

LOCALIZING CLIMATE CHANGE ADAPTATION:
A FRAMEWORK FOR CONCEPTUALIZING COMMUNITY RESILIENCE

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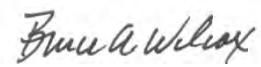
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ABSTRACT

Expert-driven, top-down frameworks have dominated the climate change adaptation discourse and emphasized technological, economic, infrastructural, and single-sector (e.g. agriculture, water, health) strategies for responding to the impacts of climate change. However, human adaptation to climate change is also considered to be a process rooted in local contexts and involving diverse socio-cultural forms. The objective of this research project was to construct a resilience framework for climate change adaptation at the community level. An inter-disciplinary literature review on social dimensions and conceptualizations of community resilience was conducted. Qualitative perspectives were also gathered through eight interviews of individuals with relevant academic expertise or community voices that represent local, place-based environmental efforts. Findings from the literature review and emergent themes from the interview were checked against one another, then synthesized to build a framework describing community resilience processes. Community resilience was conceptualized as a process rooted in a local value context that draws upon six different types of socially embedded adaptive resources, thereby supporting a community through change.

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CHAPTER 1: INTRODUCTION

Background on Climate Change Impacts

Science has determined that climate change will likely result in an increased frequency and intensity of extreme weather events, sea level rise, an increase in acidity of the ocean, large-scale shifts in precipitation patterns, vegetation and species' climatic zones, and changes in the geographic ranges of disease vectors and pathogens (IPCC, 2007). The implications of these changes will be negative for human populations in many parts of the world due to increased natural disaster hazards, greater coastal inundation, reduced access to fresh water resources, adverse impacts on crop productivity and food security, infrastructure strain, increased heat stress and human disease potential, loss of biodiversity, and human displacement (IPCC, 2007). Moreover, climate change will affect more than just physical livelihoods by disrupting cultural identities, place attachments, and senses of coherence, especially in societies that maintain a close coupling between culture and the natural environment (Bierbaum et al., 2007).

In order to be effective, adaptation to these pervasive and complex impacts of climate change must address multiple challenges. First, significant uncertainties underlying the predictions of environmental impacts of climate change must be managed, particularly if adaptation is to be proactive rather than reactive (Bierbaum et al., 2007). Second, the geographic resolution of climate change projections is limited and may not be sufficiently detailed at local scales of analysis. Third, climate change encompasses only one of many stressors human populations are currently confronting, necessitating that adaptation be integrated with other goals and mainstreamed into existing agendas of society. Doing so would allow climate change adaptation to receive necessary recognition

and support as well as to address the multiple interacting drivers of human well being. Last, climate change impacts occur in a dynamic social context that influences how people will respond, meaning that bio-physical science, alone, will not lead to successful adaptation (Finucane, 2009).

The Realm of Climate Change Scientific Research and Policy

The Intergovernmental Panel on Climate Change (IPCC) was established in 1988 to summarize the state of scientific knowledge on climate change in a series of major assessments (Bierbaum et al., 2007). The IPCC describes its work as “policy-relevant and yet policy-neutral, never policy-prescriptive” (IPCC, 2007), thereby allowing the IPCC to remain apolitical and protect the objectivity of the scientific information the organization provides to decision-makers. The IPCC’s unwillingness to engage in policy recommendations demonstrates a reliance on a ‘communication-as-transmission concept’ or ‘linear model of expertise’ based on the assumption that scientific consensus drives political decision-making (Shaw et al., 2009; Beck, 2010). Accordingly, policy formation is considered to be an expert-driven process beginning with the determination of sound scientific knowledge, which is then transmitted to decision-makers for subsequent action (Shaw et al., 2009). In response, the international policy community has engaged in various negotiations and efforts, such as the United Nations Framework Convention on Climate Change and the Kyoto Protocol (Shaw et al., 2009).

