

Nick said that coming to KCG was an important part of the OIKH curriculum because "it teaches you how to garden...that's always useful!" But the youths also learned how to prepare healthy food that they harvested from the garden. They learned how to harvest kalo and prepare shoots for replanting, gather lemongrass for tea, and pick ripe oranges from a tree or pineapple from a patch, from which they could feed themselves. By learning this skill they realized the usefulness in planting and caring for land: to access fresh, healthy food that they might not otherwise be able to afford.

Learning to respect themselves and others went hand in hand with learning to respect the environment. The youth and their teachers said that respect was one of the primary values they learned through participating at KCG. I also observed the youths' attitudes improve the longer they were in the OIKH program and the more times they

came to KCG. Regularity of participation seemed also to improve how positively they felt about nature and gardening.

"What's it like coming to KCG on a typical day?" I asked Pua. "Hot!" She laughed. "Okay you got me! I mean what's it like when you first come and chant in Hawaiian to enter and greet us with a honi when we welcome you in?" "Respect," She said definitively. "Like respecting other people, even if you don't know them. ʻCause for me that's hard to respect others, ʻcause usually I don't like anybody when I first see them. And [only] when I get to know them [do] I like them." After a while I asked if the garden also taught them to respect the ʻāina. "Yeah" Pua and Kaili replied in unison. Pua reflected,

> I think it opened my eyes to what, like, what kind of interesting things there are in the garden instead of before I just used to think it was plants and bugs and whatever. I wasn't really that interested in it. But when I started to go, like a lot, I really started to want to plant and weed and look at the different stuff that was growing.

Several other students also mentioned "respect," like Nani. Since coming to KCG, "people have more respect for one another." When I reflected on how respectful the students were in the garden it was hard for me to believe that these were the same students who, for most of their teen lives, have disrespected themselves, others, and the law.

I asked Pua if her attitude or that of her peers had changed as a result of coming to KCG. "Mine did, ʻcause, I dunno, in regular school I always had a bad attitude. I come here and it's way better ʻcause I dunno, I have my friends, you know?" Kaili added, "I think you just have positive people, yeah?" "Yeah," Pua said. "Like at the garden, some of us are mad in the morning and then they ask us how's the weather [a way of

expressing how they felt], and at the end of the day it's like everybody has a good weather. Some people don't but that's like because they are sick and nothing could improve their day." Pua and Kaili felt that KCG provided them with the kind of safe, positive atmosphere that allowed them to be themselves, and to an extent, let their guard down.

The KCG stewards told me that gardening in nature has the power to cultivate many positive inner qualities for people, such as patience. In today's hectic world, they told me, it is grounding to come to the garden and lose track of time and slow down their minds. When I asked the youth how their attitudes might have changed since coming to KCG, several of them, such as Miki, Keoni, and Alani responded to this open-ended question with a single word, "patience."

Pride also came from malama ʻāina, caring for the land. Many of the youth said they felt proud of taking care of the garden. Keoni made this discovery, "It feels good knowing that you're helping plants survive instead of being overgrown by weeds and make it look nice so other people can enjoy too. "Yeah," Alani added, "if it wasn't for the garden I don't think I would respect the plants as much, because before I never really knew that much about plants." This is an example of how knowledge and skills about the environment led to positive attitudes and behavior changes. In this case, ambivalence was gradually replaced with care and stewardship.

Although the OIKH group only came to the garden once a week for two hours and sometimes less often depending on weather, the regularity of coming to KCG seemed to help the youth to cultivate better attitudes toward themselves, others, and the environment. How could this occur with so little time invested? I believe it is because of

the many ways that KCG stewards encouraged participants to express their feelings, physically and verbally.

I was initially surprised to learn the many ways that KCG was cultivating positive behaviors in OIKH youth toward the environment. But when I considered that these students were enrolled at OIKH because they were at a turning point in their lives and were working toward a better future for themselves, it made sense that they were relatively open to change. Kaili summed up the sobered attitude of many of those entering OIKH: "I actually realized that this is my last shot to get a high school diploma so I thought I might as well change now." In this way many youth were open to learning knowledge and skills that they deemed valuable to their lives and substituting negative attitudes and behaviors for more positive ones that might help them to be happier and more successful.

While these behavioral changes may seem small, I believe that for many of them a seed had been planted with the potential to lead to even more positive behavior change. Some of the changes that the youth mentioned include eating more fruits and vegetables, starting their own gardens at home, not littering as much, taking better care of plants and insects at KCG and at home, and visiting KCG in their spare time to volunteer and introduce their family and friends to the garden.

While all of these things were taught and encouraged by the stewards it was probably because these lessons were socially and culturally reinforced by what was happening at the garden. Whereas counter cultural, anti-authority behaviors such as getting in fights and skipping school used to "cool," now it was "cool" to grow and eat healthy food; to respect people, plants and animals; and to care for the environment by

not littering. This is because when they looked around, their peers and KCG mentors were all displaying the behaviors of environmental stewardship and having fun doing it.

I asked the youth if experiencing new fruits and vegetables at KCG had changed the way they eat at home. Alani and Keoni laughed, “No!” I got the same response from Kimo and Kaliko on another occasion. But then Kaliko added, “But I notice that I am eating more fruits and stuff.” Kimo agreed. It seemed that exposure to gardening and trying new fruits and vegetables were making at least a small difference in their food preferences, although it may have been below their conscious awareness.

Of course there were other factors limiting their consumption of fruits and vegetables, such as access to arable land to garden, the affordability of fresh food, the proximity to farmer’s markets, and fully stocked grocery stores. The OIKH program, for example, is located in an area where the nearest grocery store is 5 miles away in comparison to two convenience stores less than 1 mile away. When you do not own a vehicle and public transportation is not available in your area, you are probably going to walk to the convenience store for food. However, KCG did provide access to some healthy food and food plants to start gardens at home.

One of the things that Miki liked the most about coming to KCG was that “we get to take home stuff from the garden. We get to take it home and share it with our family.” “Can you give me an example of something you’ve brought home and shared with your family?” I asked. “Um, I’ve brought home like oranges and like the chili pepper tree and I gave it to my dad ʻcause he likes that and he planted it.” I observed other students taking home breadfruit, papaya, various leafy greens, sweet potato, taro, banana,

pineapple, and herbs such as lemon grass, chives, basil, and oregano as well as various plant cuttings to root at home.

In addition to bringing home fresh food and plants, Miki taught her family how to express their feelings through the "weather report." "I went home that day [and] we did it . . . it was funny." While the "weather report" can be a light-hearted activity, expressing feelings can also be a powerful tool for transforming one's outlook and behavior. This example of Miki sharing food, plants, and social lessons from the garden demonstrates how KCG had the ability to indirectly reach additional people through participants' families and social networks.

I observed differences in how incoming youth and seasoned youth responded to insects in the garden. Often the new students would fear the insects they found in the garden, such as centipedes and spiders and instinctively try to kill them. However, KCG stewards teach that there are many beneficial garden insects that have special roles in the garden. Spiders for example eat cabbage moths that eat holes in vegetable greens, and centipedes eat garden pests such as ants.

Beyond their benefits to the garden, these insects were also viewed as sentient creatures by the KCG stewards who instructed youth that KCG was a peaceful place where no one, including insects, should be harmed. Learning to respect even the smallest creature is part of learning how to respond to others non-violently, a challenge for many of the OIKH youth. Several students said this hit home for them. Alani says she learned about the "animals, the creatures and the spiders and stuff, how they take care of the plants. To respect the insects instead of murdering them." "Has that changed your

behavior towards them?" I asked. She responded, "Being at the garden has caused me to not want to kill the lizards, but to let them go because they help the plants."

Several students said that their improved behavior toward the environment extended outside the garden. Some of the OIKH kids, after earning their high school diplomas, went on to enroll in the Hawaiʻi Community College Malaʻai [Hawaiian farming] Program, which teaches traditional and cultural agriculture methods in Hawaiʻi (E. Knutson, personal communication, February 10, 2011). Kaili shared an example of how her behavior changed, "Well if we gotta pull weeds and I'm at home we'll just cut it all down, but then now it's like, I know when I see a good [plant] and we need it, then I'll go around it." When I asked Leona whether her behaviors or actions toward the environment changed since coming to KCG she said, "I don't litter as much now," she laughed self-consciously and added "It's the truth!" Nani, Alani, and Isabella also said they did not litter as much. Alani said it was because it "hurts" the environment.

When I posed the same question to Kehau she said "I started my own garden, actually, about three weeks ago." Pua said that she did not garden before but now gardens at home because of her experience at KCG. Similarly, nineteen-year-old Mary said that she is hoping to finally put in a garden at the house she rents. "My landlord said we can make a garden now if we want ʻcause we have a big yard." I asked why she wanted to make a garden. "Just so I don't have to buy my fruits and vegetables." For Mary gardening was not only enjoyable and good for the environment, she also saw the financial and health benefits.

Kaliko, Nani, Pua, and Miki said they have all come to KCG on their own time either to volunteer or show family and friends around. This reflects their growing sense

of pride and environmental stewardship. “It makes me feel good,” Pua said, “‘cause I’m not really doing anything, yeah, for the community. So it makes me feel like I’m doing just a little bit instead of nothing.” Miki also had a growing sense of environmental stewardship. “It changed how I see the environment. Like when I go home now and I see like weeds and stuff I’ll clean it and if I see rubbish I’ll pick it up now.”

An indirect but clear benefit for these teens was a reduction in the levels of self-reported personal stress, which they attributed to their time working in nature and building support networks. Eighty percent of the teens (12 of15) attributed spending time at KCG with lower levels of stress and anger, and higher levels of calm and patience in comparison to their mental-emotional state upon arrival.

Nani told me about her life. “For me it was stressful. I ran away a lot. I overdosed on pills a lot so I’ve been through like so much stuff.” Kehau recalled what life was like before coming to OIKH. “I didn’t really have much going for me. I didn’t have no education. I didn’t even finish eleventh grade so I basically didn’t do that much until I came here, where I did better and learned more life skills.” When asked whether she liked coming to KCG, she replied, “I like coming to the garden because I like getting out of the classroom and sometimes when I’m not feeling so good, I feel more calm after coming to the garden.” When asked what it was about KCG that made her feel calmer, she paused momentarily, “I think it’s working with others.”

That feeling of camaraderie was something that many of the youth said they enjoyed about coming to KCG. Isabella, who used to run away from home a lot, said that being outdoors and hanging out with everybody was one of the things she enjoys most about KCG. When I asked how learning outdoors differed from learning in a classroom,

she described the social learning at KCG as fun. “It lets us joke around with each other and hang out and it teaches us how to communicate...instead of just doing [school] work.” I would go further to say that the social interaction visibly relieved tension for many youth who come to the OIKH program angry.

Pua described her life before coming to OIKH: “I was locked up in facilities a lot. I never really used to come to school.” “Detention?” I asked. “Yeah and parole...I was immature. I never really think about my future.” She said she thinks about her future a lot more now. I asked her whether coming to the garden helped her to deal with stress. “Yeah” she told me. “It makes me not be angry ʻcause working here calms me down.”

Kaili had similar anger issues. She said she used to fight a lot in school with teachers and other students and eventually had to go to anger management classes. I asked her whether it was difficult at home. “Yeah, ʻcause my dad’s an alcoholic, yeah? And so my dad he gets his temper sometimes. So when he yells at me I go to school with a bad day.” When I asked whether coming to KCG was an important part of the OIKH curriculum, she said, “Yeah. It teaches us a lot...and we’re hard to teach!” she laughed. “And I think a school like this needs something like that because it’s like a stress reliever.”

Miki described her life before coming to OIKH as “hard and miserable.” She said not having a diploma made it hard to find work and raise her daughter so she was forced to seek welfare assistance and got referred to OIKH from her First-to-Work program. “They took me out of Special Ed when I was in seventh grade and they just threw me in regular Ed, and it was hard, so when I went to like eighth grade, I failed. And then I went to ninth grade, I failed again and my second year of ninth grade I dropped out.” She told

me that by then she was "over school." "I just wanted to go cruise and whatever. I never thought I would need my education."

Yet at OIKH Miki made new friends and found the staff to be welcoming. She said coming to KCG was "fun" and "exciting," but also an important break from the classroom setting. When I asked why she explained,

> ʿCause if you just stay in the classroom all day everyday it's gonna like build up anger and stuff. You just need fresh air sometimes. It's good. The garden gives us a different way to relieve stress and stuff, so I guess when we first go there some of us were probably having a bad day but then we do something just to get out mind off of it and by the end of the day we feel way better.

Nako told me that he is working with the teens to learn positive conflict management skills. "For most of the youth, fighting is the only way they know how to resolve disputes. It's all they know because that's what they see at home." At KCG, the youth learned that there are alternative, more positive ways of relieving stress, such as getting active.

Mary came to OIKH after she turned 18 and her parents would no longer support her and her two-year-old baby. Her only means of support was welfare, but the welfare program required youth to drop out of regular school and enroll in an alternative school like OIKH. Mary never smiled much; her personal life seemed to weigh on her. But she said she liked getting outside at KCG, "ʿCause you're doing something different, you're not just in a closed area." I also talked to Namahana, a new OIKH student. And typical of most new students, she didn't want to share anything about herself. However, she did agree with others that coming to KCG was a way to relieve stress. "Yeah, ʿcause it gives you space. And it lets you like...you can work at your own pace and it lets you talk with people."

Keoni who described himself as having "failed a lot" in traditional school settings, seemed to have an even lower self-esteem than the other youth. He was also physically obese. When asked to describe what it was like coming to KCG on a typical day, he responded, "It's good. It helps you to work out stress or just get your blood pumping and make you feel like you did something good." The physical exercise seemed to help Keoni relieve stress and the positive feelings that came from volunteering in the community seemed to boost his self-esteem.

One of the most striking things about observing the OIKH group is how well they worked as a team. According to their teachers it was something they learned by coming to KCG. Teamwork appeared to lead to many indirect benefits for OIKH youth such as peer learning in the garden, peer support back in the classroom, and positive academic outcomes. Trust and the ability to "open up" to others improved communication skills and more positive attitudes at school. "I just like the teamwork over there [at KCG], when everyone works together," Alani reflected. "Yeah," I said "that's something that really stands out to me in watching you guys work. You are just a really positive group of kids and you all work well together. And I'm kinda confused, like, 'these kids had a hard time in school?' It doesn't make sense! [laughter]." Later in the conversation I asked Alani whether she thought coming to KCG was an important part of the OIKH curriculum. She replied, "Yeah, because it helped us to bond with each other in a different way than just sitting there working on math." "Bond with each other more as friends?" "Yeah" she confirmed. On the surface, building friendships among students in a class might not seem relevant to an academic education, but students told me otherwise,

that it made them feel comfortable asking the teacher or their peers for help in the classroom.

The sense of camaraderie was touched upon by several students. “It’s not just a garden. It’s a place where everybody helps one another” Kaliko said. “That’s right,” Kimo added. “That’s why we all go,” Kaliko continued. “That’s the one thing we all like: teamwork.” “Yep,” Kimo interjected again “That’s it right there. Kaiao teaches us how to work as a team. How to work and combine [skills] with one another and get the job done as a team, as a whole.” They told me that they were not always team players. Kaliko thought back,

> When I first [came] I tried to go on my own cause teamwork to me was like ʻnah, I can do it myself.’ But then I actually started going and going and somebody actually started helping me. And from there I started letting everybody help and it’s like you get a whole lot more done. And it’s actually better because you can actually have a conversation while you’re working, you know what I mean? [he smiled]. You get to know more about the person.

One of the first things that came to Kehau’s mind when I asked her what she was learning was “How to work better with others.” Kaliko was able to go into depth about how teamwork has made a difference in his life.

> I went to the garden on my first day of OIKH and from that day I notice that my attitude has changed. Like before I was actually a really bad...yeah, I can admit it. I was a punk [we all laugh]. And basically I hardly talked. When I was first came here all I thought was work, and you’re pau, work and you’re pau. No need associate with nobody. But that totally switched ʻcause I notice that when we’re in this class it’s not everybody for themselves...but we’re all in there together so we can all help each other. ʻCause without help, you can’t do nothing...especially when you need it the most.

Teamwork seemed to be the launching point for OIKH youth in developing communication skills, personal growth, a sense of community and the motivation to become more civically engaged. Those who had been in the OIKH program the longest

and therefore had been to KCG the most had better communication skills. My interviews with the students suggested that meaningful and regular teamwork may lead to developing better communication skills which in turn may lead to personal growth and development. Kimo explained how teamwork at KCG impacted his life,

> It helped me communicate with others ʻcause normally I'm to myself. I don't tell anybody about how's my life and what not and then starting Kaiao garden, me and Kaliko got to know each other and I would talk to Kaliko as we would work and it made me learn how to communicate well with others instead of just being to myself and handling everything on my own.

While one might think that the process of opening up to others would be scary for these youth, they actually described it as being fun! I believe this is because the garden provided a safe, comfortable, informal atmosphere in which everyone was included and supported as a group. Personal and social development was not directly taught but allowed to unfold naturally.

Nani said that teamwork actually transformed the culture within the program. "People are more open to each other, because before everyone was shy. That's how I was." "Now we all communicate with one another and joke around with each other and hang out and it teaches us how to ʻcommunicate and work with tools' instead of just doing [school] work," Isabella added.

"Do you think that getting to know each other, communicating with each other and joking around and stuff...helps you guys succeed in the program" I asked? They both responded in unison, "Yeah it does!" "How so?" I asked. Nani explained, "Because if we weren't communicating with each other then we wouldn't, like, our classroom environment would be so..." "Awkward..." Isabella finished her sentence, "...like we will ask each other for help [in the classroom] instead of keeping to ourselves."

KCG served as an "ice-breaker" promoting social learning not only in the garden, but more remarkably, back in the classroom. An otherwise impersonal, individualistic, and competitive classroom culture gave way to a personal, social, and collaborative atmosphere that this group of primarily native Hawaiian students said they needed to succeed.

KCG was the first time many of the teens had volunteered in their communities, and they were realizing the benefits that came with that. Coming to KCG opened Keoni's eyes to the social and environmental need for community volunteers. "It shows that there's a lot of work that can be done anywhere. Not just at your house." "Like in the community?" I asked. "Yeah, like giving back," Alani responded. Keoni gave an example for how he might becoming more civically engaged, starting with his own family and social networks. "It taught me that it's hard work [gardening] so I should help my grandma weed and take care of their garden, too, and help them."

Daubert said that she tries to instill in the youth a purpose for volunteering, which is to give back to the community. Most of the youth had never volunteered on their own. Any time they had volunteered it was usually as a punishment, such as with probation. She hoped that youth would see volunteering as fun and pleasurable by realizing that the KCG stewards willingly gave their time and services at the garden. To her surprise, many of the OIKH graduates asked if they could go back to the garden. "It's all the love they feel when they're at the garden, it makes them want to go back" (K. Daubert, personal communication, December 13, 2011).

Eco-literacy through Experiential Learning

There is curriculum. The garden is the curriculum – Manu Meyer, KCG Co-founder (Kohala Center, 2009b)

There is only one word to describe the mood in the canopy of leaves I now sit in. This word is pensive. My mind here is at rest, amidst the buzzing of bees, the twitter of birds, and the rustle of the wind through the vibrant green of leaves – David (age 11) (Searles, 2009).

The tricky thing about service learning is that it is only effective so long as the participants find the experience genuinely meaningful. Hansen, a KCG volunteer, recalls service learning being "shoved down his throat" in high school. Needless to say, he did not take it seriously and did the minimum in order to pass. He said he never had a meaningful service learning experience until college, when he was invited by friends to come and help out at KCG. He continued volunteering there for two years and still considers the people he worked with good friends, years later. He found the work at Kaiao to be rewarding, meaningful, useful, and enlightening. Now, he regularly helps his neighbors in the community with farm and garden projects because he enjoys working with others in a team environment and because he values the importance of growing food (E. Hansen, personal communication, December 6, 2012).

This is the goal of eco-literacy, that students develop ecological intelligence, social intelligence and emotional intelligence that assists them in being good leaders, community members, and citizens of the earth. The goal is to also instill social skills, affect, and a sense of responsibility for making good decisions and adopting good behaviors that sustain our relationships (Goleman, Bennett, & Barlow, 2012).

Many school groups, lacking a garden of their own, came to Kaiao to gain eco-literacy through *malama ʻāina*. Malama ʻāina describes a relationship and a value in

Hawaiian culture of caring for the land which reciprocally provides people with sustenance. It is a universal concept of indigenous knowledge that human health and survival is bound to that of the land and its natural resources. Wendy Baker was a Language Arts teacher at Connections Public Charter School, located in downtown Hilo, looking to teach her elective class in a way that tied in place, culture, and sustainability. She discovered KCG in 2009 and brought three different classes there over the course of one and a half years. Each class was comprised of 12-23 students, ages 12-14 years. She estimated that only about 30% of her students had prior gardening experience.

Baker was excited to introduce her students to gardening, something she had experience with and was passionate about. When she was in high school, her interest in agriculture led to an internship at Full Belly Farm in California. She realized that she did not want to be a farmer, because of its hard work, but the interest remained and she went on to study agronomy, the economics of agriculture, at University of California Davis. After 10 years of teaching, she was finally able to incorporate these two interests in her life.

Several KCG stewards worked with Baker's class at the start, but one by one they all bowed out and only Knutson remained. It was difficult for some of the stewards to work with this group of mainstream middle school students because they felt they were not as disciplined and respectful as other groups coming from culture-based programs. They could be difficult to manage and the experience was not as rewarding for the leaders. This caused slight tensions between Knutson and the other leaders as he was left with the difficult choice of assuming greater leadership or breaking his commitment to

Baker and her students. He saw potential in the youth and so he chose to stay. Baker explained,

> Knutson was always there and he was always spot on with the kids. After each class we would talk about what went well and what could have [gone] better. . . . On rainy days when we were not able to come to the garden, he would come down to the school and bring his worm bins for the kids to explore!

Baker admitted that it takes a special kind of person to work with today's middle school students, someone who can maintain control over the class but not let their ego get in the way. Kids at this age, she said, can be overly critical and abrasive. They do not usually give hugs or say thank you. Baker tried her best to work on their manners and incorporate social protocols for being at the garden but she said it was not natural for them to respond in that way. "Knutson was okay with them not naturally being full of gratitude and was willing to work with them at that. He would say 'You're so lucky to be able to work with these kids.' He was so full of gratitude that it kind of spilled over – they just loved him." Knutson explained to Baker that he had a harder time in school when he was younger, so he could empathize with kids struggling to learn in a closed, classroom environment from books or the chalk board. Knutson really believed that nature can be one of the best teachers, but is underutilized in schools.

Knutson explained that when you have a relationship with something, you are willing to go deeper into it to really understand it at the core. He said that in high school he did not have the opportunity to have a deep relationship with the things he was learning about. Information was presented and tested and then it was gone. "Unless I really cared, I didn't have a vested relationship, responsibility or commitment to what I was learning. It was in the door, out the door. But if I was responsible for that information other than just a letter grade on a piece of paper, it might [have been] a whole

different opportunity to learn." Knutson did not think public schools are there yet, but was glad when the community could help.

Having taught for 10 years, Baker knew that there is a lot one can do with language arts in the garden to meet DOE standards, such as journal writing, discussion and other oral communication, and reading different texts. (W. Baker, personal communication, February 24, 2012). Additionally, the KCG stewards, including Meyer, who taught in the UHH College of Education, said that the garden itself is a kind of curriculum (C. Correa, fieldnotes, February 17, 2012). The example they gave was indigenous knowledge, which is derived from experiences within nature.

Indigenous knowledge, or place-based knowledge, is a science based on empirical experiences and observations collected over generations. Knutson said that "when you really sit and watch nature unfold at your feet, it's the teacher. It's a process that doesn't happen in a laboratory." It amazed and transformed him from someone who wanted to go mountain biking to someone content with just sitting beneath the trees and being in nature. He likened it to being in the greenhouse with students one rainy day at the garden. They sat down on a wooden bench, listened and watched quietly for ten minutes. They noticed how the spiders behaved, how people interacted with the dog, what happened to the plants and soil outside as it rained. "I think that's learning."

Knutson recognized that community education requires more interest and involvement from the student. So he said that it is all about asking the right questions. If you point children's attention somewhere they can begin to interpret what they see, and those who understand can prompt deeper inquiry or offer explanation. Knutson did not offer curriculum in the formal sense, but he said that he was committed to asking

important questions to keep drawing deeper into students' understanding. "There's structure with the kids even though it doesn't always look like it. To put it on paper is really difficult. It is possible but it takes out the element of intuition and spontaneity." Knutson said that he has been pleasantly surprised to see more schools and educators starting to recognize that experiential, place-based learning is "working for our kids."

Knutson marveled at how school-community partnerships enabled kids meet their school standards in the garden. "It's amazing to see kids walking out of here having just touched plants, 'cause some people have never really interacted with nature before." Knutson said that he used to be in that boat. "Just knowing how it has changed my life, I trust that it changes theirs too." (E. Knutson, personal communication, February 10, 2011). UHH horticulture professor Arancon sees college students in their 20s who do not know what a rice plant looks like and have never gardened before in their life. "It just fascinates me and at the same time fascinates them to see a seed break into a leaf and then flower and then harvest." (N. Arancon, personal communication, February 17, 2012). A modern label for this phenomenon proposed by Richard Louv (2005) in his best-selling book *Last child in the woods* is "nature deficit disorder."

Baker and Knutson tried to give the middle school students an appreciation for nature and a basic understanding of how to garden while also tying in larger eco-literacy concepts. These concepts generally revolved around health, food security, our dependency on oil for transportation and importation of goods. They wanted students to know that there was such a thing as community gardens, and that there was one right up the hill from them, where they could go to be in nature. They also wanted them to realize the ease, pleasure, and health of growing and consuming their own food. These kinds of

discussions would occur between Baker and her students while walking up and down the quarter-mile hill between the school and the garden. Some of the concepts were "nebulous," like why people might prefer taking a short walk for environmental and health reasons (their least favorite part) instead of taking a convenient bus ride. "In the end they kind of liked the walk. It was almost part of our curriculum. It's like our legs are meant to take us places so the curriculum was partly about getting exercise and getting outside and helping, working in the garden."

Upon their arrival, students did not do Hawaiian cultural protocol, but had 3 minutes of silence in the garden to write in their journals about something they observed or something they felt. A short place-based lesson would often follow. For example, students learned about the Hawaiian god Lono, who governs the rains, the agriculture, and propagation, celebrated during the *makahiki* season between October-November through February-March. They learned the story of the Hawaiian god Kū, who turned his body into a breadfruit tree so that people could escape from famine. They also learned about ancient stories related to the exact location of the garden, such as Hinaikapūpūʻai who gave her body to the *imu* to save her community during famine.

The group would discuss the tasks for the day around the picnic table. Students would break into four or five different task groups according to their interests. Some projects incorporated math, such as measuring plant growth with a ruler or measuring how tall a tree is by triangulation. While the students worked on their projects, the adults would roam between groups, offering guidance. At the end of class they would circle up and have a sharing out of what they accomplished, chant the "Oli Mahalo" as standard

Kaiao protocol, and then walk back down the hill back to school. (W. Baker, personal communication, February 24, 2012).

Garden educators are often not well supported at their schools. They are continually looking for funding, community support, and organizational resources for developing and justifying standards-based garden curriculum. Baker looked to the Hawaiʻi Island School Garden Network for support and was invited to the 2010 HISGN Eco-literacy conference in Waimea. Each participant received the Center for Eco-literacy's *Big Ideas* book, which she later used at Kaiao. Baker looked at the ideas presented in the book, then thought about where her students were at and what they needed, and then looked at what Kaiao had to offer in developing her curriculum. One of the more successful lessons was the ecosystems hunt, where students go out into the garden to look for different evidence of members of the ecosystem. (W. Baker, personal communication, February 24, 2012).

Baker's class developed ecological literacy in terms of knowledge, attitudes, skills, and behaviors relating to environmental sustainability. For example, she said that students gained an appreciation and a working knowledge on how to garden. Many of them later started their own gardens at home, or if their parents already gardened they started helping out. They learned how to maintain a garden bed and how to condition soil. Conditioning the soil just means amending it, such as by planting a cover crop after a harvest to keep the soil microbially active, protect it from erosion and enrich it with organic matter. The students really enjoyed tending the tools, sharpening the sickles or machetes with a sharpening stone. Ensuring that the tools were put away properly so that they could be easily accessed by the next group was sometimes a challenge. The solution

was to encourage leadership! Each time, Baker and Knutson would ask one of the youth to volunteer to be in charge of monitoring tool returns. (W. Baker, personal communication, February 24, 2012).