The overall discourse on climate change has been focused at global and national scales for enhancing scientific understanding, assessing mitigation options, and of course, managing politics. In order to fit the global policy-making space in which climate change negotiations occur, top-down frameworks and mitigation, rather than adaptation, have

traditionally dominated decision makers' responses to the science (Beck, 2010; Füssel, 2007). As a result, action has not been sufficiently anchored at local scales, where climate change impacts are directly experienced and work on the rooted, context-specific process of adaptation is undertaken (Shaw et al., 2009). Nonetheless, attention is being increasingly directed towards the need for scaling down climate change adaptation agendas to the local levels of social systems.

Discourse on Climate Change Adaptation

Climate change adaptation has been defined by the IPCC (2007) as “the adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities.” Adaptation to environmental variability has been a central study in the field of anthropology since the early 1900s (Janssen et al., 2006). Diverse forms of adaptation are possible, ranging from economic, institutional, legal and technological types to those involving migratory,

Table 1: Bases for Differentiating Adaptation to Climate Change
(Smit et al., 1999; IPCC, 2007).

General Differentiating Concept or Attribute	Examples of Terms Used
Purposefulness	Spontaneous ↔ Planned/Intentional
	Passive ↔ Active/Strategic
Timing	Anticipatory ↔ Responsive
	Proactive ↔ Reactive
Temporal Scope	Short Term ↔ Long Term
	Instantaneous ↔ Cumulative
Spatial Scale	Localized ↔ Widespread
Function/Effects	Retreat – Accommodate – Protect – Prevent
	Tolerate – Spread – Change – Restore
Form	Structural – Legal – Institutional
	Regulatory – Financial – Technological
Performance	Cost – Effectiveness – Efficiency
	Implementability – Equity

social, behavioral and cultural adjustments. In addition, adaptation can be differentiated by attributes such as purposefulness, timing, temporal scope, spatial scale, function or effects, form and performance (Table 1). However, note that socio-cultural forms of adaptation and performance standards involving cultural appropriateness have not been included by Smit et al. (1999) and the IPCC (2007) in this table summary. While adaptation refers to diverse processes within human and natural systems and maintains distinct meanings in different disciplines, the use of the term in this paper refers specifically to human adjustment to changes in climate.

Adaptation to climate change has been framed in several complementary ways, each having developed from within various research disciplines. Early approaches utilized hazards-based analysis and risk assessment to frame adaptation, focusing on quantifying particular climate change threats, impacts, and their costs (Eakin and Patt, 2011). Later and especially in the Third Assessment Report of the IPCC, vulnerability reduction became an important focus, which emphasized the factors that shape how and under what circumstances communities and societies are capable of adapting (Eakin and Patt, 2011). Both of these approaches have their roots in the natural hazards, disaster management, and geography research disciplines (Janssen et al., 2006). Recently, interest in social ecological resilience and its relationship to adaptation has swelled, linking perspectives on the dynamic process of change and systems thinking to theoretical conceptualizations of adaptation (Eakin and Patt, 2011). Such resilience knowledge has a background in ecology, and is systems based and model-oriented (Janssen et al., 2006).

When compared, these three approaches to climate change adaptation contrast in their goals as well as focuses, and present different usefulness and limitations (Table 2).

The hazards-based risk assessment approach to adaptation is problem-focused, often relying on technological, economic, and infrastructure interventions to reduce the probability or magnitude of loss posed by a specific climate hazard (Eakin and Patt, 2011). While useful for raising awareness and identifying research priorities, the hazards-based risk assessment approach relies on accurate, downscaled climate impact projections and ignores the social context that influences adaptation processes (Füssel, 2007). The vulnerability approach incorporates considerations of equity in access to resources and decision-making into adaptation efforts by focusing on socioeconomic context-specific influences on adaptation potential (Eakin and Patt, 2011). The social-ecological resilience approach incorporates dynamics of change and systems processes into

Table 2: Comparison of Three Different Approaches to Climate Change Adaptation (Constructed using information from Eakin and Patt (2011) and Füssel (2007)).