At first the students wanted to destroy the spiders. They tried to use scissors to cut them up and Baker had to explain that spiders have a beneficial role to play in the garden, for example eating cabbage moths, which attack the plants. It was an opportunity for students to learn about a garden ecosystem. Searles told the children that Kaiao was a non-violent garden and that they were not allowed to kill lizards, centipedes, or anything else. The kids later wrote a garden song, the beginning of which was "Can't kill bugs, Searles says so, look out the power rangers are here" The students' behaviors toward insects changed once they learned the important role they played. Centipedes eat slugs, which can carry the rat lungworm disease that can contaminate the produce we eat. Students began to appreciate the role worms and microorganisms play in the soil and that everything is interconnected. According to Baker, "Their feelings toward the environment definitely changed after taking the class." Affective outcomes seemed to her to be the strongest, with ambivalence growing into appreciation, pride and ownership (W. Baker, personal communication, February 24, 2012).

The students loved learning in groups. There was always a head of each task, which Baker said generated student leadership. She noted that group work always helps students who are less confident to feel more comfortable, even though she said Kaiao was a special place where everybody felt like they could be themselves. "One of the most important things I've learned is that certain kids have a very strong ecological intelligence and when they're in the classroom it's stymied. Three of my students in

particular had a really hard time in the classroom, lots of behavior problems, but they flourished in the garden." She said that as a teacher you can get a certain perspective of a student inside and then, outside, see another side of them bloom. These students themselves also get to experience themselves as class leaders (W. Baker, personal communication, February 24, 2012).

> The kids who have been in the garden longer consider it a sacred place. They come in and get quiet within themselves, knowing it's a safe place to have a wonderful day or a bad day. They know that they can work it out in the garden, physically and emotionally. The ones that have been there longer take the others under their wing. And these are kids that maybe wouldn't extend themselves like that under normal circumstances but just kind of transform when they get here. They show each other how to be in a place that they respect. (E. Knutson, personal communication, February 10, 2011).

Knutson paid attention to even the "simplest of transformations" like self-initiation whether picking oranges, cutting down bananas, trimming plants or weeding because they know it needs to happen. "The younger kids have a blast. They want to look for worms, they want to taste things…it's a constant smile, that's what this is founded on. They run around with watering cans. Some of them run around with sickles, but we're trying to stop that." (E. Knutson, personal communication, February 10, 2011). Baker said that it was really rare to see the kids misbehave with the tools. They took the responsibility seriously because they loved using them, and did not want it to be taken away. "There was really just one student, one time. And it was like immediate, "Sorry you can't use the tools if you're not using them properly. (W. Baker, personal communication, February 24, 2012).

One of Baker's favorite lessons involved a beautiful orange tree which was ripe and ready for harvest. A couple of kids started putting fruit in their pockets and surreptitiously going off to try and eat it on their own. The teacher reminded them that

they were at a community garden and that whatever is harvested is meant to be shared. “It turned into a great lesson in hygiene, washing, preparing, presenting and sharing food.” They would form different teams: one group would harvest the oranges, another would cut and present them beautifully. Each group would count the number of students in the class and then estimate the number of oranges they would need to pick so that everyone could have half of a fruit. The students would make elaborate arrangements for fun. Then at the end of the workday everyone would come and share. The nice thing about sharing food is that it immediately changes the nature of people’s interactions, to something more genuine (W. Baker, personal communication, February 24, 2012).

On their last day of class the eighth graders had a chance to lead fifth graders from their school, who were not in the class, around Kaiao. Knutson and Baker saw it as an opportunity to take on leadership. The eighth graders were responsible for leading the education that day whether it be planting sweet potatoes, watering plants in the greenhouse, or learning to pick and share ripe fruit. “Even while having this little kid as a responsibility, it’s an opportunity to share something with someone else that activates their chance to learn as well. Like, ‘Oh did you see these bananas on the tree?’ ‘What? Bananas come from trees?’” For Knutson, watching children as they discover nature has been “smiles and processes the whole way.” “It’s learning what it means to be human and what it means to get your food from the ground. Even if we eat cereal and peanut butter sandwiches on white bread it comes from the ground at some point and to discover that it’s like ‘Whoa!’ It’s a mind change for sure.” (E. Knutson, personal communication, February 10, 2011).

Community Integration through Social Learning

It's genuine interaction with people in the community – Jeff Pressey, ADH program specialist (J. Pressey, personal communication, February 2, 2012).

A diversity of individuals and groups went to Kaiao over the years to participate in community gardening education. One of the most unique was Jeff Pressey's ADH group from the Hilo Goodwill Industries of Hawaiʻi program. Pressey described his group as "adults who have developmental disabilities and a wide range of abilities, challenges and skills." The purpose of his organization is to "help people who have barriers to employment and to support them to reach their full-potential, which includes becoming more independent and self-sufficient." Pressey said that he happened upon his profession 12 years ago when he was looking for meaningful work, and found that he enjoyed it. "We all have quirks and disabilities of our own and so when I started working with this population I felt like I was kind of at home." Comments like this reveal Pressey's compassion, humility and gift for what he does.

Pressey explained that the people he works with are adults whose family members are often not able to assist them with getting out into the community. They also tend to be limited in work opportunities and therefore limited in finances. Given these socio-economic limitations, adults with disabilities disproportionately face health barriers. CDC research shows that "people with disabilities generally report poorer health than people without disabilities. Physical inactivity is particularly prevalent among adults with disabilities, who are at increased risk for secondary health conditions that can result from their disabilities or from their behavior, lifestyle, or environment" (Centers for Disease Control and Prevention, October 17, 2007). Pressey explained that his clients do not generally have access to nutritious food or healthy activities in the community, especially

activities which cost money like going to a gym. Healthy food, he pointed out, tends to be more expensive and harder to prepare than a fast-food meal from McDonalds. Pressey said that free, healthy activities for his clients are hard to find.

Pressey used to take his group to the mall because it is a social hub for everybody. They also spent a lot of time walking along Bay Front in downtown Hilo, which is lined with shops and a free, marine science education center. His clients enjoy occasionally running into a friend or family member on the streets, interacting with retailers and being able to "talk-story." Like all of us, adults with disabilities crave social connection, but are often limited in accessing social networks in the community outside of the ADH program. When Pressey happened upon the community garden he said that he jumped at the chance to get them involved because it was both a free, healthy activity and a place for social interaction.

> This is the only place they can go and get their hands dirty. It's one of the only activities that the clients get to provide something for the community, to give something, instead of just taking in, as consumers in a retail environment. They get to produce something and that's pretty unique. Our other program doing community service covering graffiti is the same kind of thing, but this is more pleasant work because instead of being in a back alley painting over concrete walls, we get to grow fruits and vegetables. It's one of the places we get to give something. (J. Pressey, personal communication, February 2, 2012).

Pressey was also excited because he has a background in farming. It was something that he is passionate about and could support his clients in learning. "I'm happier once I've been gardening for an hour; being around the plants, doing physical work, enjoying fresh air and sunshine. It's very therapeutic. So if it has that kind of positive effect on me I knew it would have a similar effect on my clients."

The KCG stewards took right to the group, making them feel welcome and explaining the vision and the purpose of the garden. Searles gave Pressey her thesis and

educated him as to what drew her in and how it all got started. And both sides made a commitment to "show up" every Friday between 8:30-10:00 a.m.

> Searles was like the torch bearer of aloha when we got here. She immediately made us feel welcome and that we were active participants of the garden, better than guests. She just showed a lot of love and aloha to the clients and made a real personal connection with them right away. It wasn't just a sort of dry professional thing; she really became their friend and that drew them in. Kaneshiro's enthusiasm and bright personality was a real blessing for our clients. They just really enjoyed both of them (J. Pressey, personal communication, February 2, 2012).

From the beginning, Searles and Kaneshiro were able to impart to the group a sense of connecting with the ʻāina as part of a reciprocal relationship. It allowed the group to see Kaiao not just as a nice place they were visiting but as a living and breathing ecosystem that they could interact with and care for. Pressey described it as a "unique awareness that was brought here" which helps people to understand their relationships and responsibilities toward themselves, others, and the natural environment. "I don't think our clients were aware of the role earthworms and microorganisms play in fostering health and growth of the plants." The adults got their hands in the soil, played with worms, and were not at all squeamish – they found it fascinating.

There were of course some accessibility challenges, but everyone sought ways to overcome them so that the participants could have as full of an experience as possible. One person uses a wheelchair so Pressey and the KCG stewards needed to be creative in finding ways for him to participate. For example, they laid out garden flats for him to seed at the picnic table. He could also hold a watering can if he stayed in the same area. If rainy weather was a barrier, one of the KCG stewards would set up the picnic table under a canopy so they could stay dry doing art in the garden, and not miss out.

Those who are able love the physical work as it is one of the few times in life that they get to use a shovel, or a wheelbarrow, and be really useful with their hands, such as when they help double dig a new garden bed. Some of them are socially withdrawn and do not normally interact or engage much with people but at the community garden they feel safe enough to get involved and interact with other people. Pressey said that even the small differences in behavior and attitude are really significant. After the group completes a job, there is a look of satisfaction and pride on all of their faces. Pressey said that he sees them at their happiest when they come to KCG and that happiness stays with them when they go. "When we leave they get to tell everybody all that they did. It is even more special when they get to bring home fruit from the garden to share with their families because they get to experience being someone who not only takes but contributes."

Pressey's clients actually have written goals to interact with people in the community in a natural environment, rather than a clinical or contrived environment. They are able to achieve their goals by interacting with college students and community members, forming real friendships with people outside of their immediate families who choose to be with them as opposed to being professionally assigned to them. "It's genuine interaction with people in the community." They experience working with others together as a team, feeling good about it afterwards and being able to give high fives. But aside from gains in social capital, the group has also gained a greater appreciation for nature and has developed knowledge, skills, attitudes, and behaviors in sustainable gardening.

The group practices *malama ʻāina* by removing dead and dying leaves from the banana trees and tī plants, pulling weeds, planting seeds in the greenhouse, and watering when it is dry. They can also prepare soil for planting using a double-digging method and amending it with compost. Sometimes they just appreciate the garden by walking around the garden and seeing what is growing. Enjoying the garden also comes through eating from it. The group harvests ripe macadamia nuts, cacao beans, oranges, and papayas and eats them together around the picnic table. "Some of our folks hadn't ever gardened, or had fun getting their hands dirty, or seen how fruits, vegetables and plants grow so there was a lot of education and fresh exposure to things that our clients had never experienced.

Art was used as a medium for experiencing and appreciating nature. The KCG stewards provided art supplies and demonstrated techniques such as touch drawing, in which a participant would first free draw using the garden as inspiration, apply ink to paper using a roller, press on the opposite side, and watch in amazement as a negative image of the drawing emerged. "Some of our clients who have physical disabilities with their fine motor skills were able to put their hands on drawing, drag their nails around, and see something come from it." The group also did leaf rubbings. Whether making drawings, leaf rubbings, or watercolor paintings, the garden was a constant source of inspiration (J. Pressey, personal communication, February 2, 2012).

The stewards had been working with both the ADH group and the small group of elementary and middle school students from Kua o ka La public charter school for over one year when they received grant funding from HIBC to establish a joint 10-week course on gardening, cooking, and nutrition designed for holistic health. Physical health

was improved, according to self-reports of fruit and vegetable consumption, but it was the gains in emotional wellbeing that was most impressive.

I had never interacted with adults with disabilities until I came here," leader Alex White recalled. "I'm 26 and I never did have that opportunity before. So I can imagine how powerful it is for these kids and then to come to think of them as friends" (A. White, personal communication, December 07, 2012). Middle school students Laʻilaʻi and Naiʻa said they liked meeting the disabled adults, and especially loved their sense of humor. "I've never been around adults with disabilities," Naiʻa confesses. "I learned that it doesn't really matter if you look different, because we're all pretty much the same and it's not really fair that they get treated differently" (C. Correa, fieldnotes, December 7, 2012).

Pressey echoed this sentiment, "one of the coolest things is that we just made so many friends." At the same time, he saw a great improvement in the behaviors, attitudes, and social skills of his clients, which he credited to quality community interaction. At the garden he observed "much more positive attitudes, feelings of pride in the work they did" (J. Pressey, personal communication, December 07, 2012). Mary Robley, Goodwill Manager also said her clients were "just so excited about planting and harvesting; excited about watering and taking wheelbarrows full of stuff to compost" (M. Robley, personal communication, December 7, 2012).

Mari Horike, HIBC community outreach coordinator, said that combining youth and adults with disabilities in the same program made perfect sense since a lot of the information could be tailored at the same level and each group is naturally inquisitive. Horike could relate to the important lesson the children were learning by spending time

with people who are very different from themselves. When she was younger, her mom used to work next to an adult daycare program. Every week she would Mari there to help out. “I never understood why, but her lesson to me what that there are people who are different from you, but they’re not really different from you. You can still approach them. You can still be friends with them and interact with them and not be afraid, because really you can find similarities.” She said that this experience has made it easier for her to work with diverse groups. Others who have never worked with people with challenges, she notices have a much harder time. “It’s like people who have not spent time around babies, they’re afraid they’re going to break the baby if they hold him. But children who grow up with siblings haul them around and they’re not scared. So when you learn about human differences at an early age, you’re not as scared later on in life” (M. Horike, personal communication, December 7, 2012).

Learning to be comfortable around babies is an appropriate metaphor, as the youngest “participant” was two year old Kaʿio, son of White and Bontuyan. One of the nice things about community projects is an openness and flexibility to people’s circumstances. Kaʿio was not put in daycare so that his parents could facilitate the project. He was brought along for the ride and it actually enriched people’s experiences, not to mention little Kaio’s experience. White was one of those people Horike cited who had never held a baby until he held his son. White marveled at how eight year-old David, for example, would hold Kaʿio lovingly. Even though White could tell it was a little outside of his comfort zone, David was engaged and interested in Kaʿio. “To witness my son being loved and played with by so many people is so wonderful. Everyone that

interacts with him is teaching him something" (A. White, personal communication, December 07, 2012).

Pressey also noticed how being around youth and even babies brought out a "big brother-kind of caring" in his clients. "It brought out the best in [them] in a lot of ways." He also saw growth in the youth. The main thing he hoped the youth would get out of their experience is seeing that his client population, adults with disabilities, are just people. They communicate in different ways and they don't think the same way, or look the same, but they're just people. "I think the kids realize that they can hang out with people with disabilities and it can be positive, not weird or scary and you can have a sense of humor and joke with somebody even if they can't talk" (J. Pressey, personal communication, December 07, 2012).

Parents of students participating in the project said that their children have become more comfortable in nature and with people of disabilities. Hillary Washburn shared her reflections, "My daughter used to be tentative about being outside and getting dirty and I think that this has really helped to improve her perception of and involvement in nature and she's learned a lot through the garden program. She's experienced some new foods because we're relatively new to Hawaii. For example, sugar cane, ulu [breadfruit]… She's become very open to nature and natural foods because of the garden program." Washburn went on to say that it's always a positive thing to combine differently abled people and different generations. "I think my daughter probably hasn't had a chance to interact with developmentally disabled adults before. And I think that has helped her understanding of people who have different challenges" (H. Washburn, personal communication, December 07, 2012).

Kim Roseman, another parent, said her family had been the benefactor of food from the garden. Roseman said that she and her son created a compost pile and garden at their home and were now cooking together more in the kitchen as a result of the project. Additionally, she said her son developed greater compassion for people who are different from him. “I think it’s such a positive thing for the community” (K. Roseman, personal communication, December 07, 2012).

Kua o ka La teacher Pua Mendonca admitted that she had concerns about combining her class with the adults with disabilities class for liability reasons. “You have to keep kids safe. There was just a big unknown. I didn’t know how parents were going to react. I had never heard of anything like this being done before. But it was massively successful.” She credited the success of combining these populations to having one teaching aid for every two program participants. Mendonca, an experienced garden educator herself, said that while she could have led her students in garden exploration it would not be as effective as having outside teachers come in. “The value of the resource teacher, that ‘somebody else’, to take the kids and do lessons outside, that’s huge. I know that I can do this, but it will not be the same because I’m the channel they see all day long.”

Participants were continually encouraged by comments like “The number one ingredient is love” and that it is important to “Feed your body, mind and spirit with what TRULY nourishes you” never forgetting that “YOU are the most important person in the world” (C. Correa, fieldnotes, December 2, 2012). KCG mentors generously displayed their support, affection and pride in the group and participant’s self-esteem and social cohesion showed for it. While learning how to cultivate a garden, participants also

learned how to cultivate themselves and appreciate others despite their differences or handicaps. They were allowed time to socialize and form new friendships through group projects, as well as time to deepen their connection to themselves through journaling, reflection, & silence in the garden

Leadership development was another important outcome of the project, according to Searles. "It is amazing to see how these projects cultivate leadership among everyone involved. We're all realizing what we're good at. So the educational process is really for everyone to observe and work with each other, seeing who's good at what, who likes what" (C. Correa, fieldnotes, December 7, 2012). It was also a chance for university students to test their skills.

UHH agroecology and tropical plants and soil science double-major Kaylee Pickup joined the project when White came to talk to her "Food and Societies" class. She learned that she could come and help out in the garden and get college credit for it. She signed up because she was very interested in school gardens as a medium for applied learning. She helped the youth build vermicomposting bins and feed the worms every week. "It's been really great I've learned so much while teaching. I was able to take what I learned about natural farming and apply it to my sustainable agriculture plot on campus." Part of her college credit was based on constructing an agriculture experiment. Given its importance at Kaiao, Pickup decided to test the method of planting by the Hawaiian moon calendar. She planted two separate sets of tomato plants: one set on the new moon, *ʻole pau*, an allegedly "bad" day to plant according to the Hawaiian moon calendar and planted the other set on *lau kūkahi*, an allegedly "good" day to plant. True to traditional Hawaiian knowledge, the seeds planted on *lau kūkahi* had a higher

germination rate and all grew to be significantly taller and bigger (K. Pickup. personal communication, December 7, 2012).

Whitney Wilson, another UHH student-volunteer, was a junior majoring in environmental studies. She also got involved after White's visit. Her participation has led her to discover how much she enjoys working with disabled adults. "I think it's really nice for them to have this opportunity. I think they often get discriminated against and there's lots of things they don't have a chance to do like everyone else. So it's a nice opportunity to get them out into garden to exercise, socialize and be around youth." She saw mutual benefits for the youth. "I think it's a really healthy outlet for children to do hands-on learning, especially when they're sitting in a classroom for so long. They can actually apply a lot of useful life skills in the garden" (W. Wilson, personal communication, December 7, 2012).

The experience was life-changing for many participants. "We've just enjoyed every minute of being here," Pressey said. "It's so positive and we look forward to it every day of the week. We talk about it all week and it's never let us down" (J. Pressey, personal communication, December 07, 2012). White described Kaiao as a "nest where people of so many different walks of life, so many different cultures and demographics have a space to come together" (A. White, personal communication, December 07, 2012). Emma Laury, a young adult community volunteer "watch[ed] the disabled adults and the elementary and middle school students all work together and be respectful of one another in the garden. It's just amazing. Everyone's so good spirited and helpful. I've never seen people with such challenges be so joyful and caring and have such life to

them. It's really special how this project has created a community" (E. Laury, personal communication, December 07, 2012).

CHAPTER VI.

FACING CHALLENGES

Being in a community is forever a learning experience – Bodhi Searles (B. Searles, personal communication, October 7, 2011).

The Value of Leadership in Sustaining a Project

Mahatma Gandhi once said that "freedom is not worth having if it does not include the freedom to make mistakes" (Pinto, 2006, p. 218) Sustaining a grassroots community project is not an easy thing to do. In the face of all odds, Kaiao Community Garden proved that social capital can go a long way in supporting a vision of "community," even without financial capital. Perhaps having to rely on social capital as opposed to financial capital brought out the best in Kaiao. After five years, Knutson, a main KCG steward, returned home to Colorado. There were a variety of reasons, the primary one being that he was having surgery on his foot and would have to spend several months recovering at his parents' home. But it was also the question of whether Kaiao itself would continue. He departed with an appreciation for what it was.

> Kaiao has impacted the community really beautifully. It was an idea that learned how to sustain itself through community commitment. Just look at how many hands have passed through the garden and helped to create it. Clint and her friends helping to get it going, Meyer drumming it up in the community, everyone else bringing people in and saying "Check this out!" The idea isn't new; it's one of the oldest ideas, but so many people supported it. Anybody who has been a part of one of these projects knows how special it is. Kaiao has changed my life in such a positive way, there's no doubt about it. It's just profound. It drew people of all backgrounds wanting to deepen their commitment to food, friendship, and understanding themselves in Hawaiʻi around this culture, and in the natural world. I know now that working with kids and the community in the garden is where we need to be (E. Knutson, personal communication, February 10, 2011).

Kaiao was sustained through commitment, as Knutson said, but also through friendship. For Searles the "bubble burst" when her friend Knutson left in February 2011.

His “buoyancy and innocence and go-for-it-ness and huge heart, huge, huge heart” supported everyone at Kaiao, including the other stewards. But aside from his character, his physical strength and commitment were difficult to replace. “I started feeling like I was exhausted,” recalled Searles, “like we needed more help; we needed more young people. It started to be just me and Kaneshiro there all the time and I just started to feel like, here I am telling other people to find their joy and I started to not feel joyful about the work I was doing.” Searles said that feeling caused her to question what she really wanted to do with her life. She loved the creative, transformational aspect of working at a community garden project, but after awhile the process started feeling stagnant.

Knutson was not the first of Kaiao’s core leadership to leave. Meyer moved to Aotearoa/New Zealand in 2010, to be the International Indigenous Professor at Te Wananga o Aotearoa, a Maori University in New Zealand. Searles said that Meyer had been “completely foundational” to the project’s success. “She was a driver behind the garden happening with her tremendous enthusiasm and conviction that people and place and culture . . . [were] needed” (B. Searles, personal communication, October 7, 2011). Kaneshiro confessed that losing Meyer changed the group dynamic. “Wherever people needed help we were there, like the A-Team. Meyer would do her thing, Searles would do her thing and I would do my thing. It was amazing all that we accomplished together.… Finding our footing without Meyer was its own challenge. It was really trying to find the rhythm again (J. Kaneshiro, personal communication, February 15, 2012).

Kaiao was an integral part of Meyer’s classes at the UHH Education Department. She would bring 20 or 30 students every semester, exposing new people and growing its base. David Manning, a colleague in Meyer’s Department noticed that after Meyer left,

college groups stopped coming regularly. Manning explained the importance of outreach, saying that sometimes it takes requiring people to come for them to realize the value of the experience and decide to go back on their own. “It takes that initial boost to get going and I think Meyer brought that boost. After she left it was hard to sustain Kaiao because the other garden stewards didn’t have those connections that could require participants to come.” But Manning acknowledged that participants came for more than obligatory reasons. They came because Meyer was the kind of leader who was “respected, motivated and could rally a movement.” But even with solid leadership, in the long run, program resiliency is a product of many diverse forms of capital such as people power (social capital), money (financial capital), a secured location (physical capital), and cultural capital (higher-up connections, advanced knowledge and training).

Manning recalled Searles, who was a past student of his, coming to talk. “I can’t keep it up. It’s costing me money to run this thing; I can’t even pay my own bills!” she told him. He wondered why she and other stewards never took the opportunity to do more grant writing and get external funds to run the project. “No one actually took that by the horns and said, “Let’s just write this $500,000 grant [proposal] and create a science project or something out of it. So that just kind of slipped by everyone’s fingers” (D. Manning, personal communication, February 27, 2012). Peʿa, one of the eldest KCG stewards, also realized their financial instability telling Searles, “You guys need petty cash? Plant kalo for *lau*, edible kalo leaves, and you’ll have petty cash.” With the price of taro leaf per pound, and the amount of taro planted at Kaiao, Searles realized that they could have easily made $75 to $100 a week (B. Searles, personal communication, October 7, 2011). Miller, the Boys and Girls Club Chief Professional Officer (CPO), had

heard a rumor that the stewards were charging upwards of $60/head for some of their community education workshops, but the truth is that every community workshop, workday or class that was ever held there was done for free, as a service. I think Searles and the other stewards refrained from using Kaiao as a source of income out of respect for the BGC, their participants and themselves.

Money was actually never a part of the model on which Kaiao was founded. "The whole idea of money from the very beginning was an understanding that we are in a time of redefining capitalism and what that means for people." Searles took the project on a unique path, which tried not to rely on money but on social capital. She told me that "the power of community is really different when money is involved. It changes interactions between people and takes into consideration the very human experience of greed whereas when there's no money involved it's like I'm really here because I want to be, not because I'm getting something from it." Kaneshiro, Searles, and Knutson committed themselves to years of steady work at the garden with no pay. "We were lucky because Knutson and I had our family's support, Searles took out federal school loans, and Meyer [an established professional] helped financially." The field of support enabling their collective work at the garden was, in Kaneshiro's words, "miraculous" (J. Kaneshiro, personal communication, February 15, 2012).

Arancon, UHH professor of horticulture noticed that Kaiao, like many other commercial farms and community garden projects, was not able to take things to the "next level" to reach economic sustainability (N. Arancon, personal communication, February 17, 2012). Agriculture students interning at community garden projects or local farms in Hamakua noticed that those in charge often have to get other jobs to support

their projects. Students were "turned off," according to Bruce Matthews, Interim Chair of the UHH Agriculture Department, when they would see farm owners spending more money keeping the farm going than it was generating revenue. One student told Bruce that she was transferring to the School of Dentistry because she thought that was the only way she would be able to farm organically, if she has a job to support her farm. She told him, "I don't want to be a monoculture sweet potato or ginger farmer and the only way to be a more environmentally friendly, diversified farmer is to have another job to subsidize it" (B. Matthews, personal communication, February 14, 2012).

Arancon wanted to help the garden leaders make Kaiao more economically sustainable through grants. He said that they were all very good people with good hearts but what was most lacking was a leader who could focus their efforts and channel their energies toward the pursuit of grants. "They can talk about it all day but if nobody put it down on paper it won't happen. I have been there and listened and they have all kinds of vision but they are too scattered; it's too big of a vision and at the end of the meeting everyone gets overwhelmed." Arancon was referring to their vision for building an educational center for sustainable agriculture. They dreamed of turning the garden into a training center, including modules for different groups: one for kids, one for people in the government, and so on.

Their vision was worthy but too ambitious, Arancon told me. How can you have a training course, without a land-base, facility, or other amenities? Who will be the trainers, he asked them, which then led to the idea to conduct a "trainers training." "It's very visionary," he told them, "but how can you do that without the necessary funds? I sense your passion and it's all appreciated, but someone will have to write grants for all of

that." This led them to connect with retired UHH grant writer, Camillia Unguay, whose successful grant writing led to the establishment of an Upward Bound program at UHH.[8] Unguay initially offered her services in writing grants on a voluntary basis but it later proved unfeasible for her. This was another case in point for Arancon on the unsustainability of volunteer-dependent community projects (N. Arancon, personal communication, February 17, 2012).

The group's hope of making their project economically sustainable was dispelled when they discovered that they were ineligible for large land-based grants because Kaiao did not have a formal lease agreement with the Boys and Girls Club. Their project was only eligible for small grants of between five and twenty thousand dollars, which was not enough to staff and sustain a project long-term, especially when the monies could not be used for operational costs, but required an end-product. To the stewards that meant creating additional projects to what they were already doing, such as Searles' grant-funded Lehua Creative Writing Project, a place-based writing class for educators. (B. Searles, personal communication, October 7, 2011).

When Meyer was there she helped Searles and Kaneshiro financially by paying the rent. Searles was also supported by grants and loans as she pursued her master's degree. But then Meyer moved and Searles graduated. She and Kaneshiro started a home juicing business to bring some money in while tapping into their interests in nutrition. It was very successful among the garden community, but not enough money to survive on. Rent was the biggest expense, so the simplest thing to do was for Searles and Kaneshiro

[8] Upward Bound is a federally funded education program within the United States aimed at providing certain groups of students with better opportunities of attending college, such as those who are low-income or first-generation college students (http://www2.ed.gov/programs/trioupbound/index.html).

to move in with family or friends until they could get back on their feet. They wanted Kaiao to succeed so much that they were willing to pass-up employment, trying instead to support as un-paid Kaiao volunteers through ways that seemed more creative and inspiring and community-involving than any well-paying job they could find. Yet at a certain point, they realized they had to let go.

The reality for Searles was that her intuition was telling her that her time at the garden was over. “It starts to whisper to you,” she explained. “In the same way that it was a directive to begin the garden, it’s a directive that you’re done. It’s heartbreaking to get that kind of message that things are going to change. “After I finished my thesis on the garden it was weird. I watched myself energetically step away instead of step toward it. It’s almost like I fulfilled my kuleana [responsibility] there.” Searles began to feel like the community garden project had to be locally-driven. There was a cultural component that despite her 20 years of living in Hawaiʻi, she could not fulfill. “I really felt deep in my spine that it needed to be held and run by this community. And as dear as this community is to me, I am still a visitor here. I really felt like there was a line and I couldn’t cross over it” (B. Searles, personal communication, December 7, 2012).

Searles was speaking of her experience of the racial discordance that exists in some people’s minds between *haole* [foreigner, Caucasian] and Hawaiian. “There were big moments where I was just like ʻI gotta get on a plane and get out of here.’ Big moments where I just felt like ʻI can’t do this!’” What kept her there, she said, was knowing that a lot of the feeling was her own fear and insecurity. She would look around and say, “They’re not feeling that . . . and then there would be ten thousand miracles that

would happen in the next moment" (B. Searles, personal communication, October 7, 2011).

Thompson recalled how Searles would look to her as a Native Hawaiian for help in leading the cultural protocol at Kaiao, such as chanting "E Ho Mai."[9] Thompson tried to help to make Searles and the participants feel more comfortable. "Most people were respectful of Searles but some individuals were like 'Why is this haole leading the chant?' People were kind of offended 'cause they see her physical being, not knowing how many years of experience she had living in the Islands." Thompson said it made Searles self-conscious at times, saying, "People must think of me as…" or "That person is looking at me like, what is this haole doing here?" (N. Thompson, personal communication, February 17, 2012).

As Searles started to pull back from Kaiao, she tried to encourage Kaneshiro to continue. She thought that with her and Meyer gone, Kaneshiro, a fourth generation Okinawan, would become an even stronger leader, especially since she was born in the area. "Kaneshiro grew up here as a community leader. She thinks like the community. It's not such a learning process as it is for me. It's who she is and how she thinks. The moment Kaneshiro got involved in the garden her parents were involved; that's a Hilo girl for you" (B. Searles, personal communication, October 7, 2011). While Searles physically departed, she remained a friend and consultant with matters concerning KCG.

Kaneshiro was the last of the original Kaiao stewards to go. She never considered breaking her commitment to the groups and volunteers who still came until the very end. Kaneshiro told me that all along, it was friendship that kept her coming, especially her

[9] A chant that can be done before learning takes place asking Ke Akua [God] to grant knowledge.

friendship with Searles, Knutson and Meyer. Thus, it was a low time in her life, when the core group all moved away, leaving her alone to lead Kaiao.

The stewards described their friendship with each other throughout the course of the project to be transformational, but their relationships were not without difficulties. Searles said, "The heat of personal relationships is always going to take a vision and throw cold water on it, forcing us to ask ourselves, 'What's real here? How do we get along? How do we grow together? What happens when we have conflicts?" The difficulty, according to her, was that everyone was learning together, simultaneously and the learning curve was not a beautiful one. "It has jagged edges and hurt feelings. You step back afterwards and look at this, and it's humans learning; it's a learning process" (B. Searles, personal communication, October 7, 2011).

Knutson said nearly the same thing. "There's always going to be crazy dynamics with people working together on a project; there's always going to be that kind of learning curve, with a little bit of drama, but eventually you learn to look past it." He went on to say that despite the drama, there was nothing like working with people whose characters you can trust. When people have conflicts and resolve them, it only deepens the bond. "It's been amazing sharing friendships like that" (E. Knutson, personal communication, February 10, 2011). KCG stewards agreed that they learned so much about themselves in the process of learning how to work with others.

In addition, Searles and Kaneshiro said that they learned about the unsustainability of "idealism" and the "practical reality of coming to the ground" in terms of what they can and cannot do. It helped Searles to get honest with herself. "From an idealistic perspective I should be out in the garden every single day and I can do this

single handedly, but the reality was, not at all. It's a big work to keep a garden going, then classes from UH, and then making food and everything. You need a community." She said she learned, moreover, that "community work is enlightened work" in that you have to know who you are. "You have to be there wanting the best for everybody and that takes tremendous commitment and not duty. Commitment is different from duty. Being in a community is forever a learning experience. You think you understand it and you get to be a beginner all over again" (B. Searles, personal communication, December 7, 2012).

Kaneshiro said that when she joined the project five years earlier she really just dived in, ready to devote her life and practice to the vision of Kaiao. She said she learned to fine tune her strength of commitment and enthusiasm, so that it was no longer what she called an "innocent, naive devotion." "It's realizing that I don't have to throw myself off a cliff and trust that the universe is going to catch me, which is kind of how it started." Yet idealism was important. Kaneshiro stated that they needed "that idealism to get it going" (J. Kaneshiro, personal communication, February 15, 2012).

As participation in the garden declined, Thompson observed, "The garden is kind of like done. Nobody seems to go anymore." I could sense frustration in Thompson, a steady volunteer for over five years. "A community program" she said, "needs a strong leader who is able to go out and talk to the people about its benefits. Before, that was Meyer and then it was Meyer and Searles, and then when Meyer left it became Kaneshiro and Searles, but now it's only Kaneshiro." To be a committed leader without pay was hard, she said, because you have to find some other way to make ends meet. It takes a lot of time and commitment before a program like this starts to pay off, and Thompson noticed that the leaders didn't seem to want to put in a lot of time at the garden like they

used to. “They’re not really going out into the community and getting groups to come to the garden anymore.” (N. Thompson, personal communication, February 17, 2012).

Adding to participant decline were some value struggles and differences of opinion among volunteers. In one instance, Micronesian men foraging for food and perhaps income (from the sale of the food) to support their families came to the garden to collect breadfruit from the many trees lining the adjacent road. None of them spoke very good English and no one from the Garden spoke any Micronesian languages so they did their best to overcome the language barrier through broken-English and gestures. The men came with large potato sacks looking to harvest several hundred pounds of breadfruit. Since there was so much fruit and not many people in the neighborhood eat this traditional staple food (unfortunately), Kaneshiro allowed the men to pick them, which she knew would otherwise go to waste. Since they were willing to climb the 50 foot trees for the fruit at the very top, Kaneshiro kindly asked them to pick only the highest fruits and leave the low-hanging fruit for those in the community to be able to pick with bamboo pole nets. Kaiao was a garden for everyone and Kaneshiro wanted the Micronesian men to feel included. She even considered taking a community workshop to learn more about the Micronesian population since they are often an isolated group.

Kaneshiro spoke mainly with Lewis, who spoke the best English of the group, and asked him to share her request with the others. But apparently some did not get the message. This led to a disagreement with Uncle Primo. A kind-hearted 70-year-old KCG volunteer, who despite being born with just one arm, was one of the fastest and hardest working “weeders” in the history of Kaiao, he noticed one day that the breadfruit were ripe. But when he came back with his picker a day later the formerly fruit-laden trees

were now bare. His believed that one should take only what one needed and leave the rest for everyone. But another group had "cleaned out as much as possible, leaving none for everyone else." This instance, combined with the fact there were fewer and fewer volunteers to help, and weeding began to feel like an impossible effort alone, led "Uncle Primo" to stop coming. "I helped as much as I could, but it was disappointing to see all my hard work go back to weeds. I tried my best." (P. Valderrama, personal communication, August 11, 2012). I do not think he ever told Kaneshiro why he stopped coming. But then again, she probably would not be able to explain the Kaiao philosophy to his satisfaction, that it was not just about having a beautiful and bountiful garden. It was more about the process than the product, and part of the process was learning how to work with others in our community who are different from us.

Another complaint by some was that Kaiao was in a sense too "new age" to be accessible for some people. Thompson heard people complain about others "sharing too much of their spirituality in circle time." But she acknowledged that was their right, from Kaiao's democratic perspective. (N. Thompson, personal communication, February 17, 2012).

Mathews echoed the criticism. For all the benefits that came with linking his students to community projects – like access to local elders and traditional knowledge – it was more difficult than teaching a standard course. "It was challenging when we would circle up to do Hawaiian protocol and some people would bringing in their spiritual views. He said that the Hawaiian protocol was appropriate, but led some people to believe that they had the right to expound on their personal beliefs, which made some of the students in the class feel uncomfortable because it was an academic class." Bruce

decided that he did not want to deal with those kinds of dynamics. Then people within his Department's administration started asking, "Why not start garden projects on the UHH campus?" So the partnership ended (B. Matthews, personal communication, February 14, 2012).

Kaneshiro admitted how easy it was to forget that not everybody shared the leader's eclectic world views or personal intentions for spiritual growth. They were trying to create a space for everyone in the community, but not everyone was ready or willing to "hold hands and sing Kumbaya" she said jokingly. Even to some of the stewards themselves, the philosophy felt a little "pushy" at times, "rather than just doing it." "Kaiao was a place to put your hands in the soil and work and not just a place to talk about an ideology, which it sometimes got to that. The garden [was] a place to work and learn from the land itself." (J. Kaneshiro, personal communication, February 15, 2012). Stewards like Kaneshiro and Peʻa grounded ideas into applications. For example, they taught that a traditional method of Hawaiian learning was to *nānā ka maka*, look with the eyes; *hoʻolohe ka pepeiao*, listen with the ears; *hana ka lima*, do with the hands, and *paʻa ka waha*, keep the mouth quiet (Peʻa, personal communication, February 17, 2012).

Another difficulty came with personality dynamics. As much as Meyer was a respected Kaiao leader, her strong personality was intimidating for some and caused conflicts with others. "Meyer would tell me I should get my PhD in education and that there are PhD programs here and PhD programs there," recalled Thompson. And I would always say 'I don't want be a part of the Western system. I did it already. I have a master's [degree] that's good enough for me.' But Meyer would always say, 'Oh but we need more Hawaiians…' and she would push, push, push." Meyer, who believed in the

power of education for individuals and communities, would never take no for an answer, according to Thompson. She would respond to Meyer's prodding with, "You always come here and grumble about the system, grumble about the professors. Why would I want to become part of that? I don't have anything to prove; I don't have to get a PhD. I got my PhD already in language, in gardening, in culture, in life." There were a couple of disagreements where Thompson would end up walking away and working on something else (N. Thompson, personal communication, February 17, 2012).

Kaneshiro described Meyer as having a "huge devotion to supporting community…as well as a personal commitment to her own opening and compassionate growing and loving. It's really incredible. It's so strong. From the moment she wakes up till she goes to bed. Like when people say, 'You rest when you die,' she has that. She's going for it non-stop" (J. Kaneshiro, personal communication, February 15, 2012). For many of the garden stewards, being around Meyer was like a reawakening to their own personal growth. But not everyone was ready for deep introspection and sharing. Hagura was a KCG volunteer for many years. As a Japanese foreign exchange student she valued the friendships and community that Kaiao provided for her.

At Kaiao, Hagura started questioning her life. Meyer always got everyone talking about how they felt and what they thought and how they could do good. They would say, "Let's do such and such and would accomplish it quickly," Hagura recalled. Sometimes she compared herself with them. They tried to be intentional about everything they did, asking themselves "Why am I doing this?" And they seemed clear about the answer. But Hagura wasn't clear. People would share with the group deep, introspective reasons of why they were coming to Kaiao, but Hagura said her only answer was "Because I just

want to come." She said she did not know the deeper reason. "Maybe I avoided understanding because I felt threatened. I think my education in Japan erased having thoughts of my own. Everyone has the same textbook, the teacher teaches, and the student cannot ask questions. You are made to feel like you're disturbing the class with a question." Hagura said that Meyer always asked lots of questions and many times she could not answer. She knew that Meyer's classes were based on dialog and discussion and that had become Meyer's interpersonal style, but Hagura started feeling like she did not have any thoughts to share. She started to feel afraid (N. Hagura, personal communication, February 16, 2012).

When Hagura first came to Kaiao, she did not have any friends or community. Kaiao helped her to open up and she felt safe practicing her English skills among all the people who came. As an artist, her gifts were valued and she had the opportunity to work with children in painting garden planter boxes and with youths making the Kaiao mural on the Boys and Girls Club wall. But the emotional disclosure which helped her to feel open and safe got to a point of being scary. This was entirely new territory for Hagura. She felt guilty for not being able to assimilate with the group. Personal growth asks us to stretch ourselves in new ways, and that can be a very difficult and uneasy process, especially for those who would not intentionally put themselves into uncomfortable situations for the sake of growing. "At that time I was thinking about going to school, choosing a profession, not searching for the meaning of life. Searles just keep telling me, you're just going through something; it's okay if you don't come. So I quit going to the garden. I felt guilty about it and went through kind of a depression period" (N. Hagura, personal communication, February 16, 2012).

After some time Hagura returned to the garden, but just on Saturdays. “I came back to the garden because of the people; I missed them.” Although it was difficult for Hagura to think about the harder questions in life, she credits Kaiao for making her think about the questions. She realized that she did have a gift, which she needed to pursue. Hagura is a talented pianist. As she began practicing, her confidence came back and she reunited with her friends at the garden (N. Hagura, personal communication, February 16, 2012).

By the time Hagura returned to the Garden there was a buzz going around among the volunteers that a transition of leadership was happening. Months after Searles left, a group of friends in their 20s who lived in the neighborhood and had volunteered at Kaiao over the years while attending college stepped forward to help. Alex White, Jane Bontuyan, Ryan Peters, and his brother Matt Peters knew that their own young lives were subject to transition, but they were willing to commit to helping in the interim. In order to raise money for much-needed garden supplies, the new leaders held a garage sale and did I-Ching readings at the Hilo Chinese New Year Festival to raise money (N. Thompson, personal communication, February 17, 2012).

Pressey, Support Specialist for the ADH Group, told me he thought the transition went smoothly. “We miss Searles and Kaneshiro. Our clients were really sad to be missing someone that they like. But they are really open to people so they took to [the new stewards] very quickly.” The new stewards breathed new life into the garden. “It’s been nothing but positive. White and Bontuyan seem very focused and have a lot of good goals. There’s a lot of forward momentum right now and we’re jumping on board with that! I mean we’re getting to do more work and that’s good” (J. Pressey, personal

communication, February 2, 2012). Knowing this put the original KCG leaders' minds at ease. "When you see a whole new group of people coming in, looking for the space and freedom to explore and create at the garden, it's easier to let go" (B. Searles, personal communication, October 7, 2011

> Everyone seemed to accept the change. As Manning said, every project runs out of steam. "It's all part of the cycle. It all ebbs and flows. The only way to really keep it alive is to get people who are interested and willing to share a piece of themselves there" (D. Manning, personal communication, February 27, 2012). Searles understood all of this. "I think the big thing is to just say, "The energy shifted, it changed, and change is a good thing. It's inevitable" (B. Searles, personal communication, October 7, 2011).

Mitchell, a KCG volunteer and cultural practitioner, believed that Searles, Kaneshiro, Knutson, and Meyer planted a seed which sprouted in the youth of the community. It was there for the entire community to take part in, he said, but mostly it was there to support the children and youth; that was the whole focus. It was a place for youths to learn environmental sustainability through growing their own food. "I believe that the spirit of Kaiao will continue on with the youth of today and be a place for others to come and put their hands in the earth and learn about the need of self-sustainability in Hawaiʻi" (A. Mitchell, personal communication, February 27, 2012).

The Value of Partnership in Achieving Common Goals

That's our property and we're gonna take it back – Candice Miller (C. Miller, personal communication, March 7, 2012).

The new leaders of Kaiao Community Garden had high hopes for a renewed partnership with the Boys and Girls Club of the Big Island (BGC) when in January 2011 the BGC hired Candice Miller as their new Chief Professional Officer (CPO) to manage their six program sites, including the KCG site (Boys and Girls Club of the Big Island, January 11, 2011). Knutson told me he believed that the new CPO was going to say, "I want this garden project funded and supported and I want a juice bar and a certified kitchen. I want people to be out there full-time growing food and bringing it down so we can feed kids here at the club." He envisioned the garden growing into an "even bigger community" that was capable of "feeding people in Hilo" (E. Knutson, personal communication, February 10, 2011).

Miller was coming into the position with a master's degree in Public Health and a "strong background in gardening." She had previously founded Hoʻoulu ʻĀina, a community-building/active living garden project in Kalihi Valley on Oʻahu, and owned a farm on Hawaiʻi Island. She said she believed in the philosophy of "getting youth back in the dirt" and expressed plans for securing grant funding to build a certified kitchen at the BGC for the preparation of food from the garden (C. Miller, personal communication, March 7, 2012).

Knowing Miller's background, Knutson was expansive in his hopes. "It's really a strong point that the Boys and Girls Club is going to get more involved because they're a huge resource. It's an opportunity for them and for us because they have the opportunity to put in money, an opportunity to direct kids into healthy food." What the KCG stewards

did not realize was that *they* were not a part of Miller's plan. After several months, she expressed her intentions to the stewards, which she later reiterated to me in our interview.

> That's our property. That's our place, the Boys and Girls Clubs' place….We're going to take it back, you know? Ultimately we are gonna take it back. We need to; because our kids need to be back there. But we're not there yet [in terms of being able to manage the garden]. It's a huge benefit, looking forward. It's a huge direction we want to go in, having ourselves feeding the kids with snacks coming out of the garden. They're planting it, they're harvesting it, they're feeding themselves. That's my vision. We're also going to build a certified kitchen. We can tie the garden into the kitchen and do a whole food service, culinary vocational training with the teenagers. The options are huge.

In the five years before Miller was hired, and since the BGC Board granted permission for locals in the neighborhood to start a community garden at the Club, the organization had seen five different CPOs. Thompson recalled that the past directors were "not so strict about having somebody outside of the Boys and Girls Club in charge of the garden." She said that KCG stewards took it to the Board in the very beginning and said, "We think we can make use of the land" and basically the Board said, "Ok, it's in your hands. Do what you see fit with the garden." The Board was pleased to have the community make use of it. Historically, the land had had been cultivated by Hawaiians for dry land taro, and later for additional food crops and commercial crops like sugarcane, after the establishment of the missionary-run Hilo Boarding School in 1836. But the proposed 1.5-acre plot of the 17-acres of Hawaiʻi County leased land that the Hilo BGC site controlled had been overgrown and unused for many years, perhaps decades since it was originally founded in 1952 as the "Boys Club of Hilo."[10] While the BGC Board gave KCG stewards a free hand on the land, leadership and staff turnover in the BGC contributed to institutional memory loss and a breakdown in communication between the

[10] The organization started as a "boys" only club. Girls were welcomed in 1988, when the organization name was changed to the "Boys and Girls Club."

two groups over such things as changes in programing and schedules, new policies and procedures, and shifting goals and expectations.

Miller spoke to me about the difficulty of trying to piece together information and rebuild an organization in such disarray. "When you have this much turnover in an organization you have some instability, you tend to lose focus, to not find a rhythm and stay with it and grow from it organizationally, as far as mission, programing, staff, infrastructure, systems, community relationships, everything. It needs a solid continuity (C. Miller, personal communication, March 7, 2012).

During the management of all five previous CPO's, the KCG leaders used their autonomy over the garden to create rich and diverse educational programming based upon needs in the community. And this was without any funding from the BGC. The KCG leaders did not conduct "community needs assessments," but created a wide open space, so to speak, and continually put out invitations to the community through word of mouth and multimedia advertising[11] that anyone and everyone was welcome to create a new project there or participate in an existing one. Their openness and enthusiasm attracted a wide range of groups

As Miller settled into the position, communications between her and the KCG leaders became what she called "strained." Among the stewards, there was a high level of uncertainty for how their lives and those of the garden community would be affected under her direction. The Board had granted the KCG stewards permission to use the land,

[11] Stewards created three unique websites relating to garden projects; paid for advertisements in the newspaper inviting community members to free workshops and regular garden workdays; handed out print brochures and published e-articles about the garden on several food websites including the Hawaiʻi Homegrown Food Network, Natural Farming Hawaiʻi, and the Kohala Center's Hawaiʻi Island School Garden Network.

but no formal agreement was ever made and the length of tenure was left open-ended. Use of the land was, as several stewards put it, "on a handshake agreement."

After her arrival, Miller established new rules around liability and safety. Legalities and liability waivers had never come up with past CPOs. Instead it was a partnership based on faith and trust. Knutson said that the stewards were aware of the risks involved with allowing children to work with sharp tools and allowing people from the community to come in and work with the youth, without a prior background check. However, they took precautionary measures. For example, the youth had to become "certified" before using potentially dangerous tools. Safety and responsibility were continuously stressed by the stewards. For example, if any kids were caught running around with tools, they would be taken away. The youth enjoyed worked with the tools and therefore took their responsibility seriously. In terms of the credibility of the KCG volunteers, Kaneshiro said that they had built a community of respect and shared values where everyone was socially accountable for everyone else. It was a tight-knit group of regular volunteers, most of whom had known each other for years. They trusted one another's background, character and judgment. New volunteers were "screened" through friendly and natural dialog at the beginning and in the course of working together, about how they heard about the garden, why they wanted to participate, where they were from, their views on life, and so on. Still, the stewards realized that things were about to change. Knutson explained,

> They're more interested now in liability and bringing people through the Boys and Girls Club instead of just through the 'backdoor.' . . . That's going to be a huge change. That'll shift the nature of how things are run there just because we've been running purely on the blessing of cooperation, shared vision, and just watching each other and trusting (E. Knutson, personal communication, February 10, 2011).

Kaneshiro said that the whole philosophy behind KCG was complete openness and love. In the true Hawaiian style of aloha, they invited people to "Just come! Come!"[12] "Come, no matter your culture, your background, your spiritual beliefs, no matter if you've been in jail for the last 20 years, come! Of course if your main focus is keep kids safe, then that means keeping recent convicts away." (J. Kaneshiro, personal communication, February 15, 2012).

This is not to say that accidents cannot happen; they can and do, even under the best of circumstances. According to Bill Sakai, a professor in the UHH Agriculture Department who taught Searles and Knutson, an accident recently occurred at the Haʻaheo Elementary School garden. One of the students accidently hit another student on the head with a hoe. The injured student was sent to the emergency room and needed five stitches. Even though it was an accident, the school administration decided to shut down the school garden program due to liability. This was unfortunate news to Sakai. He believes that people are too concerned with liability these days. "On our UHH agriculture farm when they get too concerned about liability, a lot of programs suffer" (B. Sakai, personal communication, March 19, 2012).

Miller was mostly concerned with the openness of the garden and the possibility of child predation. She realized that people were used to "it just being open" and said that "created bumps in transition." "Previous directors had no hold on who was coming in or out or even trying to understand it," she explained, "or really being able to control it. So we're putting policies in place, we're requiring accountability from people using our

[12] Traditionally it was a custom in Hawaiʻi, never to judge a stranger. Rather one should express aloha and reverence for strangers. If a stranger passed by one's house the polite thing to do was to invite him in to share food, friendship, and conversation. They would say, "*Hele mai! Hele mai e ai!*" Come! Come and eat! (Veary, 2000).

facilities. We need to know who they are." Miller was interested in avoiding the possibility of a "worst case scenario," such as "someone ending up in the bathroom with our kids and that person's not okay." Ultimately the BGC would be liable for that, so she felt the need to have greater control over who was there. She cited incidences of child predation, not at the BGC but in the neighborhood, which she considered to be "close calls." Miller reminded her staff to be suspicious of people they did not recognize and approach them in a friendly but direct manner such as, "Hi, who are you? What can I do for you? Why are you here?" (C. Miller, personal communication, March 7, 2012).

As important as security and liability are for an organization, her suspicion, divisiveness, and control seemed excessive for an organization striving to be "community-based." Unfortunately, Miller's drive for accountability also contributed toward lowered social capital in that it fostered a culture of rumor, blame, and judgment among her staff, with the KCG stewards being an easy scapegoat. She said,

> We've had reports of kids chasing each other with machetes in the garden. What happens if someone's arm gets cut off? It's not always that tightly controlled, you know? 'Cause they're also trying to be open to the community. So sometimes on the weekends, families will come in doing *God knows what*.

From my own observations of the garden for over two years and in my talks with dozens of community garden leaders and volunteers, none of these rumors were true. As the CPO, Miller could have suspended judgment until speaking with the community gardeners about the rumors. In Miller's defense, she was coming into an organization in transition and might not have had time and energy to follow up with the KCG volunteers. Perhaps she assumed the role of an authoritative leader because that was the most efficient way of moving forward. Perhaps believing the rumors helped to justify taking back the garden. In any case, she sought to change the direction of the organization and

bring it "back from the wild." She told me that it was a time to look at everything her organization was doing, refocus, and reassess. She had to determine where to draw her boundaries; what to require of people coming through; and what they needed to survive as an organization and "not put themselves at risk to lose everything over being too lenient." This required what she called a "tightening up all around" (C. Miller, personal communication, March 7, 2012).

The mission of the Boys and Girls Club of America, of which the Big Island club is an affiliate, has always been to enable all young people "to reach their full potential as productive, caring, responsible citizens." Its core beliefs include "a safe place to learn and grow; ongoing relationships with caring, adult professionals; life-enhancing programs and character development experiences; hope and opportunity." The organization also strives to reinforce "a sense of belonging, personal accountability, civility and civic responsibility" (Boys and Girls Clubs of America, 2012). It had always been the intention of the KCG leaders to primarily serve the BGC youth (N. Thompson, personal communication, February 17, 2012).

From the beginning, KCG was very popular with the BGC youth and their parents. Hansen recalled that many of them "wanted to spend all their time in the garden." He said it provided an exciting, new afterschool activity as an alternative to the everyday ones like softball. Hansen believed that it "really does help the youth see that there are other options for them, especially in Hilo, where free, healthy activities are limited." The garden was a healthy activity for the BGC youth in terms of building a positive self-esteem alongside community role models, being physically active, learning life skills and cultural values, getting fresh air outdoors in nature, and exposure to a

healthier diet. Hansen recalled that the youth would occasionally be sent home with fruits and vegetables from the garden. At first some parents would say, "Ho, what you wen give my kid fo' bring home, l'dat?" But after a while those same parents would ask, "Hey, do you guys have any more of the greens? We threw them in with our saimin and it was good!" (E. Hansen, personal communication, December 6, 2012).

When Kaneshiro first came to the garden in 2007 she and several other KCG volunteers came "every single afternoon" to serve the BGC youth. At that time the BGC was "a lot less structured." The staff did not have to schedule everything in time slots and create weekly curriculums in advance. It was relatively low-key. "The youth and the BGC staff would come when the weather was good and they were free and it just all worked out." Whenever it did not work out on one of their ends, both sides would try to call the other in advance. But even if no call was made, it was not taken personally, at least in the beginning.

By 2008, the KCG stewards realized that they could not just show up every day and hope that the weather would be good and that the BGC youth would come out. They communicated to the BGC director that they wanted their time to be utilized more efficiently as volunteers. Both sides agreed that they would commit to coming three times a week. Kaneshiro explained that when a group from Hilo Intermediate committed to coming every Tuesday, the KCG stewards still invited the BGC youth to garden with the other group even though the stewards had committed to servicing the BGC only on Monday, Wednesday, and Friday afternoons. With three days scheduled, and a fourth day optional, the BGC staff would still only bring the youth one or two times a week, due to bad weather or scheduling changes at BGC (J. Kaneshiro, personal communication,

February 15, 2012). Knutson noted that a couple of the BGC staff were "really into the garden" a few years ago and were there, rain or shine (E. Knutson, personal communication, February 10, 2011). But as the BGC experienced staff turnover, the new hires did not show as much interest in the garden and that played a role in the level and nature of their participation.

The KCG stewards learned that the BGC had started scheduling time slots for other youth activities and that the previous arrangement did not match up. For example, the BGC stopped scheduling Fridays as a garden day, even though the KCG stewards had been showing up on Fridays expecting them to come. The stewards met with the site director again and said, "Okay let's schedule these new days so we're both showing up." That led to scheduling garden activities with BGC youth only two days a week. This worked for both sides for a while. Searles was busy writing her master's thesis and there were other commitments in their lives. When Meyer, Searles, and Knutson all left and just Kaneshiro remained, she told the BGC that she could only manage coming one day a week. Still she tried to be accommodating by coming on the day that was best for them (J. Kaneshiro, personal communication, February 15, 2012).

One of the BGC staff told me her side of the story. She said the "problem we had with the garden" was that schedules on both sides did not match up. The relationship between the KCG stewards and the BGC was never clearly explained to her. She did not know who the garden "belonged" to, the BGC or the community or if the BGC could bring youth there if the KCG stewards were not present. This was an unfortunate miscommunication on behalf of the leadership on each side that only served to fuel Miller's discontent with Kaiao.

> We haven't had staff who have really embraced getting out there in the garden partly because the community has had such a strong ownership and there is a sense of stepping on their toes. What if we dig in this area and they don't want us to dig in that area. We shouldn't touch this plant 'cause someone out there planted it. The ownership is not with us and it's caused a huge rift (C. Miller, personal communication, March 7, 2012).

While there were some miscommunications and scheduling conflicts, it did not mean that the KCG stewards did not try to work with the BGC youth. Hilo is known for having months of continuous rain during certain seasons that could have contributed to "months with zero participation." But their years of commitment to the Club was undeniable. Unfortunately, the BGC staff did not seem to realize that the KCG stewards and volunteers were giving up their time, money, and energy in service to the Club. The result was blame and excuses instead of taking responsibility for the lack of collaboration. Thus, in addition to the difficulties of sustaining years of volunteer service in conjunction with personal and professional responsibilities, the KCG stewards likely felt unappreciated, contributing to their declined participation. Yet they did not speak negatively of the BGC (C. Correa, fieldnotes, March 1, 2012).