	Hazards-Based Risk Assessment	Vulnerability	Social-Ecological Resilience
Approach	Quantification of hazards and risks; cost-benefit analysis	Evaluation of the social context that determines adaptation potential	Analysis of adaptation in coupled social-ecological systems
Goal	Reduction of probability or magnitude of loss posed by a specific climate hazard	Reduction of vulnerability and improved access to adaptation resources	Enhancement of resilience processes, through flexibility, diversity, learning, etc.
Focus	<ul style="list-style-type: none"> - Technology - Economics - Infrastructure - Problem-oriented 	<ul style="list-style-type: none"> - Equity - Decision making - Context-specific - Weakness-based 	<ul style="list-style-type: none"> - Dynamics of systems and change - Strengths-based and process-oriented
Usefulness	<ul style="list-style-type: none"> - Raises awareness - Identifies priorities 	<ul style="list-style-type: none"> - Applicable in absence of reliable impact projections - Easier to mainstream into existing goals 	<ul style="list-style-type: none"> - Same as vulnerability approach
Limitations	<ul style="list-style-type: none"> - Ignores the social context that affects adaptation potential - Requires technical capacity 	<ul style="list-style-type: none"> - Limited comparability across regions - Lack of clear methodology 	<ul style="list-style-type: none"> - New, with limited theoretical integration and practical application thus far

adaptation, promoting long term views, cross-scale coordination of efforts, flexibility, diversity, and continual learning (Eakin and Patt, 2011). Both vulnerability and resilience approaches remain effective in the absence of reliable impact projections and are easily incorporated into existing goals and development frameworks, but lack clear methodologies and are limited in comparability across regions (Füssel, 2007).

Evidently, the hazard-based risk assessment, vulnerability, and social-ecological resilience frameworks represent distinct, yet complementary approaches to climate change adaptation. Eakin and Patt (2011) point out the domination of hazards-based risk assessment and cost-benefit analysis in adaptation planning in industrialized countries, demonstrating the difficulty of tackling both underlying structural and cognitive barriers to change and the “policy implications of conceptualizing adaptation as an outcome rather than a dynamic process.” On the other hand, developing countries have at least partially incorporated concepts of vulnerability, socioeconomic constraints, governance, and adaptive capacity into their climate change policies and efforts (Eakin and Patt, 2011). Nonetheless, a common and frequent shortcoming of studies utilizing hazard-based risk assessment or vulnerability approaches has been a narrow focus on single sectors (e.g. agriculture, water, forestry, health) impacted by one type of climate stress (Shaw et al., 2009). Lastly, although increasingly featured in popular and public discourse, social-ecological resilience concepts have been infrequently applied in adaptation strategies and has instead remained a research-oriented (Eakin and Patt, 2011).

Existing Gaps in Climate Change Adaptation Efforts

Analysis of the overall as well as adaptation-specific discourse on climate change reveals gaps in society’s efforts to address the multiple challenges posed by current and

future climate change impacts. A science and expert driven research process has reached a consensus on the climate change issue and communicated its ‘policy-relevant, not policy-prescriptive’ findings to decision makers, expecting appropriate action to be taken. A well-developed methodology for implementing problem-focused, hazards-based risk assessment strategies to achieve the outcome of adaptation has been pervasive, focusing on costs, infrastructure, technology and economics. Top-down frameworks have dominated the climate change adaptation discourse. Consequently, growing attention is being paid to the need for a more integrated approach to adaptation that includes local levels of analysis, participatory methods, strengths-focused and context-specific conceptualizations of adaptation as a process, and findings from social science on decision-making, values, and socio-cultural or informal practices of adaptation.