Like Knutson, Kaneshiro thought they were going to see a renewed relationship with the BGC upon Miller's hire. That was until the KCG stewards were shocked by rumors that Miller had thought the KCG stewards were doing things either behind her back or in spite of her. When Miller gave the KCG stewards a stack of liability forms, Kaneshiro went down to turn hers in that same day. But most of the other KCG volunteers did not. It was nothing personal; they just did not make the time or feel it was necessary after years of service. Kaneshiro thought that "Miller was probably thinking, 'They don't even respect me enough to fill out liability forms.'" In addition to this misunderstanding, the stewards heard that Miller had said negative things about Searles,

which were confirmed in speaking directly with Miller. Still Kaneshiro thought she could fix the relationship.

> If it's only liability and Searles is moving on, then we can make this good, but then every time we met it was like, "You're not doing this and this and this…. Oh, but you guys are doing such a good job!' And it was like ick! Ten minutes of complaining about what I'm not doing and 30 seconds of "Oh, but we're so glad you're here!" I was really trying and trying and trying and after a while, it was like if I'm true to myself it's knowing that the time is shifting (J. Kaneshiro, personal communication, February 15, 2012).

Part of what made it so difficult for Kaneshiro and others to continue volunteering in the garden was that there were so many restrictions. "The whole focus of it [had been] to be open and welcoming and the philosophy [had been] that we learn together, we work together. We [didn't] say, 'No you can't come because you haven't filled out the liability form.'" In the end, the leaders cared enough about the community garden that they were willing to leave just so that it could continue (J. Kaneshiro, personal communication, February 15, 2012).

An example of conflicting perspectives occurred before Searles had left the garden for good. Miller had told Searles that the youths should not be hugging and sharing aloha with adults. She wanted the KCG volunteers to put a distance between themselves and the youths, even though sharing aloha by greeting people with hugs was part of the culture at Kaiao from the beginning. "Searles really took that to heart. Most of the kids from the Boys and Girls Club took to her. So when that issue of not hugging in greeting arose, that was hurtful for her." Searles wondered how she could express the values of *aloha* or *malama ʻāina*, which are explicitly a part of Kaiao, when you "can't even live it." That was when Searles said that she started losing her connection with the place (N. Thompson, personal communication, February 17, 2012). Miller had strong

judgments about the KCG stewards as "real earthy, farm people." In our interview she said, rhetorically, "What's the point of the garden? To get the kids in the dirt or make them "tree hug" [a derogatory reference to environmentalists]?" That statement demonstrated that Miller did not understand the Kaiao philosophy.

There was one issue in particular that fueled Miller's judgments. Some of the BGC students felt uncomfortable with the Hawaiian protocol. Kaneshiro thought it was because they didn't know the chant. It may also have been because the Hawaiian students had a racial bias against a non-Hawaiian teaching them a Hawaiian chant. Occasionally I had observed some tension occurring during the Hawaiian protocol. The mistaken conclusion was that garden people were forcing groups to do Hawaiian protocol and making people feel bad if they did not know it or did not want to do it. This was far from the truth. The garden people were always open and accepting of people, no matter their backgrounds, beliefs, or abilities. Their intention was to honor the place, Kaiao, in the context of Hawaiʻi and the host culture (J. Kaneshiro, personal communication, February 15, 2012). Miller's misunderstanding of the issue was based on second-hand knowledge, and she may have also used her imagination in filling in the gaps. She told me,

> Doing cultural protocol in the garden is a sensitive issue because it needs to be done in such a way that's accepting to all peoples. And my understanding is that in the past it was not. If you didn't buy in to that you were asked to leave…. You ended up with a white person leading it and a Hawaiian kid who left and won't come back. And so, from the kids perspective, it's, "Who the hell are you telling me how to oli and how to value this? That is my culture!" . . . That girl was really put out, a Hawaiian kid put off by Searles treating her like she was not being Hawaiian enough. To me that's not acceptable in any way shape or form. I'm sure she didn't intend that but I can also imagine how she came off (C. Miller, personal communication, March 7, 2012).

According to Kaneshiro, Miller misunderstood what the garden was about – a multicultural community, reflective of the greater Hilo community, led by a multicultural

group of leaders – a Hawaiian, a New York Jew, a Hilo-born Japanese American, and a Colorado Rocky Mountain young man – all trying to understand themselves within the context of their home, Hawaiʻi. Including Hawaiian protocol was a way for the stewards to acknowledge the culture that is rooted here and to enable it to be a common ground, a shared value system, for people of diverse backgrounds to learn respect for one another and respect for the ʻāina.

Kaneshiro was a fourth-generation Japanese American who grew up in Hawaiʻi, but she would never call herself Hawaiian. "I grew up here and see the value of the culture that has existed here for thousands of years. I don't know that culture because I didn't grow up with it, but I can look at it from the outside and have such respect, and know how important it is." But she also has over 100 years of family tradition here in Hawaiʻi, not as the host culture, but as someone whose ancestors immigrated here. "Hawaiians who have a core understanding of the winds and the other elements, know the value of the cycles of growing food, and understand the land and its relationships…. I'm in awe of that. It's that idea of equanimity. I can respect Hawaiian culture and still have a deep sense of my own value as a local Japanese."

While the drama unfolded, Manning, Searles' teacher, told her that "in order for Kaiao to succeed it needs the Boys and Girls Club leadership to buy into it. It's not gonna happen any other way" (D. Manning, personal communication, February 27, 2012). Moreover, Kaneshiro realized that she needed to pass on the leadership of the garden if there was any hope of sustaining it. Fortunately, four former KCG volunteers were moving back into the neighborhood and were interested in becoming the new KCG leaders. Kaneshiro informed White, Bontuyan, R. Peters, and M. Peters of what was

going on, but "tried not to put her story on it." She hoped that they might be able to have a good relationship with Miller and the BGC even though she could not. The new leaders were cautiously eager. Bontuyan said, "We are hoping to make the garden last because it has meant a lot to us and to the community" (J. Bontuyan, personal communication, February 28, 2012).

White said that he knew the relationship between the original Kaiao leaders and the BGC was "shaky" and that "communication could have been better." "We're trying to get a pono relationship going with Miller and her staff that serves them and also serves the greater community. Their concerns are liability and we're willing to work with them on that" His goal was to get the staff involved and offer garden-teacher training. He reasoned that, if Miller was getting her misconceptions from the staff, then getting to know them and offering help was a way of patching the relationship (J. Bontuyan, personal communication, February 28, 2012). He had seen one of the staff members trying to cut down a banana tree with pruners and from the wrong direction too, so he recognized a need for more education. Getting the staff involved would make it easy for them to go back there whenever they wanted and be able to access the right tools. "These are tasks that call on us to be well-organized," he told the group of new leaders. "The clearer we can be about the tasks that need to be done the easier it will be for the staff to jump in, so we don't have to be there at every class" (A. White, personal communication, February 28, 2012).

M. Peters told me about the new leaders' intentions of scheduling a meeting with Miller, to discuss the liability aspect. "There's some concern that the garden is not serving Boys and Girls Club directly even though it's on their land. Students that have

been involved are coming from other institutions. So we want to reintegrate the Boys and Girls Club kids." With the most farming experience of the group, M. Peters was establishing procedures for sustainable vegetable production. "If there were at least some basic notes on how we did this or that, people could follow it. With the decline of KCG participants, the garden was overgrown in some parts and was not producing much food. The new leaders hoped that with some effort they could make it productive once more.

Multiple times the new leaders tried scheduling meetings with Miller or her staff. Finally, they were able to schedule a meeting with Weldon Smith, a BGC staff member, who they would be working with in the garden. I attended the meeting. Smith told the new KCG leaders that the BGC had just 25 teens enrolled in their program compared to 80 teens a few years before. He said it was because the teens find the BGC program boring and do not respect it. They sat through school all day and afterschool they came to the club, but it was more of the same. So usually they just sat and "talked-story" or played on their phones (C. Correa, fieldnotes, March 1, 2012).

The BGC was a standards-based educational enrichment program with accountability to its grant-funders. Smith was having trouble meeting the educational standards in the garden. Desperate to engage the teen group, he gave some of them a sledgehammer to break down the Kaiao teaching platform which could have been repaired but Miller wanted taken down. Smith said they complied because they "like to break and ruin things." He told them that Miller did not want the wetland taro patch and they could pull out all of the taro plants, to which they cheered, since that meant more destruction. But when he asked them to clean up afterwards, they snubbed him. "They only want to make trouble," he said.

Smith acknowledged that the CPO would not have been happy about the teens using the sledgehammer because of the liability. However, playing into the teens' negative behaviors was the only way he could think of engaging them. He asked the KCG stewards, "How do you make them want to do it without forcing them to do it?" Smith confessed that he usually resorts to "bribing" the teens with food from McDonalds to get them to listen to him.

With the younger kids he confessed to also rewarding them with snacks if they complied. Smith would tell them that in order to get the snack they would need to first sit and listen to his lesson. He taught them a few things about plants that he had learned on the internet, such as the plant life cycle. After, Smith gave them the information and the snack, he asked them what they wanted to do in the garden, but they did not know, for they had not been shown. They would end up throwing rocks and hurting people. His conclusion was that "the garden was not very successful with any of the BGC kids."

Smith confessed that when he would take a group of youths into the garden, he would not know what to say. So he would walk around the garden with his group and ask the youths to tell him what they saw and what they knew. But they did not know much, because they had not been taught. Smith asked the KCG stewards for ideas on what he could do with the youths "besides dig in the dirt." The new leaders graciously agreed to help him in the garden (C. Correa, fieldnotes, March 1, 2012).

The new leaders informed the community groups who had been coming to Kaiao that their participation would come to an end unless an agreement could be made with Miller. Nako and Daubert, Goodwill Industry Support Specialists for the OIKH "at-risk" youth program, said they understood that with new leadership come new policies.

Daubert said that they and their youth would be disappointed if they weren't allowed to participate because they had put so much energy and love into the garden. She hoped that the CPO would see the work that they had contributed over the years and what KCG meant to them (K. Daubert, personal communication, December 13, 2011). Nako said that his group appreciated how committed and steady the KCG stewards had been toward his group.

> Both parties understand that Thursday is our workday and unless weather is a factor we'll make contact with each other to reschedule or cancel or what not. For us it's nice to have a reliable place where they're familiar and we're familiar but they can continue to get benefits from it. For us, we have to meet certain benchmarks for leadership development and adult mentoring and life skill training and vocational training. And they get a lot of that from just being at Kaiao, both directly and indirectly, they're able to get that. So if we weren't able to come to Kaiao it would be a lot of value for the kids being lost at once (A. Nako, personal communication, December 13, 2011).

Pressey, ADH specialist, also said that not being able to come to Kaiao would be an irreplaceable loss for his group.

> My clients would be missing out on a lot. There's not another forum like this. Our ability to interact with such a broad spectrum of people and plants and derive this much enjoyment being in nature is amazing. We would have a really hard time finding a way to substitute that. It's different than just going to the beach or even walking through a botanical garden. Here you can actually get your hands in there and do some work. They would be missing out on the education that's provided; the satisfaction of being able to produce something living; and the opportunities to make genuine friendships with people in their community (J. Pressey, personal communication, February 2, 2012).

Miller expressed to me her feelings toward those who had cared for the garden over the years, "I think they've done great stuff but are we indebted to them? No. I don't feel that." I asked Miller whether or not community groups currently attending KCG but otherwise not affiliated with the BGC would be asked to leave. She said that she was most familiar with the Goodwill adults with disabilities because "they are the ones we

actually see wandering around trying to figure out where they're going." She said that they "probably would not be welcome here in the future."

Miller explained that as she brought the BGC forward that she would have to stay true to its mission, which was to serve youth ages 6-18. "It's not saying that what they're doing isn't great, it is great. But there's enough need with the kids and we have enough kids." Miller said that the "at-risk" teen group could continue coming if they were interested in participating under a BGC-run garden program, or that they would need to sign a facility lease agreement, including paying rent and having liability insurance of one million dollars. "I haven't pushed real hard to change where we are 'cause we're not in a position to fully take it on. Obviously, it's a mess back there. It's just a big weed patch back there right now. And we're not positioned to fully take that on. My vision is that we do. And we'll get there." Miller concluded that "everyone at KCG means well" but that each side was "coming from such different places." She called it "varying approaches," "varying values" and "an overall different vision of how it can run."

> If some of the people who've been coordinating or controlling it want to just come in, come out, do whatever they want, that's something they should do in their backyard. The perception here is that it's a public park. It's not. It's private property. Ultimately it's the Boys and Girls Club garden, not Kaiao Garden. I don't know the history of the name but it really has no connection with us, which is an issue. It puts the ownership on someone else. That would be fine except the consequences of that ownership aren't going with it. Either the costs and benefits stay here or they both go out. We're footing the cost of all of this (C. Miller, personal communication, March 7, 2012).

After nearly a year of trying to work with the CPO and her staff, and going back and forth about the community's ability to access the garden, it was apparent to the new leaders that it was not going to work out. The BGC did not understand how much labor maintaining the garden required and why it needed the community's help.

In the end, after people from the community stopped coming, Bontuyan said that the BGC was “starting to realize that they can’t do it themselves” and were more open to the idea of community collaboration. Bontuyan went on about the BGC, “They had a new employee come in and he had taken a class with White and the story he had been told is that we were basically just mooching off their land.” I asked her what it was like hearing that. “We pretty much realized that was how they felt,” she said acceptingly. (J. Bontuyan, personal communication, February 28, 2012). And so, having offended and chased away the community, the Boys and Girls Club Garden replaced the Kaiao Community Garden, as Miller had planned. But the Club was not able to maintain the garden, and in December 2012, almost one year after the new CPO was hired, it was forced to close. It was a missed opportunity for community collaboration, a lose-lose situation for all parties involved, and something that could have been avoided. Had the CPO been more democratic, sustainability-minded, and appreciative for the social capital offered to the BGC, KCG may have been saved. Subsequently realizing the importance of collaboration, the BGC planned to resurrect a gardening program with the help of different partnerships in the community. It has been slow getting off the ground, and time will tell if it learned from its past rocky partnership with Kaiao.

Thus Kaiao Community Garden came to an end, though it leaves behind an important legacy: the power of community. Building community is not about moving around in search of the “right people,” or those who are similar to us. Community demands that we cultivate friendships with people we might not choose ordinarily. Founding friendship on commitment rather than "chemistry" often requires adjustment, but at the end of the day, any less chemistry in relationships is more than made up for

with gains in meaning (Peñate-Aceves & Hayes, 1973, p. 142). The participants at KCG demonstrated "that love is possible in a materialistic world where people so often either ignore or fight each other; it's a sign that we don't need a lot of money to be happy – in fact, the opposite…. [This is] one of the marvelous things about community, that it enables us to welcome and help people in a way we couldn't as individuals. When we pool our strength and share the work and responsibility, we can welcome many people, even those in deep distress, and perhaps help them find self-confidence and inner healing" (Vanier, 1989, pp. 271, 310).

From its inception in 2006, Kaiao Community Garden at the Boys and Girls Club in Hilo was a refuge, a classroom, and a commons for people to gather and practice the art of community building. Community at Kaiao wasn't a noun, but a verb; a compassionate action that people did in recognition of their shared lives – knowing that one of the deepest forms of poverty we can experience is isolation from one another. Like the story of Hinaikapūpūʻai, Kaiao Community Garden will become part of the mythic legacy of Haili Hill, calling future generations of people to leadership, community, and sustainability.

The Value of Community in Working toward Change

Without the community this <u>*will not*</u> *happen.... It's hard to manage. I can do a lot, but I can't do it all! It takes a community* – Sam Robinson, founder of Let's Grow Hilo (S. Robinson, personal communication, December 12, 2012).

Nature has a way of regenerating itself; before a plant dies it goes to seed. Kaiao Community Garden grew vigorously for many years but eventually withered. Yet before doing so, it planted seeds of hope in hundreds of participants. One of those seeds sprouted in Sam Robinson. As a recent graduate of UHH's agriculture program, a former student of Meyer, and a dedicated Kaiao volunteer, Robinson developed Let's Grow Hilo (LGH), a volunteer-driven beautification of downtown Hilo with edible landscaping, primarily involving Polynesian staples such as taro, sweet potato, and banana, as well as other foods such as *ʻawa* (kava), sugarcane, pineapple, papaya, tomato, herbs, leafy greens, pomegranate, and pigeon pea. A lot of the *huli* (taro tops used in planting) used for downtown Hilo came from Kaiao Garden, and volunteers from Kaiao helped LGH in its early stages. Weinert, who was involved in many of the Kaiao projects, calls LGH "the gateway" to educating the community about food sovereignty. "The idea is to have a place like Kaiao, but not as sanctuary. More like Kaiao in the open. It serves as a free food source and seed bank for the community. When you come and take kalo, you replant in the place you took from and it continues to perpetuate itself" (D. Weinert, personal communication, September 23, 2011). The taking and replanting did occur as the project evolved.

Robinson chose to make it an entirely edible garden for a variety of reasons. For one, she said that since we're on an island, we need to start thinking about our food sovereignty. For another, she said that if people walk by their food every day, they're

going to be more likely to feel comfortable with it and eat it, which promotes gardening, a healthier diet, and a more active lifestyle. “We want people to gain a deeper respect for food. That’s one of the main reasons I planted kalo. I knew people would be more respectful and accepting, because of its cultural significance here in Hawaiʻi.” A few Native Hawaiians felt it was inappropriate to plant food next to dirty streets where cars pass by. However, most people, native and non-native, liked the idea of kalo growing in town. Robinson said she kept kalo as the predominant food in nearly every garden bed. “And it’s so easy,” she noted. “There’s not much maintenance or fertilization required to grow taro, sweet potato, ʻawa. So that’s why it makes sense.”

Robinson said she never would have started LGH, if Meyer hadn’t brought Robinson and her classmates to Kaiao for service learning. It was her first experience with community gardening and what, she says, gave her the push to start an urban community garden in town. The project name “Let’s Grow Hilo” conveys a sense of community ownership in action. Robinson was firm that “Without the community this *will not happen*. I started it by planting that first huli, but it took off on its own” (S. Robinson, personal communication, December 12, 2012). The symbolism of planting the “first” huli is potent, for it conveys the perpetual natures of taro and transformational education. A thousand kalo plants can easily be propagated from a single huli, because the process is exponential: one huli makes six, which makes 36, and so on. Similarly Meyer and Kaiao Garden developed countless community leaders, one of whom was Robinson. In turn, she inspired countless others. It demonstrates how transformative community garden education reaches not only the direct participants, but countless others

indirectly. Robinson credits Meyer's guidance at Kaiao with teaching her the importance of community. Robinson remembers how Meyer would say,

> "I know you're a big, strong, Amazonian woman carrying picks over your shoulder, Robinson, but you can't do it alone. You *cannot* do it alone. How can you have a community garden without the community?" I was like, "You're right, you're right. I cannot do anything for the community without community." And that's when I started going out and meeting people and making connections.

With Meyer's encouragement Robinson went to Hoeaea: a grassroots, community-sponsored Food Sovereignty Conference centered on Hawaiian culture and subsistence, which Meyer and the KCG Stewards helped to plan. For Robinson, Hoeaea was a "huge culture shock." As one of the only white, non-Hawaiian-speaking people there she had no idea what was going on or what people were talking about. Even though she felt weird and out of place, she made herself go three days in a row one year and three days in a row the next year. She said that now she likes to put herself in "weird, uncomfortable positions" because that's how we grow as people. "It's seeing what makes us weird and uncomfortable and not being scared of it but actually embracing it and growing from that experience. That's what Hoeaea did for me and what Meyer's class did for me as well. You have to meet and talk and grow, just like your garden does" (S. Robinson, personal communication, December 12, 2012).

To have one of her mentors tell her that she "can't do it alone" caused Robinson to reflect on her own socialization. Like many of the at-risk youth who participated at Kaiao, Robinson had a hard family life growing up. Her parents were drug addicts who would trade their food stamps for crystal meth. As a teenager, she ran away from home and experienced poverty and homelessness for five years. "I ran away and I was alone. I was alone more then, than I have ever been in my entire life. I had to rely on myself" (S.

Robinson, personal communication, December 12, 2012). Robinson eventually decided to go back to school and get her high school diploma through adult community education, opening the door to college.

She vividly remembers what it felt like to be poor and homeless. Robinson was forced to eat whatever food she could find out of dumpsters. "As a kid I didn't get fresh fruits and vegetables. I only got to eat canned vegetables and almost never fruits. So it's a big deal for me. I created what I would've liked to have had" (S. Robinson, personal communication, December 12, 2012).

Robinson takes pride in the fact that she has been able to partner with so many diverse, community stakeholders to make LGH possible, something she never could have done alone. She is also proud of the fact that LGH contributes to greater access to fresh food, particularly among the poor and homeless. But LGH is not just about providing food; it's about education.

LGH was founded on a mission to educate the community on the ease of gardening and has expanded in all directions. Robinson wanted people to see all there is to offer in downtown Hilo. Under a grant from the Downtown Improvement Association, Robinson helped to create a community educational program alongside community gardening. Robinson's belief in facilitating educational enrichment opportunities for lower income people stems from her experience growing up "poor and underprivileged." "We offer free educational demonstrations in a variety of areas, teaching things I would never have had the option to do as a kid" (S. Robinson, personal communication, December 12, 2012).

Robinson partnered with a local Girl Scouts group to teach the community classes every Tuesday, along with businesses or individuals in town who have something of value to share the community. It gives the Girl Scouts a chance to develop leadership skills, and businesses a chance to promote their services, and the community benefits from having free, educational activities. They planned a cooking demonstration using foods harvested from the town's gardens and a local certified kitchen that offered its space free of charge. Past workshops included a tire-patching demonstration at the bike shop, a quilting demonstration from the sewing shop, a demonstration from the school of massage, and a plant propagation class. Developing social capital by partnering with others, sharing information and resources, and building support networks, is what makes projects like KCG and LGH possible on little or no material or financial capital. But community projects like these usually start with a civically-minded leader.

Robinson said that LGH started when one day she told her boss at HI Fire, a ceramics shop downtown, that she was thinking of planting all of her extra huli from KCG in downtown spaces to beautify the area with edible landscaping. She then put her thoughts into action. She would walk down the road from her home every full moon night to plant along the medians. Along with the huli, she brought down compost she had made, tools, and water bottles. Not long after, her project began expanding by word of mouth. "People wanted to get involved and would ask how things were going" (S. Robinson, personal communication, December 12, 2012). She started making scheduled beautification days each month so the community would know when they could come and work with others. In the first year of scheduled work days, she attracted from three to fifty community volunteers each time. Many of the volunteers were repeats. Robinson

said that people are always amazed by how deep the soil is right in the medians and how well the plants grow without any added amendments to the soil other than one application of IMO fertilizer.

As LGH expanded, Robinson began borrowing tools from UH Hilo's Agriculture Farm. She would come in on a Friday afternoon and say, "Okay, we need the shovels and the gloves and the trowels and picks" (S. Robinson, personal communication, December 12, 2012). She said she would borrow their entire stock of gardening tools, and even some electrical tools for garden box construction, and they trusted her to bring them all back the following Monday. Her partnership with UH Hilo was built on an important social capital determiner, trust. "I think they were supportive because I went to school there and worked up at the UHH Ag farm for three-and-a-half years with several professors" (S. Robinson, personal communication, December 12, 2012). Also, Robinson had started edible gardens at UHH in her last year of school, so she had a credible track record.

Three years after her first planting in downtown Hilo, the list of organizations supporting her project included groups such as the Hilo Downtown Improvement Association, local schools and teachers, downtown businesses, Recycle Hawaiʻi, Keep Hawaiʻi Beautiful, Youth Foster-care, Men of Paʻa (a neighborhood association), Second Chance, Office for Social Ministry, East Hawaiʻi Cultural Center, Girl Scouts of Hawaiʻi, Natural Farming Hawaiʻi, Boys and Girls Club of Hilo including Kaiao Garden, the UHH Ag Club, the UHH Beekeeping Club, and several UHH professors. "The list is just continuous of how many people really support what's going on and it's because it's community, it's local, and it's organic food" (S. Robinson, personal communication,

December 12, 2012). Robinson is also undeniably gifted in generating social capital through her communication and social networking skills.

Because she did not own a computer, Robinson found tech-savvy volunteers to build the LGH website, including links to other school and community gardening sites. Creating good partnerships is essential for grassroots projects like LGH because it opens up the door to new sources of information, funding, materials, support, and collaboration. The networking starts by just talking with people. "While taking green-waste up to the university to be composted for our gardens," Robinson told me, "someone I know might say ʻMeet my friends, so and so, they like to do this.' And then it's like ʻWow, we could easily be a resource for each other' and then it just builds and builds." Robinson called the networking process "Hilo coconut wireless."

Robinson gave me another example of how she is able to utilize social capital in making things happen for the community. In celebration of "Make a Difference Day" Robinson coordinated a project to build a 7x3 foot garden box, including a bench built into it, made entirely out of recycled materials. She used some of the grant money to buy mulch but secured everything else through donation. The Girl Scouts helped with the construction; the wood came from Waimea supplied by someone who had cut down and milled a eucalyptus tree and had scraps; the inside frame was built with siding from someone's house that they were remodeling; the dirt was made on the island by a landscaping company; and the plant starts came from Hawaiʻi Preparatory Academy's (HPA) school garden in Waimea. The process seemed completely random, but it was social capital at work. Robinson recalled, "Just by talking with people, they would say, ʻI have a bunch of wood if you want.' ʻYeah definitely!' ʻWe're remodeling our house if

you need some of this' 'Yeah totally!'" Robinson pointed out how the inset garden bench integrates people and plants. Its location near the Wailuku River on the edge of town is a place where Robinson imagines people going fishing and then picking garden fresh herbs to cook with.

The reality is a bit different. People do sometimes get greedy and harvest an entire garden bed, but Robinson said that's just life. She understands that there is a learning curve in building community and credits most people as being respectful toward the garden and considerate of others. "People realize, 'Someone else grew this for me so I'm going to leave some for someone else as well.' A lot of people who know me ask before they harvest anything and it's like, 'No need to ask me. Please! By all means!'"

A group that Robinson works with regularly is comprised of "at-risk" youth who were expelled from school. She has them work in small groups on various gardening and construction projects in downtown Hilo. One project is harvesting food and delivering a portion of it to homeless shelters. She has them write reflections about their day and tries to be a friend and a mentor. Robinson said that a lot of the teens have no idea they are good at anything when they first come. "One kid was so down in the dumps, a lot of personal family issues, which I can understand. He was so excited when out of all of the other boys, his were the only seeds that came up. He was like 'Yeah, I can grow some seeds!'" (S. Robinson, personal communication, December 12, 2012). This is just one example of the success the youth experience while gardening, which in turn boosts their confidence and makes them take pride in their community. Robinson believes that positive community work like this redirects their energy from negative acts like vandalism. Robinson points to the fact that none of the garden signs have been stolen or

broken. “I think a lot of the reason is because word gets out to the other kids that ‘Dude, I painted that sign - don’t touch it, I planted that plant - don’t take it.’ I think it’s them taking pride in their community, even if they don’t call it that” (S. Robinson, personal communication, December 12, 2012). Robinson believes that LGH has made a difference in a lot of their lives. They realize positive activities that they like and can do. They respond to the trust and freedom she gives them to try things on their own, telling them that she trusts their judgment, and she’s there to support what they want to do.

Robinson said that the LGH community workdays include people from ages one-and-a-half to those in their nineties. At each end of the age spectrum they can barely carry the water buckets or pull the weeds, but they want to help and that’s what counts. “I work with the entire community. It’s hard for people to not know who I am. Even all the street people, they’re like, ‘What’s up, Robinson!’” A lot of people say they volunteer because they like to garden. Other people say they come because they want to meet other people in the community. Some people just get pulled off the street, accepting an invitation to help weed or harvest. “A lot of people just really agree with growing food in their town. It’s not your typical community garden, but it is 100% a community garden, made by the community, for the community.” Community volunteers take home much of the harvest, but there is always extra to be taken to Under His Wings, the local soup kitchen where many homeless and low income families go to get a free meal each morning. “We drop off 5 gallon buckets of sweet potatoes and 5 gallon buckets of taro every so often because we just have so much” (S. Robinson, personal communication, December 12, 2012).

Robinson said LGH has taken about 3 years to develop. Now people randomly contact her for more information. She recently got an email from a graduate student in Texas studying sustainable garden projects who wanted to know how LGH got started and what issues she faced. “It’s like, wow, people in Texas are hearing about this! I know it’s from the internet because if you look up edible landscape, this comes up. I never expected it to get this big, not even close. I didn’t think people would respond as well as they did.” “Every now and then I come down and see things planted, things moved, cut back, or trimmed totally independent of me. That’s what it’s about. People taking pride and ownership in their own community” (S. Robinson, personal communication, December 12, 2012).

In the interest of garnering community support and involvement, Robinson is open to new ideas and suggestions. The Girl Scouts wanted to make a garden sculpture with flower seeds wedged into crevices that will eventually sprout. In addition to the children’s sculptures are sculptures made by professional local artists who are willing to display their work in gardens free of charge. It gets their name out there as well as beautifies the garden.