Multiple academics argue for implementation of more local, participatory planning and decision making regarding climate change adaptation. Bierbaum et al. (2007) note that adaptation goes beyond government action and formal processes, involving everyday actions, networks, and collective will at the community level, thus requiring meaningful local participation for success. Finucane (2009) argues that “an integrated, trustworthy, and context-sensitive approach...optimizes the chance of building resilient communities,” thereby putting a value on collaborative, place-based approaches to adaptation. Shaw et al. (2009) and Beck (2010) also point out the need for engaging the public and other non-academic stakeholders to provide more socially robust adaptation knowledge and solutions. Working with groups that already have well-established relationships and trust “on the ground” is therefore, an important implication for adaptation efforts (Bierbaum et al., 2007).

As discussed earlier, diverse forms of adaptation to climate change exist and are influenced by factors that can be informed by social science, the humanities, and civic deliberation and negotiation. Social capital, known as the informal relationships and socially embedded resources amongst individuals and groups in a community, is an extremely important factor contributing to adaptive capacity, especially in many developing countries where existing adaptation strategies are embedded in social networks and cultural norms (Bierbaum et al., 2007). Behavioral research has demonstrated that people's decisions are not solely based upon rational reasoning, but also stem from their socio-cultural worldviews, values, and intuitive feelings as well (Finucane, 2009). Normative issues regarding a community's values, goals, perceptions, decision-making processes, and experiences involving adaptation cannot be simply resolved with increasing biophysical science or technical risk assessments (Beck, 2010; Finucane, 2009). Furthermore, exclusion of relevant cultural knowledge and traditions expressed in nonscientific ways (e.g. stories, song, language) from local adaptation processes will make interventions appear irrelevant or disconnected from the target audience (Finucane, 2009).

Community Resilience as an Emerging Focus

As mentioned earlier, research interest in the resilience of coupled social-ecological systems has surged recently, particularly within the last decade (Eakin and Patt, 2011). Introduced by C.S. Holling in 1973 in the field of ecology, resilience was defined as determining “the persistence of relationships within a system and is a measure of the ability of these systems to absorb change of state variable, driving variables, and parameters, and still persist” (Janssen et al., 2006). Resilience and its related concepts

were initially used in studies of population ecology and ecosystem management, and have been more recently employed in the analysis of human-environment interactions (Janssen et al., 2006). Consequently, various inter- and trans-disciplinary research organizations focusing on resilience have been established, including the Resilience Alliance in 1999, the Stockholm Resilience Centre in 2007, and the Community & Regional Resilience Initiative also in 2007. Although concern exists regarding whether use of the concept may be inappropriate for social analysis, resilience has increasingly been referred to in contexts of the adaptive capacities of individuals, communities, and societies (Norris et al., 2008). Therefore, a focus on resilience as a research theory, an applied adaptive process, and additionally, a metaphor within the larger public discourse is emerging.

A resilience centered framework focused at the community level has the potential to be a useful approach for addressing current shortcomings in climate change adaptation efforts. Resilience thinking is broad, interdisciplinary, and systems-based, seeking to coordinate multiple levels and types of analysis, thus allowing room to integrate adaptation efforts across different scales and with understandings of socio-cultural and informal domains. Underlying the resilience paradigm is a fundamental focus on change as a dynamic, inevitable process, thereby calling for emphases on long term views, awareness and anticipation, flexibility, diversity, iterative experimentation, learning, and positive transformation. Such emphases challenge prevailing ones on stability and efficiency as well as qualities of rigidity and a short term perspective that impede adaptation. Likewise, a resilience approach provides the opportunity to contextualize adaptation as a process, rather than as a linear progression to adaptation, in which

adaptation is treated as an outcome. And much like the vulnerability approach to adaptation, a resilience approach is context-specific, focusing on the particulars of a community rather than on the particulars of climate change impacts. As a result, application of a resilience approach is not dependent on accurate, downscaled information of climate change projections, making it useful at local scales. Moreover, because narrow, climate hazard-specific interventions are not emphasized, a resilience approach supports ‘no-regret’ efforts that contribute to the overall well-being of a community even in the absence of future climate change. Finally, unlike vulnerability, a resilience approach is strengths-based and searches for constructive solutions to emerge from within a community.