One day a shopkeeper said that he saw one of his customers open their car door but wasn’t able get out because there were tomato plants in the median. He told Robinson, “We love tomato plants and tomatoes but we need our business.” She thought up a win-win solution. With the community’s help, she recycled concrete that had been removed for renovations downtown and made walkways between plants where cars park. The shopkeeper and his customer were pleased by the accommodation.

For almost three years LGH has operated entirely by volunteers and small gifts. In its first year LGH raised $1,200 through sponsorships secured during its first Harvest Festival. The monies were used it to buy tools and wheelbarrows. LGH has yearly Harvest Festivals celebrating the bounty of this local food community. Food is harvested with the community in the morning. It is cleaned and taken to a couple of different local businesses who cook the food in their certified kitchens for free. LGH volunteers then pick up the food and serve the community on streets that have been closed off. It's all free or by donation. It is a zero waste event so people who do not bring their own plate and utensils are asked to make a $5 donation. But no one is ever turned away if they cannot pay. Each Harvest Festival feeds around 500 people only a small operating budget.

Volunteering for a few hours here and there is doable, but as projects like this begin to grow into full-time work, organizers begin to realize that unless they are able to earn a living, their projects are likely to be unsustainable. "I absolutely love what I do but it got to a point where if I wasn't starting to get some funding to do it, I had to get a real job. I wanted to do this and hoped that a real job would come from it." Luckily for Robinson, the Downtown Hilo Improvement Association recognized the value of LGH and wrote the project into an AmeriCorps grant. Now Robinson gets a small, but consistent stipend, which she greatly appreciates. She said that being homeless for so many years taught her how to live simply and utilize her resources well. Combined with getting a lot of her food from the garden, Robinson has been able to make ends meet (S. Robinson, personal communication, December 12, 2012).

While funding remains tenuous, Robinson is envisioning expansion and approaching the County of Hawaiʻi for help. She would like the County to purchase a downtown facility through the town's special funds where she can establish educational programing. "I want to have a greenhouse and some gardens and a space where people can gather and participate in free community workshops with all of the local businesses and people in town" (S. Robinson, personal communication, December 12, 2012). LGH is also looking to collaborate with Bay Front Trails, a project to create scenic walking trails from one end of town to the other. Robinson envisions edible landscaping along the trail, leading to a community fruit orchard by the river. She said it will make walking and biking in downtown Hilo much more pleasant and accessible, hopefully creating a more active and integrated community.

Despite LGH's success, Robinson does worry about liability. She prefers to plant things that cannot be eaten raw, such as taro and sweet potato, because cleaning and cooking does add a level of food safety. Being an urban garden, there are dogs, traffic, and other things which could taint the surface of the food. Only planter boxes high off of the ground have greens that can be eaten raw. "I always try to emphasize food safety and tell people whatever it is, wash it, even if you're going to cook it. Be careful, look for snails or bugs. I'd hate for someone to get sick and for the project not to happen anymore. People should look at their food and know what they're eating" (S. Robinson, personal communication, December 12, 2012).

Robinson's biggest task is finding a steady stream of dedicated volunteers. When people suggest expanding the gardens to additional locations around town she tells them it is a great idea but the question is who will continue to take care of it once it is planted?

Each garden requires different degrees of maintenance, such as pruning and harvesting, which if it goes unchecked, can lead to fallen fruit and pest issues. Robinson said she appreciates all volunteers, even those who are not consistent. "Even if they come out on their own and pull some weeds and make a little pile, if they see a dead leaf and pull it off, that's volunteer work in my opinion. If people slowly do it on their own or harvest on their own…that's the point." How do people become civically-minded? Generally it's by having positive community-service experiences. But because community involvement is not as highly valued or encouraged as individual achievement and consumption, people tend to miss these life experiences. An appreciation for community involvement and service usually arises after one is led to participate through a friend, family member, school, or group affiliation.

Robinson knows the importance of continual outreach, which is why she visits area schools, businesses, government offices, and non-profit organizations on a regular basis to talk about LGH. Because of a small budget, Robinson must do a lot of the work herself, from educating to laboring to organizing, which is why she is not formally advertising. "It's hard to manage. I can do a lot, but I can't do it all!" Robinson is wise to not take on more than she can handle and risk burnout. "It was expanding insanely and now it has settled down and I feel really comfortable at the pace that it's at" (S. Robinson, personal communication, December 12, 2012).

Robinson's story demonstrates that even so-called "at-risk" youth, who come from extremely trying social circumstances, can become leaders who make important contributions in their communities. Robinson deserves tremendous credit for what she has overcome, but she acknowledges that being mentored by Meyer, learning to step

outside of her comfort zone in order to grow (a hallmark of transformative education), and feeling community support and the joy of volunteer stewardship at Kaiao inspired her to become the person she is. It is difficult to measure quantitatively how many lives have been changed through their experience at Kaiao, but this is one example that demonstrates the power of community garden education to bring greater health and well-being to the lives of people, communities, and the environment.

Chapter VII.

LOOKING BACK

The need for holistic sustainability education locally and around the world is only becoming more pronounced (Capra, 1996; Goleman, Bennett, & Barlow, 2012; Stone & Barlow, 2005). Community-based projects of this kind may be one of the most feasible and appropriate educational solutions for addressing a global crisis at a local level (Grunewald & Smith, 2008). Many civic leaders working simultaneously around the world to organize and rebuild their communities around holistic or traditional models of sustainability can make a tremendous difference in ways that institutions such as governments, corporations, and schools have been unable to achieve. Similar projects have been happening for decades and are growing in numbers, though most lie below the radar screens of researchers within the field of education (Umphrey, 2007). The issues of equity and excellence that dominate discourse about American education are no doubt important, but according to Gruenewald & Smith (2008), "More important is the issue of human responsiveness and adaptability to the local and global dilemmas that now demand our attention, intelligence, and energy" (p. 345).

A small, seemingly insignificant community education project centered on a garden should not be underestimated or brushed aside. It can be a far-reaching opportunity for change, in ways that are difficult to trace. One may never know the full impact these types of programs have on their participants. I was able to follow only Robinson's case in depth, but learned that several other KCG volunteers took the knowledge and skills they were given and went on to lead other civic projects revolved around sustainable gardening education.

Like KCG, their projects center on culture, food, community-building, economics, and holistic sustainability. Like Sam Robinson, who founded the LGH edible urban garden project; Jesse Potter, who makes his family's ancient loʻi fields in Waipiʻo Valley available to school groups for service-learning; Drake Weinert, who founded Natural Farming Hawaiʻi, an organization which hosts monthly educational and networking meetings for homestead farmers; and Howard Peʻa, who co-founded a new farmer's market in Panaʻewa, Hawaiʻi to encourage Hawaiian homesteaders to farm and buy fresh, local food. This is the power of mentoring, an important component of civic leadership within community-based education. Grunewald (2008) explains,

> Young people need an education that affirms their capacity to solve problems and contribute to the welfare of others, an education that speaks to the importance of diversity and adaptation and equity and shared power. When place-based education is implemented in ways that truly conjoin school with community and that provide opportunities for democratic participation and leadership, [people] are given the chance to partake in the collective process of creating the sustainable and just world that must come to replace the world of discrimination and waste that has begun to unravel around us now (p. 346).

In many ways KCG was unique. It was founded by an eclectic group in the small island town of Hilo, Hawaiʻi comprised of just 40,000 people. Hilo is small enough for people to run into each other often and perhaps easier to bridge social networks. Also, the nearby University was an intellectual hub bridging resources, people, and new ideas. Yet, I, along with several KCG leaders, believe that its basic drivers are universal, even though the details may be different. Therefore, some of the ideas in this study may have practical use for educators and community leaders alike. Before I explain my analysis in greater detail, let me first return to the research questions:

1. Why did a group of diverse individuals come together to establish the Kaiao Community Garden project, and what inspired them to remain devoted to it, as volunteers, for so many years?
2. How did they organize and sustain a volunteer-run community garden education project of this nature?
3. What impact did the garden experience have for participants and various stakeholders?

Basically, I wanted to know *why* they did what they did and *how* they did what they did. To answer my questions, I synthesized and cross-referenced information from 22 in-depth interviews, 38 conversations among stakeholders recorded as fieldnotes, journal entries from three student groups, three web sites and four blogs, and dozens of interspersed poetry writings, art pieces, and photographs, which I compared with my own observations. Four themes emerged: social capital (both bridging and bonding forms, but particularly bridging), civic leadership, holistic sustainability, and ecoliteracy, which I will later explain in greater detail.

I used Meyer's approach, which she calls the "triangulation of meaning," in considering relationships between these four themes. I eventually came to think of them as coordinates that were helping me to navigate through the mounds of data and make sense of what was there. Meyer's triangulation of meaning puts a spin on the basic idea of triangulation in research, that three intimations of one idea can edify coherence among associations. Meyer, a former wilderness guide, would use a triangulation of known geographical points to find an unknown location. "The use of three points to discover one's location in both two and three dimensions is the art and science of triangulation….

Thus the metaphor of *triangulating our way to meaning* with the use of three points" (Meyer, 2006, p. 265).

KCG leaders taught me that the process and the goal can be one. I learned this indirectly in watching how they worked. The KCG leaders were the kinds of people who always tried to ask the deeper questions of why they were doing what they were doing. I vaguely remember one of them explaining this to me at the beginning of my study, although it was too esoteric for me to really understand. As I began to write up my results, I realized that by asking "why" you automatically answer "how." What I mean is that asking "why" is a higher form of questioning that triggers our minds *and* our hearts, because it brings our values and our spirit to the forefront of our mind instructing our actions (the "how" part). Both the heart and the mind serve a function in thinking they said, "the mind gives the heart sight [and] the heart gives the mind vision." (Chaz Doherty, as quoted in Searles, 2009)

Asking "why" contextualizes the "how" It allows people to sift through their ego-based subjectivities and agendas as they attempt to channel their spirits in getting to the truth of the matter. Aiming not for what is *attainable* but what is *truthful* leads to what is authentic. It aids people in rising above their fears and perceived limitations (which are outgrown), changing defunct paradigms (which no longer serve), breaking free of neurological pathways (which have become mindless habits), and beginning the creative process of constructing new theories that *will* allow for the manifestation of what is truthful, necessary, and timely. Paradigm shifting begins with a slow, truthful *dialog* between others and most importantly within oneself.

> Dialog invites transformation…. Its purpose isn't to establish a victor or to prove a position [in contrast to *discussion*] but to "love the truth" and pursue it. We let

> truth be what it is, whether it fits our paradigm agendas or not. And we let our pursuit of the truth spill over our current thought-boundaries, drawing us into areas we haven't considered before (Breton & Largent, 1996, pp. 218, 228).

This is not to say that asking "why" easily or automatically leads to truth, but it begins the process of truth-seeking, the process of thinking and theorizing, of testing and reformulating ones' hypotheses. Meyer (2006) often quoted Einstein as saying, "Whether or not you can observe a thing depends on the theory you use. It is the theory that decides what can be observed" (p. 263). This is to say that if one theory is not serving you, then find another. There are no limits to the number of conceptual models, no limits to the number of mistakes you can make. Thomas Edison first had to learn 2,000 ways *not* to make a light bulb, before succeeding, so they say. This goes to show that asking "why" takes great persistence and courage. It implies a willingness to go many times into the unknown, with the understanding that uncertainty is truly the path to freedom (Chopra, 1995). Transformation and freedom were what KCG was all about. It was in the name they gave to their social movement, Hoeaea, returning to freedom through freedom.

It seems paradoxical. How can I utilize that which I do not have (freedom), in order to achieve that which I seek (freedom)? And yet, it is deeply profound, almost Taoist. The goal lies in the *process* of seeking. In the processing of doing, it is done. In the process of having, it is had. In the process of being, I become. In the Native Hawaiian creation chant, *Kumulipo*, it is out of darkness that light is born (Johnson, 1981). Kaiao Community Garden was a "new dawn" that was also born from nothingness. It was based in the idea that intentions are powerful, and that thoughts and words create, that single actions lead to many tiny ripples across the waves of the universe. It was using intentionality in gaining greater consciousness, in being the change you wish to see; and

in harnessing the genius, power, and magic that ignites when one boldly acts upon a dream. It was realizing that knowledge has no value separate from application.

These were some of the ideas that the KCG leaders used in inspiring their work and helping themselves to understand the dynamic even "mystical" process of transformation that was community-building from the ground up. This was their perspective as I could best understand it. It was birthing something tangible out of nothingness, of turning thoughts into actions, problems into solutions, overgrown land into some place sacred, acquaintances into friendships, and separate individuals into a community. It was pursuing the goal of a sustainable community through deeply exploring the meaning of holistic sustainability.

Answering the Research Questions

The story of KCG is one in which people realized the need for greater social and environmental resiliency within their local community and proactively created a project to address four broad concerns:

1. **A local-global concern**, for some of the harsh local effects of global capitalism – homogeneity, competition, dependency, threats to food sovereignty, stratification, and marginalization.
2. **An educational concern**, for some of the deficiencies within formal education, such as the common disconnection between curriculum and nature, place, culture, community, relationships, responsibility, meaning, values, experience, practical application, play, and service.

3. **A social concern**, for fragmentation within the community resulting in classes of people who feel unimportant and disempowered, people who rarely have the chance to interact with those who are very different from themselves, or people who lack sufficient connection, belonging, friendship, mentorship, or support in their lives.
4. **A personal concern**, for insufficient opportunities to grow in meaningful ways from their work, their relationships, and their environments.

By understanding why KCG was established, I was also able to understand how it was formed and sustained. But it was not as simple as accepting the project's stated mission, objectives and values. That was a part of it, but there were larger forces at play which emerged in the voices of its leaders and participants. In realizing the harsh realities and growing concerns of global capitalism, the deficiencies of formal education, the mutual needs of the community, and the personal needs people have for greater meaning in life, the KCG leaders employed four broad methods:

1. **Raising social capital.** By bridging and bonding people together, they were able to create a social movement spanning across diverse social networks seeking to combat economic and global pressures through small, but meaningful gains in sustainability, self-sufficiency, food sovereignty, diversity, cooperation, support, equality, and justice.
2. **Establishing community education.** By providing an alternative, non-formal educational project with holistic sustainability in mind, diverse groups had the opportunity to participate in experiential, service-learning activities in nature that

were place-based, culture-based, and social-based, while also meaningful, informative, and fun.

3. **Developing civic leadership.** By democratically involving participants at every stage of the project and providing opportunities for everyone to broaden their social identity and deepen their civic commitment, they developed into civic leaders and mentored their participants to become the same.
4. **Designing a holistic model of sustainability.** By creating a community garden project that broadly encompassed and interwove social and environmental needs, they were able to satisfy personal needs for meaning, hope, and direction.

Themes of Kaiao Community Garden Education

Reiterative coding and narrative analysis elucidated four critical themes in establishing and sustaining community garden education, amidst rising challenges. These themes included social capital, civic leadership, ecoliteracy, and holistic sustainability. Bridging forms of social capital proved significant in developing civic leadership, just as civic leadership created meaningful opportunities for bridging social capital. Within a garden context, these two themes played key roles in developing ecoliteracy, or the knowledge, skills, attitudes, behaviors, and interrelationships relevant to sustainability. Ecoliteracy also related back to social capital and civic leadership through experiential social learning, service-learning, and mentorship. The idea of holistic sustainability encompassed the social, ecological, and leadership aspects of all of these concepts. Holistic sustainability is not possible individually. It requires leadership for certain, but

also takes a community effort, grounded in a deep understanding of social and environmental ecology.

Social Capital

A'ohe ka hana nui ka alu ʻia. No task is too big when done together - ʻŌlelo Noʻeau (Searles, 2009)

Social capital can be difficult to assess because it works through multiple channels. Yet this two-year case study was well-suited for examining social capital at both micro- (individual) and macro-levels (social structure). I examined its theoretical workings through multiple channels, including people's shared values, relationships, behaviors, and identities, which were either changed or reinforced. I assessed social capital according to four dimensions, which cut across these channels: information flows, norms of reciprocity, broader identities, and collective action (Putnam, 2000; Onyx & Bullen, 2000; Woolcock & Narayan, 2000; Gootaert & Van Bastelaer, 2002; Dudwick, et al., 2006; Harvard Kennedy School, 2012).

The narratives of community garden education at Kaiao, captured in chapters IV-VI, demonstrate these dimensions of social capital. Information flows happened through dialog, indicated by people exchanging information, ideas, & knowledge. Norms of reciprocity were established through bonding and bridging activities across diverse social networks, indicated by displays of mutual trust, concern, outreach, and support. Broader identities were developed through group process, indicated by teamwork, cohesion, group success, and the translation of an "I" mentality into a "we" mentality. Collective action was initiated by networking among diverse groups of people, to the extent that new social

networks were formed. Indicators of collective action included feelings of solidarity, empowerment and a propensity for civic engagement (see Table 7.1).

Admittedly, the term social capital is outside the everyday vernacular of common people, and according to Smith & Kulynych (2002) has unintended ideological consequences. They argue that the term impedes understanding because of the historical association of the word capital with economic discourse. "Applying the term social capital to civic engagement blurs analytic distinctions. Moreover, there are important ideological consequences to considering such things as bowling leagues [or community gardens] to be a form of capital and urging citizens to become social capitalists." Although the tenets of the term merit sustained inquiry, Smith & Kulynych (2002) urge using the term social capacity in place of social capital (p. 149).

The term "social capital" indeed seems to infer that people who participate in social groups do so purely for personal gain. While individuals may experience personal gains such as friendship, opportunity, education and personal growth, many Kaiao participants said that their primary motivation was to give back to their community and experience being a part of something larger than themselves. In this way people moved to a group identity and the self (the ego) moved into the background. Common good was sought over self-interest. I use various terms interchangeably with social capital, including community building, community bridging, and civic engagement.

Social capital, including bonding but especially bridging, is essential to establishing a holistic model of sustainability. In Hawaiʻi, social capital can be considered as the civic equivalent to the ʻōhana, traditionally meaning family but also close friends (M.A. Raywid, personal communication, July 17, 2002). According to

Table 7.1

Assessing Social Capital within Environmental Community Education

Dimensions	Approaches	Indicators
Information flows	Dialog	Exchanging information, ideas, & knowledge
Norms of reciprocity	Bonding & bridging	Displaying mutual trust, concern, outreach, & support
Broader identities	Group process	Teamwork, cohesion, group success, & "we" mentality
Collective action	Social networking	Solidarity, empowerment & civic engagement

Putnam (2000), a primary authority on the subject, social capital has two conceptually distinct forms, *bonding* and *bridging*, which cannot be interchanged. Bonding creates inclusive social ties whereas bridging creates external social ties. Both can have powerful positive effects, although the bonding form of social capital is associated with more negative external effects such as out-group antagonism as a result of strong in-group loyalty. Since social capital can be used for malevolent, anti-social ends, as with any form of capital, it is important to maximize positive consequences of social capital – mutual support, cooperation, trust, and institutional effectiveness – while minimizing the negative manifestations. Thus weak" ties to distant acquaintances who move in different circles are actually more valuable than "strong" ties to intimate friends who share the same sociological niche. "Bonding social capital is…good for 'getting by,' but bridging social capital is crucial for 'getting ahead.' Moreover, bridging social capital can generate broader identities and reciprocity, whereas bonding social capital bolsters our narrower selves." (pp. 22-23)

Focusing on bridging strategies is one way to maximize positive effects of social capital because it can create familiarity, tolerance, and solidarity across diverse social

networks where none previously existed. For this reason Putnam says that bridging social capital is what is most needed in addressing our biggest collective problems, although it is also the hardest to create (p. 363). While formal education and government often struggle with bridging, service-learning projects demonstrate a unique ability to cultivate preciously this form of social capital. Putnam (2000) explains,

> A mounting body of evidence confirms that community service programs really do strengthen the civic muscles of participants, especially if the service is meaningful, regular, and woven into the fabric of the school curriculum. Episodic service has little effect….On the other hand, well-designed service learning programs (the emerging evidence suggests) improve civic knowledge, enhance citizen efficacy, increase social responsibility and self-esteem, teach skills of cooperation and leadership, and may even (one study suggests) reduce racism. Interestingly voluntary programs seem to work as well as mandatory ones. Volunteering in one's youth is…among the strongest predictors of adult volunteering. Intergenerational mentoring, too, can serve civic ends (p. 405).

One of the most powerful aspects of social capital, as demonstrated by KCG, is how bridging can reintegrate marginalized groups into society**,** such as at-risk teens, minority groups, people new to the area with weak social networks, the poor, the homeless, the handicapped, and the elderly. By showing people that they are important and have value, the Kaiao experience not only raised their self-esteem, it allowed them to become contributing members of a community.

Social capital adds support, meaning and value to people's lives, to the point of even helping people in need to get a leg up. At-risk teens gaining pride, self-confidence and encouragement to graduate high school, find jobs or enter community college. Adults with disabilities seeking genuine community relationships were met with warmth and kindness, while children had an opportunity to deepen their awareness and compassion for those who are different from themselves. Providing a forum for people to share a few words about how they feel that day or what their experience working at the garden was

like gave people a voice. People of all backgrounds said that they felt socially included at KCG and that they had a "healing" experience there.

Bridging at KCG promoted diversity while creating solidarity. It sought to dispel prejudice and misconception, social phobias, cliques, and cultural conflict. Youth who were never friends in school because they "hung out in different circles" became friends in the Garden. It promoted a general awareness, understanding, and appreciation for cultural differences while finding common ground in Hawaiʻi as a unique place with a unique culture. People were encouraged to discover their own uniqueness and find advantages among group diversity when working as a team. The KCG leaders emphasized equality, plural ways of knowing, and multiple methods and styles in the ways they constructed lessons, handled problems, and negotiated garden designs and agricultural methods. Part of creating solidarity involved cultivating common values and norms of behavior, such as showing mutual respect, reciprocity, polite behavior and gratitude, as well as practicing customs and protocols that acknowledged people, place, and practice.

As participants' social networks expanded through their participation at KCG, new opportunities were created for individuals and the larger community. New friendships added quality to people's lives at the same time that they helped with upward mobility. Several volunteers found jobs and internships through word of mouth, or got letters of recommendation from KCG mentors for college or job applications. Volunteers for the Garden working together were able to secure small grant funding to create new community education projects in addition to hosting a community conference, creating

new opportunities within the community. For people who have limited forms of capital – human, cultural, financial – these opportunities can really make a difference.

Social capital works by integrating complementary needs. Educational gardens require daily maintenance which can be labor intensive, but some of that maintenance can be done by inviting groups looking to do service-learning. At-risk youth needing guidance had the opportunity to benefit from mentors who were college students and caring adults wanting to give back. Elders had a place to share their knowledge with young people eager to learn. KCG created a network of support for the attainment of mutual needs that alone might be impossible. One of the needs that was most important in the lives of KCG leaders and participants was personal growth and meaning in life. While each person defines their growth differently, Maslow's Hierarchy of Needs (see Fig. 2.) is a general model that explains the ways in which KCG created the kind of environment in which human potentials could be developed.

In 1943 Maslow offered his now famous psychological theory on the hierarchy of human needs. He believed that human psychological health could be predicted by how well individuals are able to fill their innate and sequential human needs, beginning with basic needs like food, shelter and safety; raising to social needs of friendship and emotional needs of affection; and culminating with self-actualization. His "good" society is one which "fosters the fullest development of human potentials" (Maslow, 1971, p. 8).

KCG leaders seemed to use social capital (bonding and bridging) intuitively to help individuals attain increasingly complex human needs as described by Maslow's theory (see Appendix F, Figure F1). Participants told me how the Garden and the people they met there helped them achieve greater sustenance, safety, belonging, esteem,

education, access to nature, personal growth (a synonym for self-actualization), and the ability to mentor others to achieve the same transformation. Social capital, bonding and bridging relationships, were required for personal growth at KCG. At every level of Maslow's hierarchy of needs, individuals required the help of others.

Those who participated most at the garden tended to become group leaders, while simultaneously meeting higher levels of their own personal needs, even self-actualization. Maslow describes some of the needs of self-actualized people as truth, beauty, justice, goodness, unity, aliveness, simplicity, playfulness, and meaningfulness – direct words or synonyms of words that participants used in describing the effect of KCG on their lives (p. 318).

There are few direct references to the idea of social capital in Maslow's Hierarchy of Needs. Rutledge (2011) argues that Maslow did not give enough credit to the role of social connection. She believes that instead of representing human needs in terms of a hierarchy, in which one set of requirements must be fulfilled before striving for the next set, they should be represented in terms of a circle, in which social connection is the hub. Maslow placed meaningful relationships at the third of five tiers in the hierarchy, but as Rutledge points out, none of the needs within Maslow's hierarchy, including basic survival, is possible without human connection and collaboration. Ruledge's model, "Maslow's Model Rewired" is presented in Appendix F, Figure F2.

Civic Leadership

Aʿohe ka ike ka hālau hoʿokahi. Not all knowledge is learned in one place
– ʿŌlelo Noʿeau, Hawaiian proverb (A. Mitchell, personal communication, February 27, 2012).

Our biggest collective problem today is the lack of holistic sustainability within even the basic frameworks of our modern lives: our values, thinking, and ways of organizing. It runs counter to entrenched values of materialism, expansion, and domination. It challenges conceptions of progress as infinite economic growth requiring the plundering of resources from the environment. Holistic sustainability also opposes the pervasive ways in which people marginalize, stratify, and compete against one other. In short, holistic sustainability is equated with enduring patterns of stability. For a society that is largely unaware and unresponsive to its hubris destruction of the environment, the fragmentation of communities, and the dependency and disempowerment of the vast majority of people, no other idea could be more timely. Yet, the drivers behind holistic sustainability must be people, particularly civic leaders.

Civic leadership is essential in helping communities and the larger society reimagine people's relationship to the world and one another. With holism in mind, civic leaders bridge diverse forms of knowledge, culture, tradition, methods, and outlooks in order to redesign those frameworks. While the civic leader(s) of a project are responsible for bridging people with resources and opportunities, their approach is to create an atmosphere of mentorship whereby their participants can become project leaders. It begins with leaders modeling democratic, civic leadership to participants. They also encourage participants to discover their unique interests and abilities within a support network. Opportunities to practice new leadership skills naturally arise during teamwork

or when they have an opportunity to share something a unique skill, perspective, or idea with the group.

The Arizona Center of Civic Leadership defines civic leadership as the capacity of individuals in a community to identify, analyze, collaborate, and solve pressing societal needs and issues through the efforts of broadly engaged citizen organizations. Citizens with skills and commitment engage with others at the level of the community to address shared problems, develop talent and leadership among the group, and exercise their ability to cross boundaries (public, private, and nonprofit sectors) (Arizona Center for Civic Leadership, 2010).

Civic leadership is also essential in coordinating the people-power and inspiring the cooperation necessary to implement community education projects for change. These are action-research projects carried out by members of a community. They undergo a reiterative, democratic process of identifying a problem and administering a solution, evaluating, and readjusting. In this way unsuccessful projects are either abandoned or reworked and improved over time. "Aimed at collaborative problem-solving of community-defined problems, action research respects and works with people's own capacity to produce knowledge. It is an educational process of community mobilization for development through dialog and reflection on action" (Wilson, 1997, p. 752). KCG was a project that continued to gain strength in its first four years but declined in its last two years. At first I wondered why this was so. Did people stop coming to participate in the project because it lost relevancy within the community? My research revealed that this was not the case. It was a result of declines in leadership, which cause a domino effect in declining social capital, ecoliteracy, and holistic sustainability.

The KCG steward's civic leadership was responsible for outreach and social organizing while their diverse social networks contributed to bridging diversity among their participants, ultimately leading to a project sustained by social capital. None of the leaders had as much experience in civic leadership or the diversity of social networks as co-founder Meyer. Her years of experience working within community-based education programs and at the local University, enabled her to connect participation and resources to KCG.

When Meyer left KCG in 2010, the civic leadership and social connections she brought to the garden left with her. Cohorts of students from the UHH Department of Education stopped coming, as did professors, many kūpuna and cultural experts, and other community leaders. It was not that they were only coming because of Meyer, but her relationships with those individuals and groups provided a constant source of integration. With a significant loss in social capital to help maintain the garden, more of the day-to-day garden maintenance fell upon the KCG leaders, taking them away from program development. They stopped doing additional community outreach and focused on working with the service-learning groups they already had. Then Knutson, Pea, and Hagura all needed to step out of their leadership roles for personal reasons. As these people left, many others within their social networks stopped participating as well. But an additional influence to the loss of social capital was the hiring of BGC's new CPO whose clashing leadership style clashed with the remaining KCG leaders and volunteers

It just so happened that Miller was hired at a time when the civic leadership and consequently the social capital of KCG was at its lowest. The new CPO wanted to assume control over the garden for enrichment programs at the BGC and oddly enough

viewed the community's participation and leadership at the garden as a threat to her plans. What makes this strange is that the Boys and Girls Club of America, a national non-profit organization, prides itself as a community-based organization. As such, many Boys and Girls Clubs throughout the U.S. in such states as California, Mississippi, Kansas, Texas, Illinois, and Massachusetts have recently hailed the establishment of community gardens on their sites as a way to successfully bridge the organization with the larger community. They credit community gardens as contributing to successful mentorships between youth and adults in their neighborhood, higher levels of youth enrollment, and greater numbers of community volunteers (Kansas Community Gardens, n.d.; Micucci, June 30, 2011; Miller, December 8, 2011; The Courier-News, June 11, 2012; Alfonso, November 28, 2012; Schulz, July 3, 2012).

Shelly Schulz, CPO of the El Campo, Texas Boys and Girls Club recently stated, "We realize that without the support of our great community, the Boys & Girls Club of El Campo would not exist" (Schulz, 2012). At another Boys and Girls Club in Leominster, Massachusetts, Executive Director Donata Martin said she is excited to see other community agencies that are interested utilizing the community garden. Martin welcomes groups outside the BCG as well as individuals in the local community. In contrast, Miller did not want neighborhood families coming at their leisure or adults with disabilities participating in regular programing because of liability concerns and a strict adherence to the BGC mission of serving youth ages 6-18. At the Leominster Club, Martin welcomes families and adults with disabilities. She said it serves to "create stronger connections with the community" (Micucci, June 30, 2011).

While Miller may have considered herself a civic leader for managing a non-profit organization, her authoritarian leadership style was markedly different from the democratic approach of civic leaders. Civic leadership involves listening to multiple stakeholder groups and doing what is best for the greater community. Miller took the approach of a business corporation, looking at its bottom line and adhering to the mission statement of her organization, which does not say anything about serving the general community. Her authoritarian style may be attributed in part to the drastic needs of her organization after years of staff and leadership turnover. Yet, ultimately it proved an unsuccessful approach. Miller's need to control trickled down to her staff, affecting the culture of the organization. Realizing that the CPO's approach was ineffective, Smith eventually sought a different approach, asking the KCG leaders how they were able to succeed in getting people to *want* to participate on their own.

The democratic approach of a civic leader based on freedom, respect, guidance, and dialog, which serves to empower others and ignites self-leadership. When leadership is people-centered social organizations are displayed in networks and systems, not hierarchies, as the KCG experience showed. Hierarchies serve power, networks serve people. Brenton and Largent (1996) use the example of the human body in describing what social harmony looks like. They say our bodies are made up of millions of unique cells which fulfill their functions orderly and harmoniously without sacrificing individuality.

> Constant dialog within the body is what enables each cell to do its job effectively…. Blood cells aren't ordered to return to the heart for re-oxygenation, nor do they do this from fear or coercion. They simply "know" what to do and when. When social systems work well, they create order in much the same way. They build on a flow of information, so that social harmony grows from mutual awareness. We're aware of our abilities and responsibilities, both to ourselves and

> to our systems. We know our own needs, and we have a rough and developing idea of the needs of others, of communities, and of the planet. And we trust that awareness flows from the universe back to us as well (p. 243).

Given their diverse social networks, civic leaders see things from multiple perspectives and are able to bridge perceptual connections where none were previously seen. In this way they empower paradigm shifts among the group. When a civic leader has a grand idea it usually seems impossible to the group, at first. This is something I observed at KCG, such as when Searles embarked on a mission to establish a community garden education project with nothing but the support of a few friends, or when Meyer suggested hosting Hoeaea, a five-day food-sovereignty conference, serving three meals a day and housing 300 participants, while providing daily educational workshops on a shoe-string budget. And it was the case when Kaneshiro suggested creating curriculum around a 10-week healthy living course in which adults with disabilities and middle school students would learn together. Zen Buddhist Thich Nhat Hanh (1988) was cited by one KCG leader as a source of inspiration. In his book, *The Heart of Understanding*, he evokes an eloquent example of how a leader demonstrates vision, while raising awareness of interconnections.

> If you are a poet, you will see clearly that there is a cloud floating in this sheet of paper. Without a cloud, there will be no rain; without rain, the trees cannot grow; and without trees, we cannot make paper. The cloud is essential for the paper to exist…. [The paper] cannot just be by itself. It has to inter-be with the sunshine, the cloud, the forest, the logger, the mind, and everything else. It is empty of a separate self. But, empty of a separate self means full of everything (pp. 3, 10).

Our institutions – whether political, economic, or social as in the case of schools – are extraordinarily resistant to change. It therefore requires leadership by people on the margins to educate and inspire others to act, while collectively seeking change. Civic leadership, according to Grunewald (2008) is more important than ever.

> Large centralized economic and political institutions are demonstrating less and less interest in the welfare of common people in their pursuit of policies and practices that generate wealth for the few. If the mass of humanity is to preserve or reclaim the resources and social practices necessary to guard their own security and ability to care for the young, diverse actions in many local communities may prove to be more successful than national and international activities that tend to be stymied or co-opted by those in power (p. 356).

Social movements require people, but people require leadership. It is true that social capital takes heavy lifting – more than one person can do alone. But people need the direction and vision of civic leaders. Mahatma Gandhi, for example, knew that he could not achieve his social aims without the Indian people joining his strategy of nonviolent noncooperation with British rule (Breton & Largent, 1996, p. 168). Within a community garden project, civic leadership has the ability to channel diverse social capital networks toward a unified goal of greater holistic sustainability within our communities.

Ecological literacy

Huli ka lima i lalo, maʻona kaʻōpū. Turn the hands to the soil and the stomach is satisfied (Local Harvest, 2012).

Goleman, Barlow, and Bennette (2012) argue in their book *Ecoliterate* that ecoliteracy encompasses several dimensions of human intelligence that can be nurtured in schools and communities including emotional intelligence, social intelligence, and ecological intelligence. Emotional intelligence enables individuals to: know one's emotions, motivate oneself, recognize emotions in others, and develop successful relationships (p. 5). Social intelligence is the ability to exchange information, coordinate and harmonize efforts (Goleman, 2009); but also to see from another's perspective, emphasize, and show concern. (Goleman et al., 2012) Ecological intelligence is the ability to see from an ecological perspective, emphasize, and show concern for natural

systems and the life it contains (p. 6). In this book Goleman et al. (2012) advance five practices of integrated intelligence and engaged ecoliteracy: Developing empathy for all forms of life; embracing sustainability as a community practice; making the invisible visible; anticipating unintended consequences; and understanding how nature sustains life (p. 10-11)

"Developing empathy for all life forms" encourages people to expand their sense of compassion beyond their narrow selves to include others within their community and even plant and animal life. It involves a perceptual shift from society's dominant view that humans are separate from and superior to the rest of life on earth. "Embracing sustainability as a community practice" involves learning about "the wondrous ways that plants, animals, and other living things are interdependent, students are inspired to consider the role of interconnectedness within their communities and see the value in strengthening those relationships by thinking and acting cooperatively" (p. 10-11). "Making the invisible visible" recognizes that it is difficult, especially for youth, to comprehend the implications of human behavior, which have expanded exponentially in time, space, and magnitude. However, it strives to reveal these far-reaching impacts and encourage life-affirming behaviors. "Anticipating unintended consequences" is the challenge of predicting implications of human behaviors, while at the same time realizing that humans cannot foresee all possible cause-and-effect associations. It involves acting with precaution, acting to defend rather than destroy life, and building resiliency within natural and social communities to rebound from unintended consequences. Finally, "understanding how nature sustains itself" develops a recognition that ecosystems, apart from human influence, are by nature sustainable. This practice involves learning from

nature and applying its strategies and principles, where applicable, to human endeavors (p. 10-11).

In my search of the literature, I found a number of studies on teaching and assessing ecoliteracy within schools, but few on developing ecoliteracy within community education. This study operationalizes ecoliteracy within environmental community education by drawing broadly on indicators for environmental literacy, ecojustice, and community-based environmental education. Indicators for ecoliteracy within environmental community education include: multiple intelligences spanning across social, emotional, and ecological planes; multiple capacities including relevant knowledge, skills, attitudes, and behaviors; and multiple applications toward sustainable communities such as critical thinking, empowerment, environmental protection, stewardship, and civic engagement (see Table 7.2).

Civic leaders at KCG advocated for environmental and social justice, for example, by collaborating with other grassroots organizations to raise awareness through food sovereignty conferences. The garden also advocated for the preservation of cultural and traditional knowledge, for example including cultural protocol such as *oli*, Hawaiian chanting, with garden lessons and cultivating certain plants in connection with *hula*, Hawaiian dancing. KCG achieved these things without negating science; rather, it enlarged its view to include Western *and* indigenous science. For example, soil testing and vermicomposting were techniques used alongside Korean Natural Farming, a technique of cultivating indigenous micro-organisms (IMO) and local fertilizer inputs; and planting according to the Hawaiian moon calendar, a technique common among many indigenous cultures but conceived uniquely in Hawaiʻi. Including people of diverse

Table 7.2

Assessing Ecoliteracy within Environmental Community Education

Dimensions	Approaches	Indicators
Multiple Intelligences	Ecoliteracy	Social, emotional, and ecological intelligences
Multiple Capacities	Environmental Literacy	Knowledge, skills, attitudes, and behaviors
Multiple Applications	Ecojustice Community-based EE	Critical thinking, social empowerment, environmental protection, stewardship, civic engagement

Sources: Burman, 1990; Cole, 2007; Disinger & Roth, 1992; Goleman et al., 2012; Lyson, 2004; Potter, 2010

backgrounds alongside diverse cultural and scientific knowledge seemed contributed to the development of deeper meanings and multiple intelligences characteristic of ecoliteracy. Further, because KCG validated multiple forms of knowledge and utilized inquiry-based, experiential, social, and service learning methods, it was able to advocate for broad social and environmental goals while still respecting diversity and cultivating critical thinking. My findings challenge Hungerford's (2010) claim that the subjectivity of culture-based, advocacy-based environmental education undermines the aims of environmental education.

KCG understood that youth begin constructing their relationship with the political world early in life and that parents, teachers, and other role models are critical for each young person to develop an empowered relationship with society. KCG leaders fostered

this relationship is by providing opportunities for youth to enter and engage the real world around them. People develop social consciousness when they become aware of group needs through posing such questions as: How does my lifestyle affect the lives of others? What are my hopes for the future and what is my vision for the world? Are my actions consistent with my hopes and vision? How can I contribute to a more just, peaceful and ecologically sound world? (Burman, 1990).

KCG engaged youth in critical thinking and reflection, drawing connections between personal, social, and environmental health. These are some of the questions I noted in my field journal: "What does aloha ʻāina mean to you? What does aloha mean? What does ʻāina mean? What do they mean together? What would you like to see grow in you during this lunar cycle? What plants in the garden symbolize a quality about you? How does the garden keep you healthy? How does healthy soil create healthy food? How does healthy food make happy people? What nourishes you in your life? What do you love? What is your favorite food? If you could describe yourself as a weather condition, what would it be right now? Do you feel sunny, rainy, thunderstorms, or rainbows? Who are you thankful for? What is the gift of who you are? What do you give to the garden? What are you joyful about and how do you share it with others? This demonstrates how ecological community education can help youth to draw connections between their natural and social environments.

As I state in Chapter 2, Goleman, et al. (2012) argues that ecoliteracy requires the cultivation of multiple human qualities including ecological intelligence, social intelligence, and emotional intelligence (pp. 10-11). Ecoliteracy, after all, is more than understanding environmental sustainability, it is also having the emotional and social

intelligence to effectively work with others in caring for the environment, solving environmental problems, and avoiding unanticipated consequences (Orr, 2013). Goleman et al. (2012) advances five practices of integrated intelligence and engaged ecoliteracy: Developing empathy for all forms of life; embracing sustainability as a community practice; making the invisible visible; anticipating unintended consequences; and understanding how nature sustains life (pp. 10-11)

KCG intuitively put these practices of ecoliteracy into action thereby strengthening and extending people's capacity to live as a sustainable community. KCG leaders shifted the dominant mindset which considers humans to be separate from and superior to the rest of life on earth and developed familiarity with and compassion for all living beings, from tiny insects all to people who are different, such as adults with disabilities. It was expressly a loving and non-violent garden. By learning about the wondrous ways that plants, animals, and other living things are interdependent KCG participants were inspired to consider ways in which thinking and acting cooperatively added value and interconnectedness to their communities. Of making the invisible visible, Goleman et al. (2012) write, "The impacts of human behavior have expanded exponentially over time, space, and magnitude, making the results difficult if not impossible to understand fully" (p. 11).KCG education brought awareness to indigenous microorganisms in the soil, invisible to the naked eye but cultivated through Natural Farming techniques; encouraged walking or biking to the garden instead of driving; and emphasized conservation, simplification, and .production over consumerism such as with creating fertility instead of buying imported fertilizer.

Mirroring the dynamic balance of ecosystems, sustainable human communities, such as KCG, have strategies for conflict resolution. Just as organisms seek adaptation within dynamic ecosystems, civic leaders anticipate contradictions and conflicts to arise within human systems of organization. Knowing that conflict can be an opportunity for positive change and growth, depending on the context, civic leadership strives to treat people and situations equitably and favors flexibility over rigid decisions, whereby seemingly contradictory things can coalesce. For example stability and change, order and freedom, tradition and innovation (p. 303). Examples from this study included maintaining a core educational philosophy, but adapting it to diverse community needs; mitigating much conflict through dialog and democracy while approaching inevitable conflicts harmoniously; and incorporating diverse agricultural traditions within a contemporary community garden design.

KCG demonstrated that ecoliteracy education changes the way that people relate not only to nature but to one another. *Relationships* are where ecology, leadership, and community intersect. What sustains relationships? At the deepest level, the answer is love. Aloha ʻāina, love of land; and *aloha kekahi i kekahi*, love for one another, were guiding principles at Kaiao. Aloha is not just some flowery word. According to Olana Aʻi, "Aloha is the intelligence with which we meet life" (Meyer, 1998, p. viii). As an intelligence, aloha directs people's thoughts, values, and behaviors. It molds leadership styles and ways of relating and socially organizing. It dissolves the ego and puts the wellbeing of the group first. Aloha is not self-assertive, it is integrative. (see Table 7.3).

Table 7.3. Self-Assertive Versus Integrative Thinking and Values (reproduced from Capra, 1996)

Thinking		***Values***	
Self-Assertive	*Integrative*	*Self-Assertive*	*Integrative*
Rational	Intuitive	Expansion	Conservation
Analysis	Synthesis	Competition	Cooperation
Reductionist	Holistic	Quantity	Quality
Linear	Nonlinear	Domination	Partnership

Capra (1996) asserts that "ultimately deep ecological awareness is spiritual or religious awareness. When the concept of the human spirit is understood as the mode of consciousness in which the individual feels a sense of belonging, of connectedness, to the cosmos as a whole, it becomes clear that ecological awareness is spiritual in its deepest essence" (p. 7). This is something that KCG participants told me loud and clear, but I resisted hearing until I finally "got it" by the end of my study.

Holistic sustainability

Sustainability is simply a consequence of following basic ecological principles: interdependence, cycling, partnership, flexibility, and diversity – Fritjof Capra (Capra, 1996, p. 304).

At its simplest form, a community is a pattern of organization for surviving overtime (Goleman, et al., 2012). A *sustainable community* is "one that is able to satisfy its needs and aspirations without diminishing the chances of future generations" (Capra, 2005, p. xiii). While it is important to recognize our moral obligation to future generation, Capra (2005) admits that this definition is lacking because it does not tell people anything

about how to build a sustainable community. According to him, the good news is that we do not have to "invent" sustainable communities from scratch. We can simply model our sustainable communities after indigenous societies that have sustained themselves for centuries and from the sustainable communities of plants, animals and microorganisms that comprise nature's ecosystems.

In his famous speech of 1854, Chief Seattle proclaimed that "all things are bound together. All things connect. What happens to the Earth happens to the children of the Earth. Man has not woven the web of life. He is but one thread. Whatever he does to the web he does to himself" (quoted in Brenton & Largent, 1996, p. 286). Similarly, native Hawaiian epistemology is rooted in Hawaii's environment. This is not a metaphor. Native Hawaiians believe that they are genealogically tied to the earth, as the offspring of Wākea (sky father) and Haumea (earth mother) and younger sibling to their sacred staple food kalo (Johnson, 1981). The pathway is already before us, we simply have to retrace our steps back to our ancestral knowledge and values and contemplate to the intricate relationships which sustain life in nature. One important, commonly held value among human communities that practice living sustainably is a high regard for the common good.

> Recognizing that 'we are all in this together,' sustainable communities endeavor to create general conditions that are to the advantage of both people and other life…. It also includes creating…systems that can sustain the community if an unanticipated disruption occurs, by decentralizing essential goods and services and building in redundancy so if one part of the system fails, other parts are able to keep operating (Goleman, et al., 2012, p. 13).

As the most remote inhabited archipelago in the world, we face increased vulnerability from an unanticipated disruption. Arancon explained the importance of holistic sustainability. People must be taught to design and evaluate new systems based

on 1) ecological soundness; 2) economic viability; 3) cultural sensitivity; 4) social justice 5) appropriate technology 6) holistic science and 7) total human development. What is significant about these "holistic" criteria, as opposed to other models of sustainability, is that it includes the human dimension (N. Arancon, personal communication, February 17, 2012).

Learning how to consider these varied aspects in conjunction with one another will require re-education for most people. The process of coming to decisions under this model is not linear as it is in business and economics, and less efficient. Yet this is exactly the kind of long-range thinking and feeling that twenty-first-century education must develop to keep people from repeating twentieth-century behavior. Formal and non-formal education, along with socialization, has no doubt led Western civilization astray. Education forms the basis of thought, feelings, and behavior – which has not been sound, sensitive, or just.

Twentieth-century Western education was implicit in today's social and environmental crises, and it was based upon an error of thinking and an error of feeling. The error of thinking was in developing linear industrial systems that run counter to nature, which is cyclical. The error of feeling was in perpetuating the ideal of individualism, thus cutting people off from one another and nature. The disconnect between mind and heart allowed people to behave as though they had no obligations to their neighbors, to the earth and its many life forms, or to future generations. Without heart, there is no compassion, sensitivity, or obligation for one's actions.

Twentieth-century education was also compliant in the reduction and pollution of the planet's resources, the extinction and endangerment of biodiversity, and climate

change. It has led to consumption and destruction behaviors that have intensified natural disasters, food and water shortages, and human and animal suffering. Indeed, twentieth-century Western education has led the entire world to become dependent on a growth model, which in fact, causes poverty. This is evidenced in the way the global economic recession, the global environmental crisis, and the escalating social disparities have shaped the twenty-first-century. The world is more connected than people realize. While these problems obviously cannot be addressed through education alone, our systems of education must play a significant role in re-educating people in the kinds of knowledge, values, skills, and behaviors that will lead us to a healthier, more sustainable future.

In considering the role of education in creating sustainable communities, communities themselves should not be ignored. After all, they have the cultural and traditional knowledge, the practical skill sets, and the agility to swiftly adapt to the crises in ways that educational institutions alone cannot. Community education is not boggled down by false standards and assessments and has no need for routine paperwork and bureaucracy. Community education thrives amidst common purpose, action, diversity, relationships and bridged networks. This was certainly the case with KCG. And yet, Gruenewald & Smith (2008) caution us about prescribing a similar solution for other communities. "What has served our species well in the past could serve us well in the present and future if we only relinquish the modern tendency to impose universal solutions upon the infinite variability of both people and the planet. Local diversity lies at the heart of humanity's biological and cultural success" (Gruenewald & Smith, 2008, p. 347).

Community garden projects are just one of the ways that communities can take on a leadership role in education. And community garden projects come in every size, shape, and form. Additionally, there are many other diverse pathways within community education to achieve holistic sustainable communities.

Theory on the Educational Dimensions of Holistic Sustainability

Holistic sustainability requires bridging social capital, ecoliteracy, and civic leadership together within community education. Social capital, or the bonding and bridging that occurs through social collaboration, can develop civic leadership. Likewise, civic leadership, or the capacity to solve community problems democratically, can provide meaningful opportunities to develop social capital. Social capital and civic leadership can be channeled through community education to develop ecoliteracy, or the knowledge, skills, attitudes, behaviors, and interrelationships relevant to sustainability. Through experiential activities in social learning, service-learning, and mentorship, ecoliteracy can be developed hand in hand with social capital and civic leadership.

Sustainable communities examine local issues determined as unsustainable, take stock of community resources (natural, intellectual, and human), and work to organize and stabilize these resources in a continual way while adapting to change. The diverse relationships and resources brought in by social capital; the knowledge, skills, attitudes, behaviors, and interconnections of ecoliteracy; and the vision and democratic process of civic leadership together trigger exciting possibilities for learning and a social movement for systemic, ecological change. How communities activate these educational dimensions will be diverse as communities themselves. Yet this broadly defined model may help

people who live in fractured, unsustainable communities to transform their natural and social environments into ones that are ecological, holistic, and sustainable (See Appendix G).

Implications for Formal Education

If ecological education is confined to schools that function like islands within a larger sea of ecological ruin — malls, highways, urban blight, rural slums, and pollution — they will eventually fail to transform anything. To be effective, education must engage the wider society – David Orr (Orr, 2004).

This study suggests the possibility that the democracy brought by leadership, the bridging and bonding brought by social capital, and the holistic sustainability brought by ecoliteracy are not isolated to community education. What brought success to community-based education could be utilized to improve formal education. Alone, and without inner bonding and bridging, they are isolated and hopeless. But as a learning community, and one linked to the wider society, schools can become gardens of hope.

An underlying implication of this study is that formal education is not entirely meeting the educational needs of youth or communities. One recommendation, therefore, is for schools to strengthen its community networks through social capital bridging. This could lead to developing new service learning and mentorship opportunities that can develop social identities and civic leadership among students while benefiting the community. According to Mary Anne Raywid, "One of the more promising ways to generate bridging social capital is through the establishment of service learning programs." In her Amioka guest lecture entitled "What would it take to fix Hawaii's schools?" She spoke of the importance of youth growing up with "the feeling they've

some obligation to their community, to give something back, and to make it a better place" (personal communication, July 17, 2002).

An example that Putnam (2000) suggests for introducing service learning in schools is to mobilize civics education. Classes should go beyond the standard questions of "how a bill becomes a law" and into "How can I participate effectively in the public life of my community?" "Imagine, for example, the civic lessons that could be imparted by a teacher in South Central Los Angeles working with students to effect public change that her students think is important, like getting lights for a neighborhood basketball court" (Putnam, p. 405). At KCG, high school and college students helped to raise awareness of the benefits of farming by taking on voluntary leadership roles in gardening education and establishing other community garden projects throughout town.

A second recommendation is for schools to offer students more opportunities to engage their peers in team-based, applied learning projects, particularly in nature so as to simultaneously develop eco-literacy. An obvious example would be creating school gardens that could be used in multiple disciplines, including math, science, and language arts. This is already being done in many schools locally and across the country, but there are many others who have no such permanent hands-on project on campus (Stone & Barlow, 2005). The social learning that is enabled through a school garden may benefit bridging and bonding across social and cultural groups within the school. Raywid notes that public discussion and questioning within public education are essential to making schools better (Personal communication, July 17, 2002). To create a transformational learning environment, for teachers and students, the KCG leaders asked themselves deep, introspective questions that closely aligned to Arjen Wals' (2007) recommendations.

> The point of social learning is perhaps not so much about what people should know, do or be able to do, which could be an embodiment of authoritative thinking and prescriptive management, but rather: How do people learn? What do they want to know and learn? How will they be able to recognize, evaluate and potentially transcend social norms, group thinking and personal bias? What knowledge, skills and competencies are needed to cope with new nature, social, political and economic conditions, and to give shape and meaning to their own lives? How can social learning build upon people's own knowledge, skills and, often alternative, ways of looking at the world? How can the dissonance created by introducing new knowledge, alternative values and ways of looking at the world become a stimulating force for learning, creativity and change? How can people become more sensitive to alternative ways of knowing, valuing and doing, and learn from them? How do we create spaces or environments that are conducive to the emergence of social learning (p. 19)?

A third recommendation is to try to create a genuine community feel within schools in tangible ways that produce feelings of support, trust, and freedom, and enables greater dialog among students, staff, and administrators. This might be enabled simply by removing some of the barriers, such as an institutional culture of micromanagement. Raywid notes, "Our preoccupation with control is producing failure." She recommends that teachers "model trust in their judgment of students, providing less and less structure as youngsters mature, encouraging them to exercise their minds and their own judgment. Moreover, Raywid argues that in order to get the most effective performance out of teachers, principals and other DOE staff, they need to be allowed to participate in the creation of programs and procedures they are asked to carry out. "It's as simple as this: people will work to create a world they want and have been invited to envision and develop. They're a lot less willing to work to create a world that's been forced upon them, like it or not" (Personal communication, July 17, 2002). Putnam (2000) puts it simply, "trust is a key ingredient in school reform" (p. 305). Civic leadership at KCG was a model of democracy and trust that trickled down to the participant level. As some participants went on to become civic leaders, such as Robinson, that same leadership

style was applied. Conversely, at the BGC, Miller's leadership style fostered an atmosphere of distrust, which negatively impacted both the BGC and KCG programs.

A fourth and final recommendation is to include more place-based and culture-based curriculum, which students often find more meaningful, practical, and relevant. Currently many schools focus on standardized and decontextualized learning objectives, which have little bearing on the lived experience of diverse people and places. Schools and educators should attempt to reverse this trend, according to Gruenewald & Smith (2008), by including more local experience, inquiry, action, and reflection within teaching and learning. Place-based education should not be seen as incompatible with standards-based schooling. Rather, they say that schools and teachers should aspire to make this powerful approach to learning available at least part of the time to learners in all communities (p. 347). And what is more, there are now exciting new career opportunities for youth to prepare for. These are important jobs that add the word "environment" to existing fields like design, planning, medicine, business, law, journalism, education, agriculture, and development. Education must now develop a collective environmental consciousness that permeates every aspect of life. This epistemological revolution, already well underway, lends hope to present and future generations and to the planet, mother earth.

Epilogue

Answering the Call for Sustainable Communities

Never doubt that a small group of thoughtful, committed citizens can change the world. Indeed it is the only thing that ever has. – Margaret Mead (Breton & Largent, 1996, p. 345)

The call for community sustainability in Hilo, Hawaiʻi started as a whisper but as more voices joined in, the call grew louder and louder until a social movement was born. It all started when a small group of thoughtful, committed citizens tried to change the world, or at least a tiny corner of it. They heard a call coming from within their hearts, an intuition that fundamental change was in order. Their sensitivity and awareness that economic, environmental, and social systems were degrading at alarming speed drove them to preemptive civic action before the 2008-2012 global recession even materialized. They roused a sleeping community and inspired an awakening, which is still in its dawn.

As much as "sustainability" has been advocated in schools, books, media, policies, and political discourse over the last several decades, change has been slow to occur. Perhaps there are not enough opportunities for integration between people and the natural world to establish critical mass. Perhaps we need more community gardens; and changes in education – not only what people learn, but *how* and *where* they are able to learn.

In schools, exercises in competition and self-assertion still tend to outweigh lessons in partnership and cooperation (Goleman, et al., 2012). But this goes against our very nature: thousands of years of evolution hardwiring us to collaborate for survival (Goleman, 2009). In many parts of the world, cultural values and traditions guided

responsible behaviors for generations, but they are quickly being forgotten in the name of "progress" (Stone & Barlow, 2005).

Within our community we know that indigenous people are displaced, elders ignored, and the "weak" marginalized as if they have no value to offer. Farming is looked down upon as a low-status profession. Agriculture has lost its central place within modern civilization, while the value of food has been replaced with price. But there is a difference between value and price. Sustainable communities require that value be brought back to food, which is more than calories, it is memory, people, history. Leaving behind these essential parts of community is tragic mistake, says Petrini (2005), who has helped organize indigenous people and traditional food producers under an international non-profit called Slow Food. His goal is to revitalize communities around traditional and sustainable food production, a movement collectively known as Terra Madre (mother earth). Sensing that the Hilo movement represented part of a global grassroots movement, I traveled to Turin, Italy to take part in the 2012 Terra Madre international conference on food sovereignty. There, Petrini addressed civic leaders representing sustainable food communities across the world, 160 countries to be exact.

> Reducing everything to productivity has lead us to the brink. We've left behind four very important groups of people: women, the elderly, indigenous people, farmers and producers. We left them behind. Every so often we say, "Oh how nice they look, aren't they great!" But only as long as they're behind us, in the background. Everyone's convinced that we just have to march in lock step. We are told we're in the middle of a financial crisis and we're coming to some sort of Armageddon with nature. We have to turn back, we have to turn around and just retrace our steps. And who is going to show us the way? These people we left behind. Women, old people, indigenous people, farmers. And once we turn back to them we can leave behind the bankers, the capitalists, ignorant people, arrogant people, and powerful people (C. Petrini, personal communication, October 25, 2012).