Research Objectives

The objective of this research was to construct a framework centered on community resilience in order to supplement the dominant discourse on climate change adaptation efforts. Specific goals were to:

- Synthesize current inter-disciplinary thought on the social dimensions of resilience as applied at the community level
- Research community perspectives and participatory methods necessary for adaptation work at the local scale
- Integrate findings into an initial framework that provides greater conceptual clarity and practical relevance for community resilience, thereby contributing to a more robust climate change adaptation discourse

CHAPTER 2: METHODOLOGY

Literature Review

A literature review was conducted on resilience theories pertaining to human communities at local scales of analysis. The scope of the review was restricted to social, rather than environmental, processes and resources (e.g. social capital, governance, collaboration, etc.) and their relation to community resilience. An effort was made to include contributions from inter-disciplinary perspectives on community resilience such as those from the human dimensions of environmental change field, community psychology, anthropology, public health, and disaster planning. Lastly, participatory methods for linking academics, official decision-makers, and community voices were reviewed.

Interviews

Academic and community perspectives on resilience and participatory methods of collaboration were gathered through interviews to provide further insights for this research. Interview participants were categorized into two different groups. The first group of interviewees was comprised of three academics on Oahu, each from a different discipline (climate change law and migration, community planning and disaster resilience, and ecological anthropology), who have knowledge and experience relevant to climate change adaptation or community resilience. These participants were identified through the researcher's academic networks. The second group of interviewees was comprised of five individuals with leadership roles in community organizations on Oahu (Waikalua Fishpond Preservation Society and the Pacific American Foundation, Hui o Ko'olaupoko, Ho'oulu 'Aina, and Kakoō 'Oiwī), all of which engage in place-based

environmental efforts. These participants were identified through the researcher's participation in activities of the University of Hawai'i at Mānoa's Mālama I Na Ahupuaa Service Learning Program.

Approval and exempt status for this study's research interviews were obtained from the Committee on Human Studies at the University of Hawai'i at Mānoa (Appendix A). Informed consent from each participant was also obtained (Appendix B). Interviews of all eight participants were conducted one-on-one in person with the researcher, with the exception of a single instance in which a participant was interviewed over the phone. Length of the interviews ranged from approximately 30 to 90 minutes. Audio-recordings of all but the one phone interview were taken and transcribed (Appendix C).

Qualitative Analysis

Qualitative data from the interviews was analyzed using the grounded-theory approach for identifying themes and concepts that emerge from the transcriptions, which is a process known as coding (Bernard, 2006). Emergent themes from the interviews and findings from the literature review were checked against one another and synthesized to build a theoretical framework describing community resilience processes. Exemplars, or quotes from the interviews that illuminate the framework, were incorporated in the text used to help present results of the analysis (Bernard, 2006).

CHAPTER 3: ANALYSIS

Initial Findings on Social and Community Resilience

The concept of resilience “embraces change as a basic feature of the way the world works and develops, and therefore is especially appropriate at times when changes are a prominent feature of the system” (Chapin et al., 2009). However, resilience was found to have very different meanings depending on the type of system being referred to. Resilience in engineered systems allows the return to a pre-designed state or function after a disturbance and emphasizes qualities of efficiency, control, constancy, stability, and predictability (Moser, 2008). Resilience in ecological systems enables self-organization between multiple functional states and emphasizes qualities of persistence, adaptiveness, variability, sustainability, regime shifts, and unpredictability (Moser, 2008). Throughout the literature, understandings of resilience as applied to communities, and social systems in general, were revealed to be lacking in conceptual clarity, synthesis, and consensus. Such conceptual immaturity regarding community resilience was determined to be attributed to three main reasons—research interest in community resilience is new, the inter-disciplinary nature of community resilience acts as a barrier to its theoretical development and communication, and a failure to move beyond established ecological theories of resilience has restricted social understandings of resilience.