Civic leaders around the world are being called to lead the way back to sustainable communities. They take great stock in the relationships, knowledge, values, and resources that have sustained communities for centuries. Their specialty is retrieving what is being thrown away, and recycling it into something valuable. KCG tapped into a network of people and resources, channeled cross-cultural and intergenerational learning and mentorship opportunities, and demonstrated the value and resiliency of community integration. Social networking and capacity building must precede community sustainability.

It's time to get back to basics. We have to learn how to be human beings responsive to community and nature. An education that only cultivates and rewards rational thought and competitive values creates *unsustainability* (Capra, 1996). Education must adopt greater holism, by encouraging the development of sensitivities – how to see with one's heart, hear with one's intuition, express with one's spirit, and feel connection and compassion to things beyond the self. To become better integrated within ourselves, our communities, and in nature requires that people undergo an uncomfortable, transformative process. It involves stepping outside of what is "normal" and "safe" in order to grow as people and a society.

It can be scary awakening to the realization of interdependency, letting down emotional walls, and being vulnerable to change. But without integration and collaboration, without change, we stand no chance at tackling the complex, interrelated problems of our time. These cannot be solved by a single individual or approach; they require an integration of people and approaches – diversity. How do we become

integrated? It would be naïve to think that it happens automatically, simply by putting different people together; or by teaching people *about* nature or *about* diversity.

Integration is developed when people have the freedom to come to their own conclusions about sustainability within a natural environment. Yet, civic leaders can help navigate the waters. They create fluidity within community education that naturally bridges diverse people and resources together, providing them with meaningful service-learning in the places in which they live. Engaging in the local environment and community, sustainably, builds lasting positive relationships and habits of being. Within service-learning, stewardship and teamwork serve as opportunities for cohesion, whereby people can connect to nature, in all its wonderment, while also experiencing a shared humanity. At Kaiao service-learning participants came to their own realization that integration leads to healing, oneness, and synergy.

The experience of Kaiao showed me these truths. Most importantly I discovered how a community garden can instill compassion and caring toward people and land. Learning to care for one another and the environment should be one of the highest priorities within education. And yet, "care" is not something that can be readily taught; it is something best learned through interaction. *Ma ka hana ka ʻike* – through experience, one learns (Meyer, 1998), was the philosophy at Kaiao. This case study demonstrates that communities can be rich grounds for interaction and the development of care. In Hawaiʻi communities care of people is expressed through aloha, and care of the environment through aloha ʻāina and malama ʻāina.

On the KCG website, sometime between 2008 and 2010, Searles wrote her reflection on this. "How do we open this dialog? How do we [invite] the wisdom to come

forth…to navigate through these perplexing times?" She said the answer comes forth when a community gathers together and responds to a place with all their love.

> Aloha guides this movement with everyone. The awakening of our minds to a sensibility of coherence can only happen through loving relationships. This cannot be done through an economic model. [I]t must be revealed through the ups and downs of people connected through a practice of experience and culture…. Through trusting our experience the garden grew into an educational paradigm that is alive and engaging (Searles, n.d.).

Communities are best at instilling precisely the affective qualities that these times of unsustainability call for; but are so hard to teach within schools. Schools and communities need one another and must reach out and establish these vital partnerships, for the sake of all of us, but especially the youth. We can no longer solely rely on institutions, corporations, and public policies to create sustainability. *It takes a community*. For those who have not yet tapped into their potentials as civic leaders, the opportunity is here and now. And it is better this way. People *should* participate in shifting priorities, rebuilding communities and addressing holistic needs that affect their lives. It starts person to person, brick by brick, one project at a time. For me, answering the call means that my work in community education is not yet finished. It has just begun.

Appendix A

Interview Consent Form

Agreement to Participate in a Case Study of Kaiao Community Garden

Kaleo Veary Correa
Primary Investigator
(808) 934-7524 / veary@hawaii.edu

This research project is being conducted as a component of a dissertation for a doctoral degree in Education. The purpose of the project is to explore non-formal and informal environmental education within a community garden. Non-formal and informal education includes any learning that takes place in conjunction with others outside of formal schooling. You are being asked to participate in this study because of your involvement with Kaiao Community Garden.

Participation in the project will consist of a 1-hour interview with the investigator. Interview questions will focus on your experience at the garden and your perception of the garden specifically, as well as your general attitudes and feelings toward topics of environmental education, environmental sustainability, and sustainable development. Each interview will last no longer than 1-hour.

Approximately 15-25 people will participate in the study, including Kaiao Garden educators, schoolteachers, and community members. Data from the interview will be summarized into broad categories, and may be quoted. Interviews will be audio recorded for the purpose of transcription.

The investigator believes that there is little or no risk to participating in this research project. However, there may be a small risk that you will experience psychological pain when closely examining some of the cultural, social, historical, economic, or political aspects of this topic.

Participating in this research may be of no direct benefit to you. It is believed, however, that the results from this project will further knowledge on how non-formal environmental education is imparted through a community garden.

Participation in this research project is completely voluntary. You are free to withdraw from participation at any time during the duration of the project with no penalty, or loss of benefit to which you would otherwise be entitled.

If you have any questions regarding this research project, please contact the researcher, Kaleo Veary Correa at (808) 756-0330, or veary@hawaii.edu

If you have any questions regarding your rights as a research participant, please contact the UH Committee on Human Studies at (808) 956-5007, or uhirb@hawaii.edu

Consent Form

Participant Name:

I have read and understand the above information, and agree to participate in this research project.

_____ You may use my name.

_____ Do not use my name. I wish to remain anonymous.

Appendix B
Informal Adult Interview Outline

Autobiographical

1. Tell me about you background: Where did you grow up? Did you always garden?
2. How and when did you become involved with Kaiao Community Garden?
3. How has your involvement with Kaiao Garden impacted your life?

Social Capital

4. How has Kaiao Garden impacted the community?
5. What contributes to a strong, healthy, vibrant, happy community?
6. What shared values should your community have?
7. What cultural skills are important for people in the Hilo community to have?
8. How well do you feel Kaiao Garden connects and empowers the community? Please give examples.

Environmental Literacy

9. What does environmental sustainability mean to you?
10. What is important for the community to know about the environment?
11. What environmental skills are important for the Hilo community to have?
12. What feelings should people in Hilo have about the environment?
13. What environmentally sustainable behaviors or lifestyles should people live?

Kaiao Garden

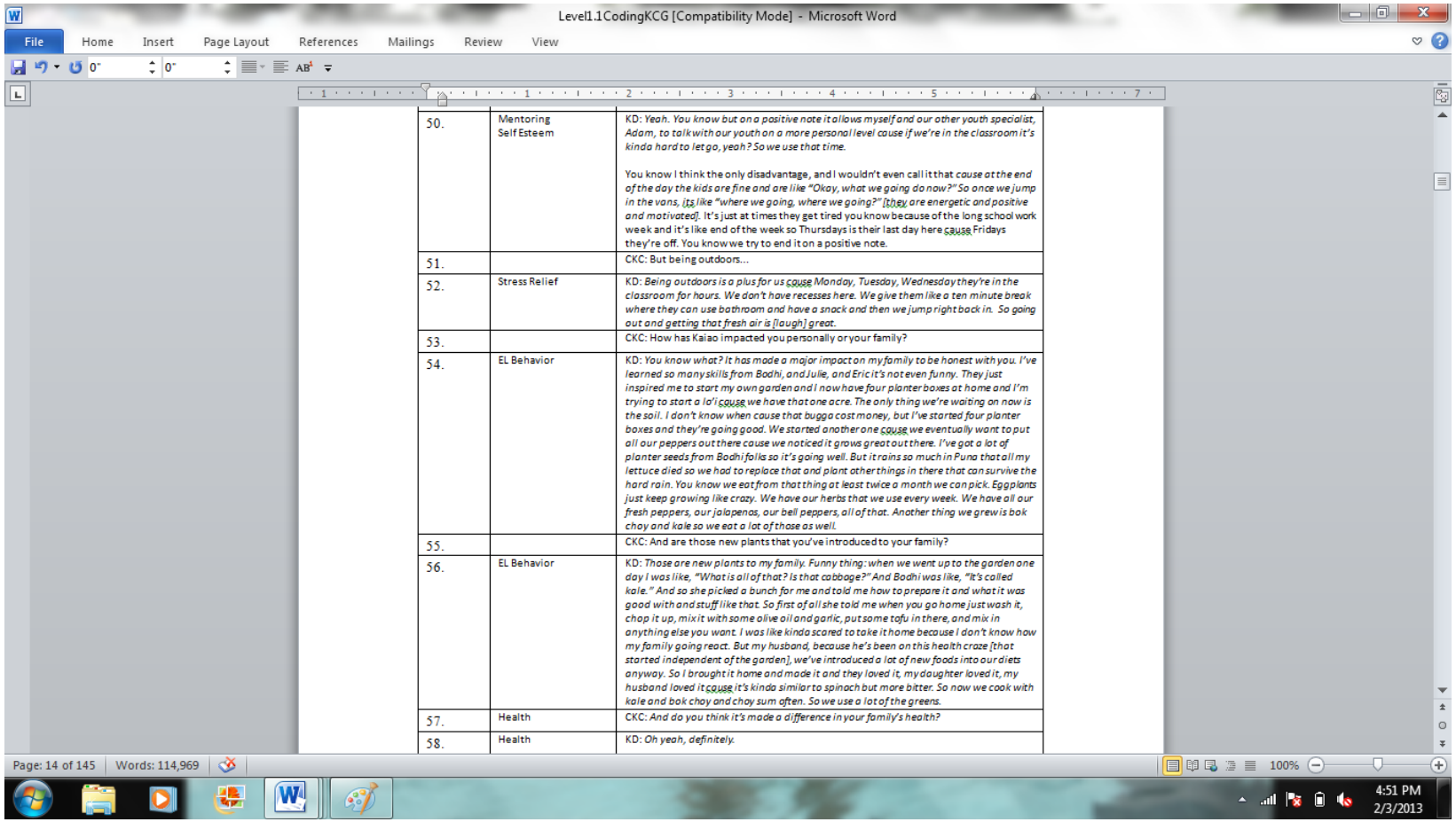
14. How has Kaiao Garden evolved since when you first participated?
15. What are the strengths and weaknesses of Kaiao Community Garden?
16. Is a volunteer-run community garden education feasible long-term? Explain.
17. Why is it important to teach the community about gardening and food?
18. How do ʻculture' and a ʻsense of place' shape Kaiao Community Garden?
19. Ideally, what would you like to see Kaiao become? What are the barriers?

Appendix C
Categorization of Multiple Data Sources

Stakeholder Groups	Programs	Interviewees	Field Notes	TOTAL:
Kaiao Community Garden Stewards	Kaiao Community Garden Education	Nine leaders One program	11 Volunteers One program	20 stewards One program
School teachers	Goodwill OIKH Goodwill ADH Connections Public Charter School Kua o ka La Virtual Academy	Four school teachers Three programs	One teacher One program	Five teachers Four programs
College faculty	UHH Department of Education UHH Department of Agriculture	Four college faculty Two depts.	One college faculty One program	Four college faculty Two programs
Students (ages 7-21)	Goodwill OIKH, Goodwill ADH, Kua o ka La Virtual Learning Academy	0	20 Students Three programs	20 students Three programs
Parents	Kua o ka La Virtual Learning Academy	0	Three programs	Three people
Affiliated organizations	Natural Farming Hawai‘i LCC LGH, Hawai‘i Island Beacon Community, Goodwill OIKH & ADH, Boys and Girls Club of Hilo	Five leaders Four Affiliations	Three staff in affiliated organizations Three programs	Eight people Six affiliated Programs
Six stakeholder groups	11 Programs: Two charter schools Two community ED Two university depts. Three nonprofits Two community projects	22 interviewees 10 programs Four stakeholder groups	39 peoples' statements Seven programs Six stakeholder groups	60 People 11 programs Six stakeholder groups

Appendix D
Organization and Analysis of Data

Figure D1. *Level 1 Coding Using Microsoft Word*



Level1.1CodingKCG [Compatibility Mode] - Microsoft Word

50.	Mentoring Self Esteem	KD: *Yeah. You know but on a positive note it allows myself and our other youth specialist, Adam, to talk with our youth on a more personal level cause if we're in the classroom it's kinda hard to let go, yeah? So we use that time.* You know I think the only disadvantage, and I wouldn't even call it that *cause at the end of the day the kids are fine and are like "Okay, what we going do now?" So once we jump in the vans, its like "where we going, where we going?" [they are energetic and positive and motivated].* It's just at times they get tired you know because of the long school work week and it's like end of the week so Thursdays is their last day here cause Fridays they're off. You know we try to end it on a positive note.
51.		CKC: But being outdoors...
52.	Stress Relief	KD: *Being outdoors is a plus for us cause Monday, Tuesday, Wednesday they're in the classroom for hours. We don't have recesses here. We give them like a ten minute break where they can use bathroom and have a snack and then we jump right back in. So going out and getting that fresh air is [laugh] great.*
53.		CKC: How has Kaiao impacted you personally or your family?
54.	EL Behavior	KD: *You know what? It has made a major impact on my family to be honest with you. I've learned so many skills from Bodhi, and Julie, and Eric it's not even funny. They just inspired me to start my own garden and I now have four planter boxes at home and I'm trying to start a lo'i cause we have that one acre. The only thing we're waiting on now is the soil. I don't know when cause that bugga cost money, but I've started four planter boxes and they're going good. We started another one cause we eventually want to put all our peppers out there cause we noticed it grows great out there. I've got a lot of planter seeds from Bodhi folks so it's going well. But it rains so much in Puna that all my lettuce died so we had to replace that and plant other things in there that can survive the hard rain. You know we eat from that thing at least twice a month we can pick. Eggplants just keep growing like crazy. We have our herbs that we use every week. We have all our fresh peppers, our jalapenos, our bell peppers, all of that. Another thing we grew is bok choy and kale so we eat a lot of those as well.*
55.		CKC: And are those new plants that you've introduced to your family?
56.	EL Behavior	KD: *Those are new plants to my family. Funny thing: when we went up to the garden one day I was like, "What is all of that? Is that cabbage?" And Bodhi was like, "It's called kale." And so she picked a bunch for me and told me how to prepare it and what it was good with and stuff like that. So first of all she told me when you go home just wash it, chop it up, mix it with some olive oil and garlic, put some tofu in there, and mix in anything else you want. I was like kinda scared to take it home because I don't know how my family going react. But my husband, because he's been on this health craze [that started independent of the garden], we've introduced a lot of new foods into our diets anyway. So I brought it home and made it and they loved it, my daughter loved it, my husband loved it cause it's kinda similar to spinach but more bitter. So now we cook with kale and bok choy and choy sum often. So we use a lot of the greens.*
57.	Health	CKC: *And do you think it's made a difference in your family's health?*
58.	Health	KD: *Oh yeah, definitely.*

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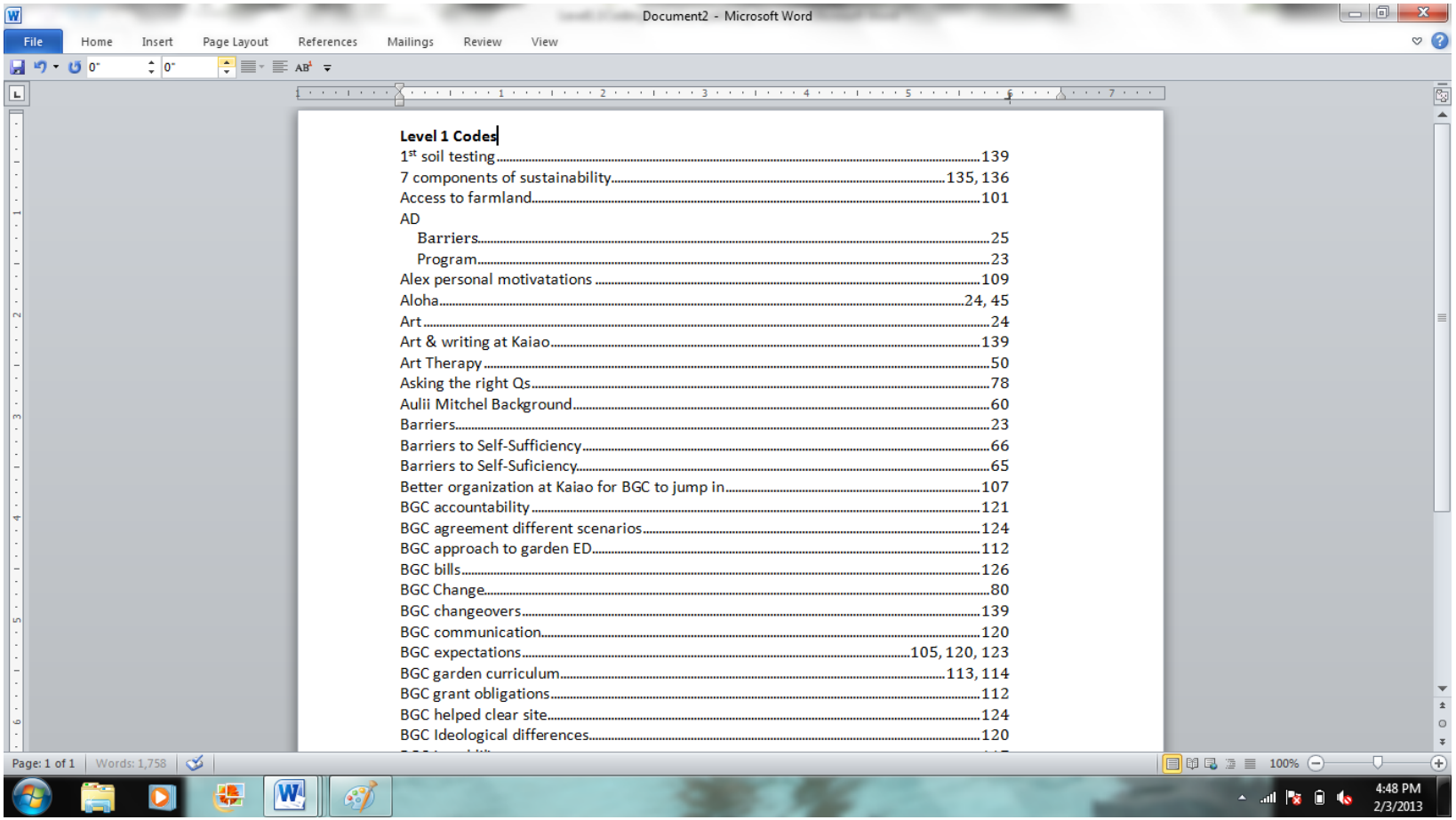
Figure D2. *Level 1 Indexing Using Microsoft Word*



Level 1 Codes

Figure D3. *Level 2 and 3 Coding Using Microsoft Access*

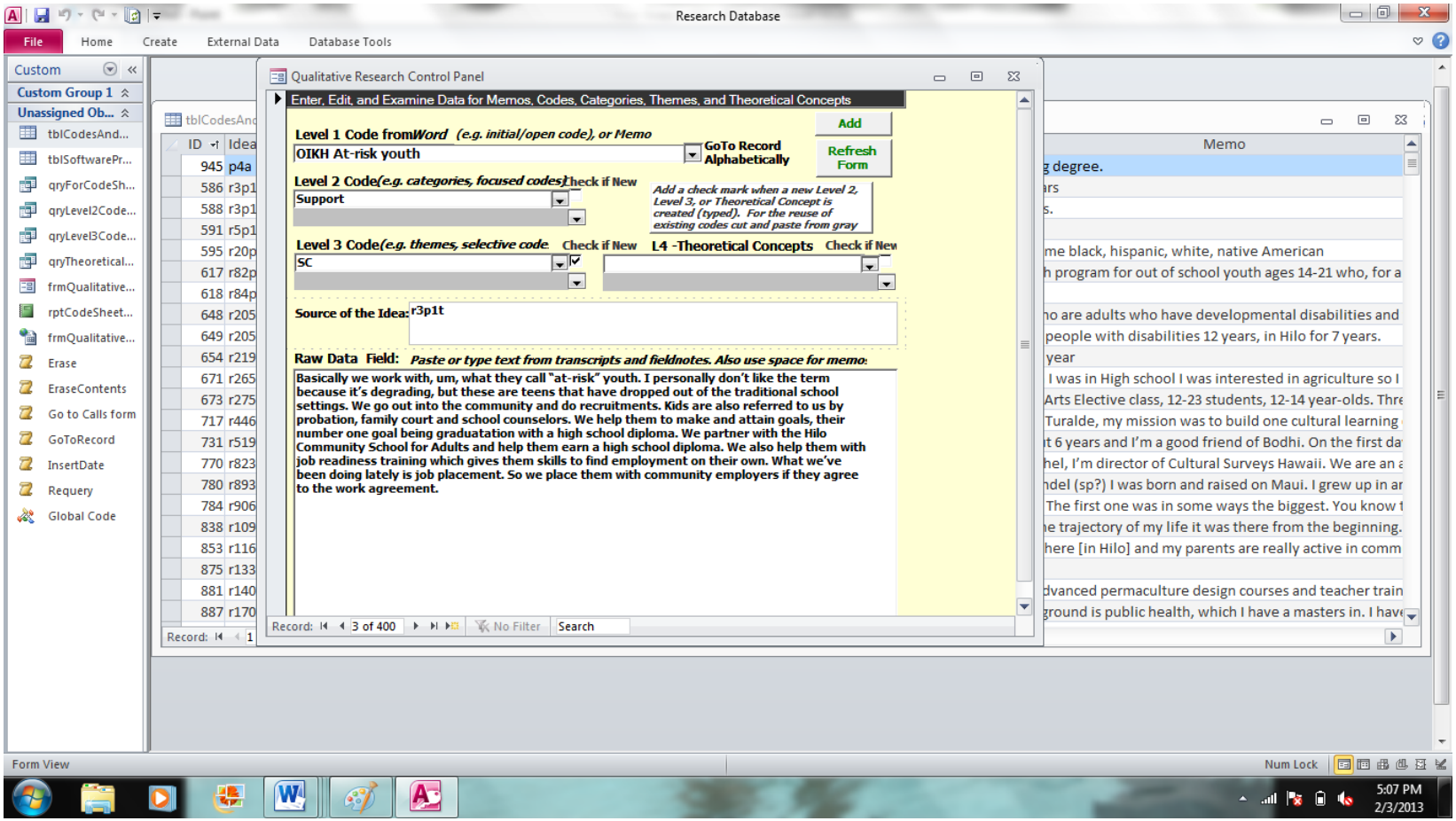
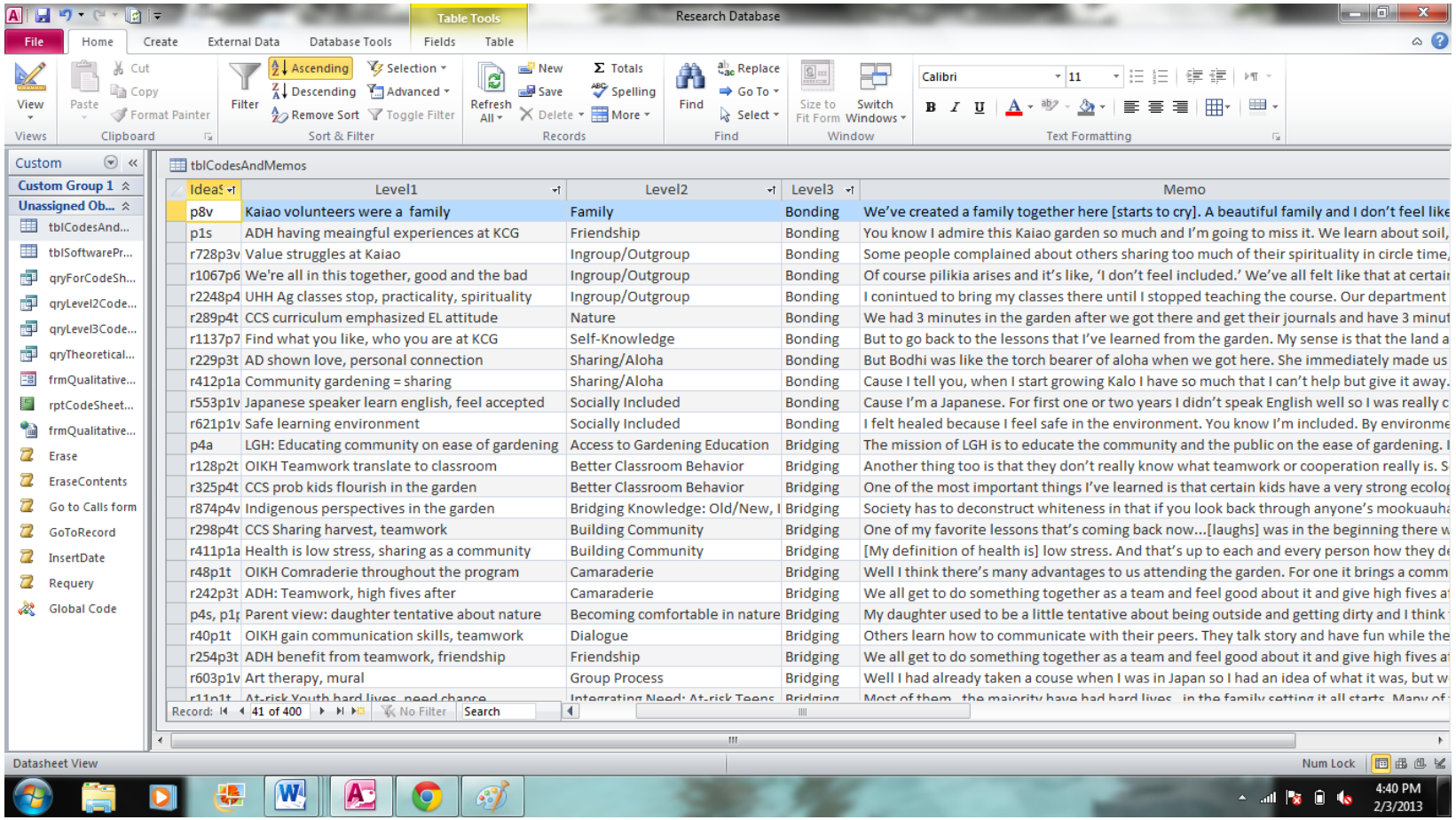


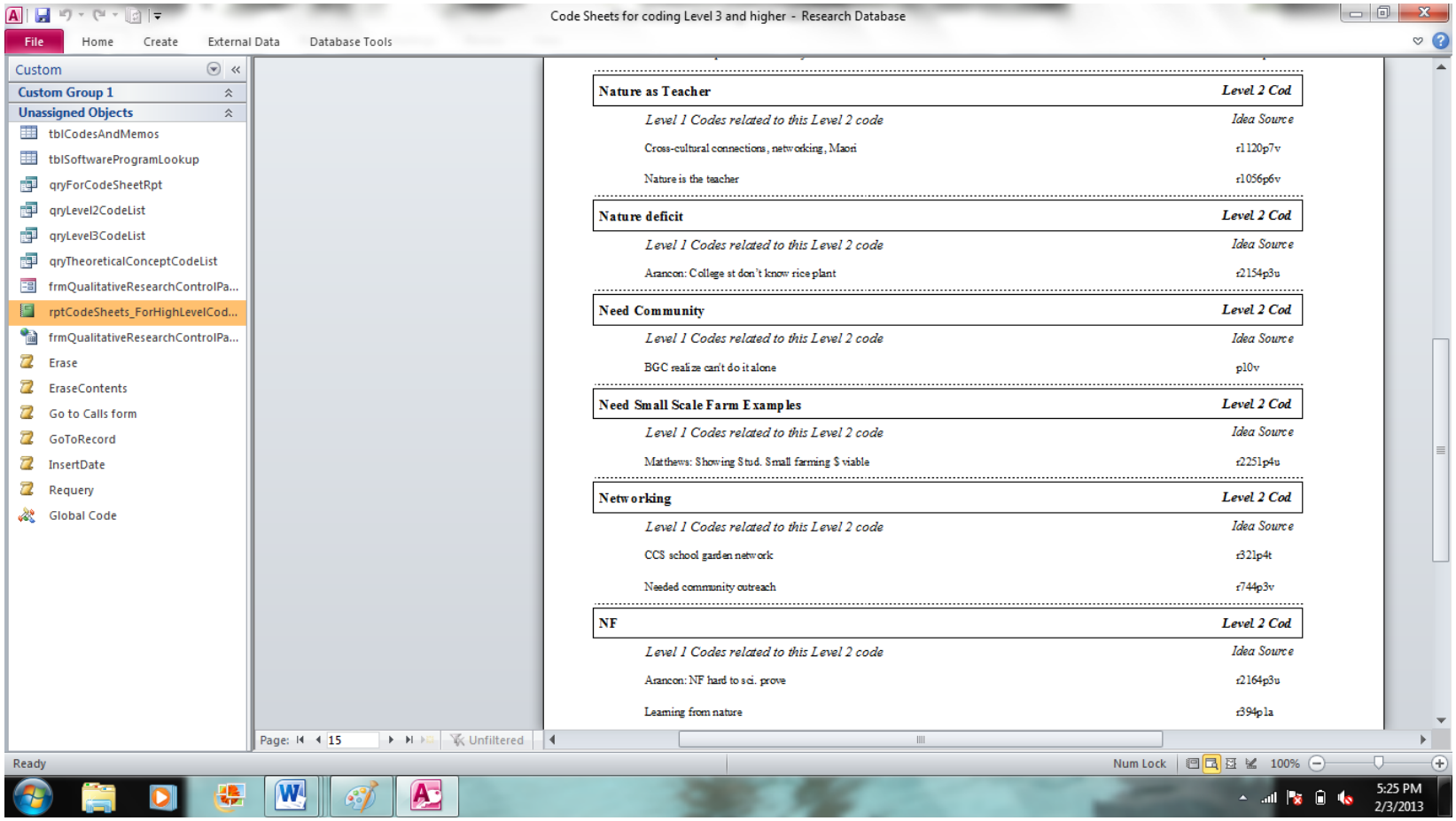
Figure D4. *Database of Levels 1-3 Codes and Memos*



tblCodesAndMemos

Ideas	Level1	Level2	Level3	Memo
p8v	Kaiao volunteers were a family	Family	Bonding	We've created a family together here [starts to cry]. A beautiful family and I don't feel like
p1s	ADH having meaingful experiences at KCG	Friendship	Bonding	You know I admire this Kaiao garden so much and I'm going to miss it. We learn about soil,
r728p3v	Value struggles at Kaiao	Ingroup/Outgroup	Bonding	Some people complained about others sharing too much of their spirituality in circle time,
r1067p6	We're all in this together, good and the bad	Ingroup/Outgroup	Bonding	Of course pilikia arises and it's like, 'I don't feel included.' We've all felt like that at certai
r2248p4	UHH Ag classes stop, practicality, spirituality	Ingroup/Outgroup	Bonding	I conintued to bring my classes there until I stopped teaching the course. Our department
r289p4t	CCS curriculum emphasized EL attitude	Nature	Bonding	We had 3 minutes in the garden after we got there and get their journals and have 3 minut
r1137p7	Find what you like, who you are at KCG	Self-Knowledge	Bonding	But to go back to the lessons that I've learned from the garden. My sense is that the land a
r229p3t	AD shown love, personal connection	Sharing/Aloha	Bonding	But Bodhi was like the torch bearer of aloha when we got here. She immediately made us
r412p1a	Community gardening = sharing	Sharing/Aloha	Bonding	Cause I tell you, when I start growing Kalo I have so much that I can't help but give it away.
r553p1v	Japanese speaker learn english, feel accepted	Socially Included	Bonding	Cause I'm a Japanese. For first one or two years I didn't speak English well so I was really c
r621p1v	Safe learning environment	Socially Included	Bonding	I felt healed because I feel safe in the environment. You know I'm included. By environme
p4a	LGH: Educating community on ease of gardening	Access to Gardening Education	Bridging	The mission of LGH is to educate the community and the public on the ease of gardening. I
r128p2t	OIKH Teamwork translate to classroom	Better Classroom Behavior	Bridging	Another thing too is that they don't really know what teamwork or cooperation really is. S
r325p4t	CCS prob kids flourish in the garden	Better Classroom Behavior	Bridging	One of the most important things I've learned is that certain kids have a very strong ecolog
r874p4v	Indigenous perspectives in the garden	Bridging Knowledge: Old/New, I	Bridging	Society has to deconstruct whiteness in that if you look back through anyone's mookuauha
r298p4t	CCS Sharing harvest, teamwork	Building Community	Bridging	One of my favorite lessons that's coming back now...[laughs] was in the beginning there w
r411p1a	Health is low stress, sharing as a community	Building Community	Bridging	[My definition of health is] low stress. And that's up to each and every person how they de
r48p1t	OIKH Comraderie throughout the program	Camaraderie	Bridging	Well I think there's many advantages to us attending the garden. For one it brings a comm
r242p3t	ADH: Teamwork, high fives after	Camaraderie	Bridging	We all get to do something together as a team and feel good about it and give high fives a
p4s, p1p	Parent view: daughter tentative about nature	Becoming comfortable in nature	Bridging	My daughter used to be a little tentative about being outside and getting dirty and I think
r40p1t	OIKH gain communication skills, teamwork	Dialogue	Bridging	Others learn how to communicate with their peers. They talk story and have fun while the
r254p3t	ADH benefit from teamwork, friendship	Friendship	Bridging	We all get to do something together as a team and feel good about it and give high fives a
r603p1v	Art therapy, mural	Group Process	Bridging	Well I had already taken a couse when I was in Japan so I had an idea of what it was, but w
r11p1t	At-risk Youth hard lives, need chance	Integrating Need: At-risk Teens	Bridging	Most of them, the majority have had hard lives, in the family setting it all starts. Many of

Figure D5. *Microsoft Access Reports for Sorting Level 3 and 4 Codes*



Appendix E

Representations of Data Analysis

Table E1

Dimensions of Social Capital: Bridging and Bonding

Level 4 Code	Social Capital					
Level 3 Codes		Bridging			Bonding	
	Integrating:	Connecting:	Enabling:	Personal:	Interpersonal:	Environmental:
Level 2 Codes	At-risk Teens Drug Offenders Homeless Adults w/ Disabilities Community Families Youth College Students Teachers Schools University Open Invitation to All	Social Networking Social Media Merging Abilities Merging Views Group Process Participatory Input/Choice Teamwork Differences/Diversity Info. Exchange Knowledge Exchange Knowledge Merging Cultural protocol Mentorship Counsel Fun Activities Outreach Offer Support/Help Service Learning Experiential Guided Exploration/Inquiry Trust	Friendship Receive Support/Help Reciprocity Community Building Dialogue Social Learning Trustworthiness Partial Disclosure Gratitude Sharing Resources Socialization Peace/Stress reduction Respect Hope Camaraderie Compassion Resiliency Leadership New opportunities Critical Thinking New Skills <u>Disabling:</u> -Social Phobias -Social Cliques -Behavior Problems -Cultural Conflict*	Meditation Healing Self-knowledge Self-connection Spiritual Connect Reflection Peace Stress Reduction Anger Reduction Discover & Practice Gifts, Interests	<u>Positive</u>: Sharing *Aloha* Family *Ōhana* Close Friendships Diverse Friendships Socially-included Dialogue Disclosure Intimate Support Support Belonging <u>Negative</u>: In-group/Out-group	Nature as teacher, Nature as familial, Nature as sustenance Nature as identity, Nature as practice Stewardship Appreciation Relationship Responsibility *Malama ʻĀina* *Kuleana*

Note * Attempts to bridge cultural differences and conflicts may also be met with cultural resistance, if it is perceived as cultural hegemony.

Appendix E
Representations of Data Analysis

Table E2

Dimensions of Civic Leadership: Indicators and Inhibitors

Level 4 Code	Civic Leadership					
Level 3 Codes	Indicators of Civic Leadership			Inhibitors of Civic Leadership		
	Orientation:	Methods:	Response:	Orientation:	Methods:	Response:
Level 2 Codes	Democratic Positive Possibility/Solutions Charismatic Community-Centered Love Your Work Lead by example People-Centered Process-Centered Reciprocal Circular Mutual Respect Diverse forms of capital Strong social identity Social equality Broad-minded Honest Fair Empathy/sensitivity Creativity/imagination/innovation Win-win	Create Opportunities Welcome Input Accept Change Accept Help Empower Bridge Differences Support Encourage Energize Take Initiative Social Learning Teamwork Assume Responsibility Bridge Conflict Civic Engagement Mentorship Communication Group determines goals Sincerity Listen Compromise	Positive Attitudes Helpfulness Willingness Synergy Empowerment Sharing Shared Norms & Values Value Gains Harmony Transformation Gratitude Personal Growth Communication Social Capital: -Bridging -Bonding Quality ED Creates more leaders Shared power Self-regulation Feel safe Easier to take risks Appear sincere	Negative Problems/Liability Hierarchal Efficiency Goal-centered Individual identity or Company identity Head determines goals Short-sightedness Linear Prejudiced Zero-sum	Control Restriction Judgment Assumption Distrust Micromanage Boss Non-compromising	Nature as commodities Resistance Selfishness Blame Rumors Excuses Competition Poor Attitudes Value Loss Low Participation Ingratitude/Expectation Conflict Assumption Unpreparedness Poor quality ED Power is not shared Less leadership among members Appear insincere

Appendix E
Representations of Data Analysis

Table E3

Dimensions of Ecoliteracy: Learning from and within Nature

Level 4 Code	Ecoliteracy					
Level 3 Codes	Learning from nature			Learning within Nature		
	Processes:	Effects:	Examples:	Processes:	Effects:	Examples:
Level 2 Codes	Integrated whole	Ecosystems	Forest ecosystem	Gardening	Knowledge	Nutrient cycling/natural fertility
		Sustainable human	Community natural farming	ED*	Skills	Conditioning soil; double-digging
		communities	Systems thinking		Attitudes	Enjoyment, peace, connection
			Seeing "oneness" in the many		Behaviors	Recycle, conserve, produce/eat
					Interconnections	Environmental
	Dynamic	Feedback loops	Self-balancing species			stewardship/human sustenance
	balance	Tradition/innovation	Composting/vermicomposting			
		Order/freedom	Democratic conflict resolution		Knowledge	Social/Eco diversity
		Stability/change	Social viability thru diversity	Social ED	Skills	Socialization, networking
					Attitudes	Concern, empathy, identity
		Natural fertility	Nutrient cycling		Behaviors	Teamwork, sharing, cooperation
	Flow/transfer	Induced natural fertility	Composting		Interconnections	Friendships; learning community
		Genetic resiliency	Plant/animal varieties		Knowledge	Korean Natural Farming
	Biodiversity	Interpersonal resiliency	Human/cultural diversity	Experiential	Skills	Cultivating IMO/fertilizer inputs
				ED	Attitudes	Appreciation for microorganisms
		Biologic symbiosis	Plant & insect relationships		Behaviors	Creating healthy soil
	Interdependency	Socialization/learning	Intergeneration mentorship		Interconnections	Natural systems; local resources
		Complex structures	Biologically active soil		Knowledge	Local resources, appropriate uses
	Networks	Interconnections	Resource sharing/support		Skills	How to adapt to weather cycles
				Place ED	Attitudes	Interest in local issues
		Continuation	Water cycles		Behaviors	Involvement/service/stewardship
	Cycles	Depletion & renewal	Planting/fallow cycles		Interconnections	Diverse community networks
		Adaptation	Coevolution of animals & plants		Knowledge	Food sovereignty
	Development	Growth/health/learning	Making healthier choices		Skills	Traditional plants, tools, methods
				Culture ED	Attitudes	Aloha ʻāina; identity, pride
		Ecology	Organisms/ecosystems/nature		Behaviors	Malama ʻāina
	Nested systems	Human ecology	Self/family/ED/community		Interconnections	ʻŌhana, kuleana

*Note: The abbreviation "ED" stands for education. The nine Ecoliteracy processes are adapted from the Center for Ecoliteracy, 2013. Effects and examples are unique.

Appendix E
Representations of Data Analysis

Table E4

Dimensions of Holistic Sustainability: Natural and Economic

Level 4 Code	Level 3 Codes	Level 2 Codes (Approach)	Level 2 Codes (Methods)	Level 2 Codes (Effects)
Holistic Sustainability	Holistic Science	Organic, Sustainable Inputs (Local, Renewable, Safe) - Vermicomposting, Composting, Learning Holistic Gardening Design	Integrated Pest-management -Not harming beneficial insects No Chemical Fertilizers, Herbicides, or Pesticides	Korean Natural Farming Methods -Cultivation of IMO
Holistic Sustainability	Ecologically Sound	Ecology Sustainable Agriculture Environmental Science Political Science Scientific Concepts & Language	Sustainable Gardening Instruction Exploring worm-bins Ecosystem scavenger hunt Journaling/writing Quiet, observation Art, poetry Caring for garden: watering, harvesting, pruning, mulching Eating from the garden under a tree Small group work Play: Climbing trees, hide and seek	Nature as finite resources Eco-literacy Knowledge: Sustainable Agriculture Skills: Conservation, Regeneration Attitude: Appreciation, Awareness Behavior: Eco-friendly, Stewardship Local Concepts Clear, Relevant Global Concepts Nebulous Teamwork Sharing
Holistic Sustainability	Economically Viable	Financial Capital (limited) Social Capital	Inexpensive Local Inputs Grants Donations Community volunteer help Borrowing/sharing (i.e. UHH rototiller) Service learning opportunities Social networking, partnerships Sharing potluck-style meals	Civically Manageable (volunteers) Free community ED, workshops Need Examples of Small Scale Farms Small grant funding is unsustainable Social capital needs leadership, outreach Need a secure, affordable land-base
Holistic Sustainability	Appropriate Technology	Manual labor (weeding, brush clearing, digging) Greenhouse Garden beds Raised Garden boxes Reuse/Conservation	Sheet Mulching Double-digging Rototilling Backpack sprayer for inputs Watering cans Catchment Water Cardboard/carpet to repress grass	Cost savings Creates jobs for participants, youth

Appendix E
Representations of Data Analysis

Table E5

Dimensions of Holistic Sustainability: Social

Level 4 Code	Level 3 Codes	Level 2 Codes (Approach)	Level 2 Codes (Methods)	Level 2 Codes (Effects)
Holistic Sustainability	Culturally Sensitive	Traditional Knowledge Traditional Ways of Knowing Cultural Concepts & Language	Nature as Teacher Experiential: Ma ka hana ka ike Cultural Mythology: Hinaikeahi Traditional Plants: Canoe plants Traditional Methods: Plant by Moon Cultural Practices: Protocol, pule, hula Kupuna, Cultural practitioners Culture-based Education Place-based Education Food sovereignty conferences	Stronger cultural identity/awareness Identification with land, as familial Sacredness of Place Cultural Use & Stewardship Preservation of traditional knowledge, plants, & methods Kuleana (Privilege & Responsibility) Malama ʻĀina (Care for land that feeds) ʻĀina (Nourishment: body, mind, spirit) Relationship+Responsibility Improved food-sovereignty
Holistic Sustainability	Socially Just	Social Empowerment Food Sovereignty Conferences Community Garden Projects	Build social networks Share resources, help Social Education Cultural Education Gardening Education Accessible Land to Garden	Stronger social identity/awareness Need new paradigms, models Need greater access to seed banks Need greater access to local produce Need greater access to land Need greater self-sufficiency Need reduced dependency on imports Need greater social empowerment Need greater amount of free time Need reduced wealth disparity Need better public policies
Holistic Sustainability	Total Human Development	Community education Civic leadership/mentorship Social collaboration Personal growth Community growth	Healthy diet & exercise Knowledge, skills, attitudes, behaviors Group dialog/group process Friendship/support Journaling Reflection/Silence	Meeting Maslow's Hierarchy of Needs Stronger personal identity, skills, resources Stronger commitment to personal growth & assisting others with their growth Improved quality of life Improved food security Cooking Instruction & recipe books Healthy Food Tastings

Appendix F
Diagrams of Human Needs

Figure F1: Maslow's Hierarchy of Needs

(Reproduced from Maslow, 1943)

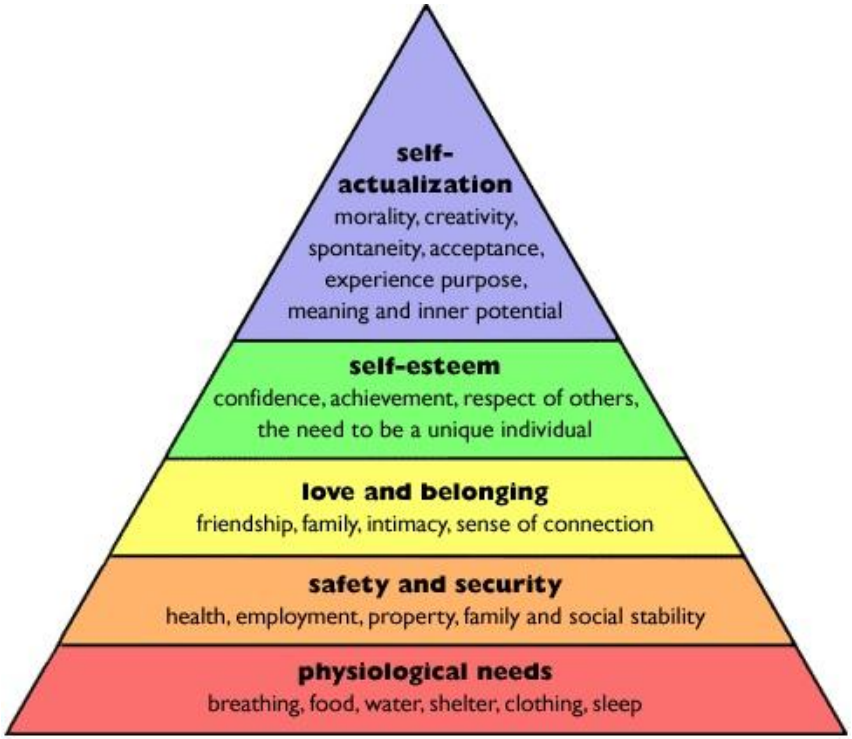


Figure F2: Maslow's Model Rewired

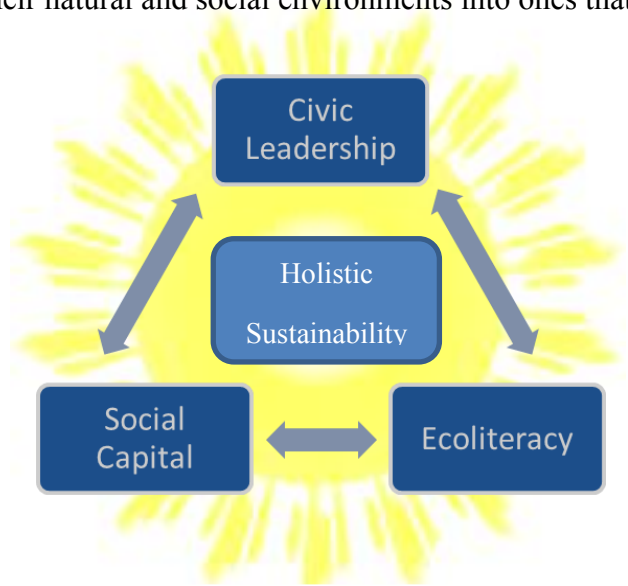
(Reproduced from Rutledge, 2011)

Appendix G

Theory on the Educational Dimensions of Holistic Sustainability

Holistic sustainability requires bridging social capital, ecoliteracy, and civic leadership together within community education. Social capital, or the bonding and bridging that occurs through social collaboration, can develop civic leadership. Likewise, civic leadership, or the capacity to solve community problems democratically, can provide meaningful opportunities to develop social capital. Social capital and civic leadership can be channeled through community education to develop ecoliteracy, or the knowledge, skills, attitudes, behaviors, and interrelationships relevant to sustainability. Through experiential activities in social learning, service-learning, and mentorship, ecoliteracy can be developed *hand in hand* with social capital and civic leadership.

Sustainable communities examine local issues determined as unsustainable, take stock of community resources (natural, intellectual, and human), and work to organize and stabilize these resources in a continual way while adapting to change. The diverse relationships and resources brought in by social capital; the knowledge, skills, attitudes, behaviors, and interconnections of ecoliteracy; and the vision and democratic process of civic leadership together trigger exciting possibilities for learning and a social movement for systemic, ecological change. How communities activate these educational dimensions will be diverse as communities themselves. Yet this broadly defined model may help people who live in fractured, unsustainable communities to transform their natural and social environments into ones that are ecological, holistic, and sustainable.



Note: The sun is the source of energy cycling throughout all life. It symbolizes interconnection, interdependency, transformation, and enlightenment

Glossary of English Language Terms

Action research	a combination of action and research in which a personal attempt is made to understand, improve, and reform a practice; characteristically involving greater participation of the researcher and the empowerment of the participants (Cohen, Manion, & Morrison, 2007).
Anthropocentric	human-centered (Capra, 1996, p. 7). See shallow ecology
Boys and Girls Club of Hilo (BGC)	a site affiliated with the Boys and Girls Club of the Big Island and the Boys and Girls Club of America. Its mission is to enable all young people "to reach their full potential as productive, caring, responsible citizens." Its core beliefs include: "A safe place to learn and grow; ongoing relationships with caring, adult professionals, life-enhancing programs and character development experiences; hope and opportunity." The organization also strives to reinforce "a sense of belonging, personal accountability, civility and civic responsibility" (Boys and Girls Clubs of America, 2012).
Case study	a qualitative research method in which a researcher explores a program, event, activity, or process in depth by collecting detailed information using a variety of data collection procedures over a sustained period of time (Creswell, 2009).
Civic leadership	the capacity of a community to identify, analyze, collaborate, and solve pressing societal needs and issues (Arizona Center for Civic Leadership, November 27, 2010).
Community	a pattern of organization for surviving overtime (Goleman, Bennett, & Barlow, 2012).
Community education	all learning that occurs, formal and informal, outside of schools and in community settings. See non-formal education.
Community garden	collective gardening, denoting everything from the cultivation of vacant neighborhood lots to gardening on the premises of schools and prisons (Pudup, 2008).
Deep ecology	a "global grass-roots movement" which does not separate humans – or anything else – from the natural environment. It describes a network of phenomena that are fundamentally interconnected and interdependent (Capra, 1996, p. 7).
Ecojustice	environmental protection as it relates to social empowerment (Cole, 2007); a revised notion of environmental literacy that includes relevant issues in social justice, economics, politics and culture (Disinger & Roth, 1992).
Ecoliteracy	"understanding the principles of organization of ecological communities (ecosystems) and using those principles for creating sustainable human communities" (Capra, 1996, p. 297) Encompassing ecological intelligence, emotional intelligence, and social intelligence, which together develop

	empathy, mindfulness, and new modes of behavior, such as cooperation, in developing sustainable communities (Goleman et al., 2012, p. 6). See also: emotional intelligence, social intelligence, and ecological intelligence.
Ecological intelligence	the ability to see from ecological perspectives, emphasize, and show concern for natural systems and the life it contains (Goleman et al., 2012, p. 6) See also: social intelligence, emotional intelligence, and ecoliteracy.
Ecology	the relationships that living organisms have with each other and their natural environment (Steiner, 2002, p. 3).
Emotional intelligence	an aspect of human intelligence that can be nurtured in schools and communities, enabling individuals to: know one's emotions, motivate oneself, recognize emotions in others, and develop successful relationships (Goleman et al., 2012, p. 5). See also: social intelligence, ecological intelligence, and ecoliteracy
Environmental education	education aimed at producing a citizenry that is knowledgeable concerning the natural environment and its associated problems, aware of how to help solve these problems and motivated to work toward their solution (Mcbeth & Volk, 2010).
Environmental literacy	the capacity to perceive and interpret the relative health of environmental systems and take appropriate action to maintain, restore, or improve the health of those systems; generally summed up in four strands: knowledge, skills, affect, and behavior (Roth, 1992).
Food security	availability and access to nutritious food (Schanbacher, 2010).
Food sovereignty	the right to healthy, nutritious, culturally relevant types of foods; and the ability to continue diverse cultural traditions associated food including living a self-sufficient life (Schanbacher, 2010).
Formal education	school and university-based education and the learning that takes place there (Falk, 2005).
Holistic sustainability	a conception of sustainability that includes environmental, economic, and human dimensions along seven criteria: ecological soundness, economic viability, cultural sensitivity, social justice, appropriateness of technology, and whether it utilized holistic science and served total human development (N. Arancon, personal communication, February 17, 2012).
Human ecology	a new ecology based on the evolution of traditional ecology to consider how human systems are interrelated with environmental systems. It "emphasizes complexity over reductionism, focuses on changes over stable states, and expands ecological concepts beyond the study of plants and animals to include people" (Steiner, 2002, p. 3).

Indigenous Microorganisms (IMO)	the technique of cultivating locally-occurring microorganisms as a sustainable and cost-effective way of building soil health and thereby fertility; utilized in Korean Natural Farming (Cho & Cho, 2010).
Informal education	education occurring outside of formal education, which is not organized, intentional or explicit; the lifelong learning process that occurs through daily experiences and exposure to the environment (Skanavis, Sakellari, & Petreniti, 2005).
Kaiao Community Garden (KCG)	Kaiao Community Garden, or Kaiao for short, was a culture- and place-based educational garden created and maintained by members of the Hilo, Hawai‘i community. See also Glossary of Hawaiian Language Terms.
Non-formal education	an organized, intentional and explicit effort to promote learning and enhance people's quality of life through non-school settings (Heimlich, 1993); see community education.
Place-based education	the study of places that is relevant, multidisciplinary, experiential, and possibly intergenerational. It increases student engagement and understanding and potentially contributes to the wellbeing of community life (Cole, 2007).
Responsible citizenship	"individuals who realize their obligations to take actions that ensure their community is healthy, safe, and secure … [who] participate in their community to promote personal and public good" (The Society for Community Development, 2007)
Shallow ecology	the predominant view in society that humans are above or outside of nature, and that nature has only instrumental or "use" value to humans (Capra, 1996, p. 7).
Social capital	"the value of social networks, partly stemming from the norms of trust and reciprocity that flourish through these networks" (Harvard Kennedy School, 2012). It includes increased capability through relationship formation, interdependent asset accumulation, and the "social potentiality" of facilitating collective ends (Prendergast, 2005). Social capital has two conceptually distinct forms, *bonding* and *bridging*, which cannot be interchanged. Bonding creates inclusive social ties whereas bridging creates external social ties (Putnam, 2000).
Social intelligence	the ability to exchange information, coordinate and harmonize efforts (Goleman, 2009); to see from another's perspective, emphasize, and show concern. (Goleman et al., 2012) See also: emotional intelligence, ecological intelligence, and ecoliteracy
Social learning	bringing together multiple perspectives, values and interests, including marginal and marginalized ones in a spirit of social collaboration and cohesion (Wals, 2013)
Sustainability	the ability to satisfy the needs of present generations without

	diminishing the prospects of future generations (Capra, 1996, p. 4).
Sustainable community	"social and cultural environments in which we can satisfy our needs and aspirations without diminishing the chances of future generations" (Capra, 1996, p. 4).
Systems theory/thinking	the process of understanding parts in relation to the whole, an essential quality of ecological intelligence (Capra, 1996, p. 30)

Glossary of Hawaiian Language Terms and Abbreviations

ʻĀina	land; a source of food (root word: ʻai, to eat)
Akua	God
Aloha	love; kindness; compassion; charity
Aloha ʻāina	love and appreciation of land
Hālau	a meeting house; place of instruction
Haole	foreigner, Caucasian
Hoeaea	returning to freedom through freedom; paddle together until reaching freedom (P. Mandoe, personal communication, February 25, 2012).
Honi	to touch noses on the side in greeting
Hoʻoponopono	to correct
Huli	taro top used for planting
ʻIke	knowledge; to see, know, and understand
ʻIke ʻāina	knowledge derived from the environment, of land, and where food comes from; an indigenous concept of sustainability in Hawaiʻi (Kohala Center, 2009b).
Imu	underground oven
Kaiao	to dawn; to enlighten; Kaiao Community Garden (KCG) in Hilo, Hawaiʻi. Kai is ocean and ao is light.
Kalo	taro; traditional food staple of Native Hawaiian people
Kanaka maoli	Native Hawaiians
Kino lau	alternate forms taken by a supernatural body
Kō	sugarcane
Kuleana	chosen work that you love (Mandoe, 2009)
Kumu hula	hula teacher
Kūpuna	grandparent; elder
Lau	leaf (in this study it refers specifically to edible kalo, or taro, leaves)
Lōkahi	balance between man, spirit, and nature
Mahalo	thanks, gratitude
Maiʻa	banana
Māla	garden
Malama ʻāina	caring for land in a sustenance way
Māmaki	*pipturus albidus*; an indigenous Hawaiian shrub; the leaves are used to make a healing tea

Mana	energy
Manaʻo	thought, idea, belief, opinion, or intension
Maoli	"the life force teaching us about [and also through] interconnection"; a Hawaiian concept of sustainability (Kohala Center, 2009b)
Naʻau	intestines; mind, heart, affections
ʻOhana	family; extended family; close friends
Ola I Ka Hana (OIKH)	thrive by the means of one's work; an alternative community education program offered through the Goodwill Industries of Hawaiʻi for youth ages 14-21 seeking a diploma or G.E.D. and job readiness skills (Goodwill Industries of Hawaiʻi, 2013).
ʻŌlelo noʻeau	proverb
Oli	chant that is not danced to
Poi	traditional Native Hawaiian staple food, made from cooked taro corms
Pono	balanced, good, righteous, just, equitable
Puʻuhonua	a place of refuge, sanctuary, asylum, place of peace and safety
ʻUala	sweet potato
ʻUlu	breadfruit

Source for all uncited entries: Pukui and Elbert, 1986

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