Thus far, research on resilience in the social sciences has mostly focused on the psychological ways in which individuals, especially youth, overcome adversity (Sonn and Fisher, 1998). Studies and theories explicitly addressing resilience at larger scales of social analysis (e.g. regarding family, community, regional, and societal systems) were found to be few and very recent. A large body of literature exists on the resilience of

coupled social-ecological systems, however the resilience of social systems is constructed in relation to ecological theories of resilience in this discourse, rather than studied on its own. Despite a lack of conceptual development and consensus on its meanings, community resilience was found to be frequently referred to in research literature and practical discourse, such as in regards to the human dimensions of global environmental change, disaster management, and community psychology. Therefore, in many of these contexts, community resilience is largely being utilized as a metaphor in theoretical studies and practice, rather than as a well-developed framework for guiding inquiry and application (Norris et al., 2008).

Inadequacies due to Inherited Meanings from Ecological Resilience

Conceptualizations of social resilience as applied to human systems are currently challenged with the task of overcoming influence from established ecological meanings and theories of resilience. In theories of ecological resilience, diversity, flexibility, systems models, and feedback loops are used to characterize the complex interactions between ecosystem components, including between different spatial scales. Ecological resilience theories also address temporal dynamics by viewing uncertainty, change, and transformation between multiple, alternative states as expected. The social sciences must critically assess the relevance of these ecological theories of resilience to social conceptualizations of the term. For example, use of systems models for understanding social resilience may not be entirely appropriate because such models have been criticized for being too deterministic to describe human actions (Chapin et al., 2009). Likewise, the fundamental principle of embracing and viewing change in ecosystems as inevitable and the acceptance of alternative functional ecosystem states in ecological

theories of resilience may not apply in social contexts. Rather, the studies of values, psychological processes, negotiation, and influences of power can determine if the existence and/or the goal of multiple functional states of a community are acceptable conditions to members of a social system, and if so, how desirability of these different states is defined or may be contested. The main point is that existing or newly developed theories from the social sciences must form the basis for a social conceptualization of resilience without regards to how such meanings correspond to existing physical laws or ecological theories (Norris et al., 2008).

The primary inadequacy in most current conceptualizations of community resilience stems from a failure to fully explore the implications of human agency and human nature in social processes influencing resilience. Representing a transfer from ecological studies of resilience, community resilience is often framed in terms of mostly non-social functional qualities, including diversity, self-organization, adaptive capacity, flexibility, natural resources and infrastructure. The primary differentiation between ecological resilience and resilience as applied to social systems is often cited as the fact that unlike ecosystems, humans are capable of foresight and learning from past events (Adger et al., 2009; Colten and Sauer, 2010). Sometimes, governance and collaboration are mentioned as distinctions of resilience in social systems as well. However, most reference to community resilience ignores the fact that human agency and human nature drive a whole system of social processes including communicating, decision-making, negotiating power, building relationships, leveraging resources, employing leadership, institutionalizing societal functions, practicing religion, perpetuating cultural traditions, and perceiving, judging, and behaving in ways not only dependent on objective

information and rationality, but on subjective values and cultural worldviews as well. The mechanisms through which these different forms of social capital interact with community resilience have not been fully explored when arguably, they should serve as the very basis for a robust conceptualization of resilience in communities.

Existing Social Conceptualizations of Community Resilience

Review of literature on the social dimensions of resilience at the community level discovered a number of conceptualizations of community resilience, which were found to be useful, yet incomplete. Community resilience is generally described as a process of recovery, coping, effectively dealing with some sort of stress, or “buffering adversity” (Norris et al., 2008). For example, Soon and Fisher’s (1998) perspective from community psychology describes resilience as “the capacity for successful adaptation, positive functioning or competence...despite high-risk status, chronic stress, or following prolonged or severe trauma.” General consensus across definitions suggests that resilience in social systems is better conceptualized as an ongoing process with long term implications, rather than as a fixed outcome (Norris et al., 2008; Rolfe, 2006; Colten and Sauer, 2010). Resilience in communities is also widely considered as exhibiting an emergent property, in that the resilience process emerges from the interactions between people in a community, rather than from the simple sum of individual efforts (i.e., the whole is more than the sum of its parts) (Norris et al., 2008). Other than these characterizations, conceptualizations of community resilience lack consensus and definitions tend to vary depending on the discipline.

Conceptualization of community resilience by Norris et al. (2008) as emerging from a set of networked adaptive capacities was found to be particularly useful because

they use the term adaptive capacity to mean a combination of the importance of both capacities (or resources) of the community, and the dynamic and adaptive qualities of these capacities. Analysis by Norris et al. (2008) is particularly adept at specifying that its dynamic and transformational attributes are what distinguish community resilience from other ways of characterizing community strengths, (e.g. community competence, sense of coherence, social capital). Bruneau et al.'s (2003) identification of disaster resilient systems as having specific dynamic attributes of robustness and redundancy is also useful. Robustness characterizes a community resource that is strong and does not suffer degradation in function upon stress (Bruneau et al., 2003). Redundancy is the extent to which available community resources are substitutable, whereby key functions can be fulfilled by a diversity of resources or flexibility within a single resource (Bruneau et al., 2003).

A Framework For Conceptualizing Community Resilience

Although many literature references of community resilience were found to lack synthesis and a depth of analysis of social processes and theories of change within communities, numerous important and useful, yet fragmented, ideas and lines of reasoning were noted in the literature. Perspectives on community resilience and participatory methods supplied by interview participants also contributed important insights. Synthesis of literature review findings and interview transcript data suggest six major themes for conceptualizing community resilience. These themes are considered to be socially-embedded adaptive processes, i.e. they are processes entrenched in social relations and social dynamics of communities, important for community resilience. Included are processes of 1) perpetuating a collective identity, 2) recognizing local

values, 3) building social networks, 4) adaptive decision-making, 5) institutional facilitating and coordinating, and 6) encouraging norms of communication, inclusiveness, and cooperation. Themes were expressed as actions, rather than nouns, in order to emphasize that community resilience is a process instead of an outcome.

Using the concept of social capital, which has largely been transferred between disciplines, these six themes, although described as processes, may also be thought of as community resources. Social capital is an umbrella term that includes any socially driven resource that can be invested in, accessed, and employed, thereby resulting in some type of beneficial function for society, such as increased efficiency of social processes and relations, improved community well-being, and as argued in this paper, resilience (Norris et al., 2008). Forms of social capital may include relationships, networks, norms, cultural values, participation, leadership, learning, and identity in so far as they are shared and embedded within a social system (Kirmayer, 2009). Therefore, a persistent collective identity, local values, social networks, adaptive decision-making, institutional facilitation and coordination, and norms of communication, inclusiveness, and cooperation all serve as resources that can be drawn upon for community resilience.

Community resilience is defined as a process rooted in a local value context that draws upon socially embedded adaptive resources, thereby supporting a community through change (whether climate-related or not). Such a definition combines consensus that resilience is best conceptualized as a process, exhibits an emergent property (i.e. arises from six forms of social capital suggested by this research project), and incorporates the dynamic and transformational attributes that distinguish resilience from other ways of characterizing community strengths (indicated by the word adaptive

describing community resources within the definition). In essence, community resilience is about demonstrating collective resourcefulness, or the ability to draw upon socially embedded resources, in a manner that provides both robustness and redundancy. Figure 1 portrays a model of community resilience. The remaining portion of this chapter focuses on exploring the six themes that emerged from analysis of the literature review and interview transcripts, which build this initial framework for conceptualizing community resilience.

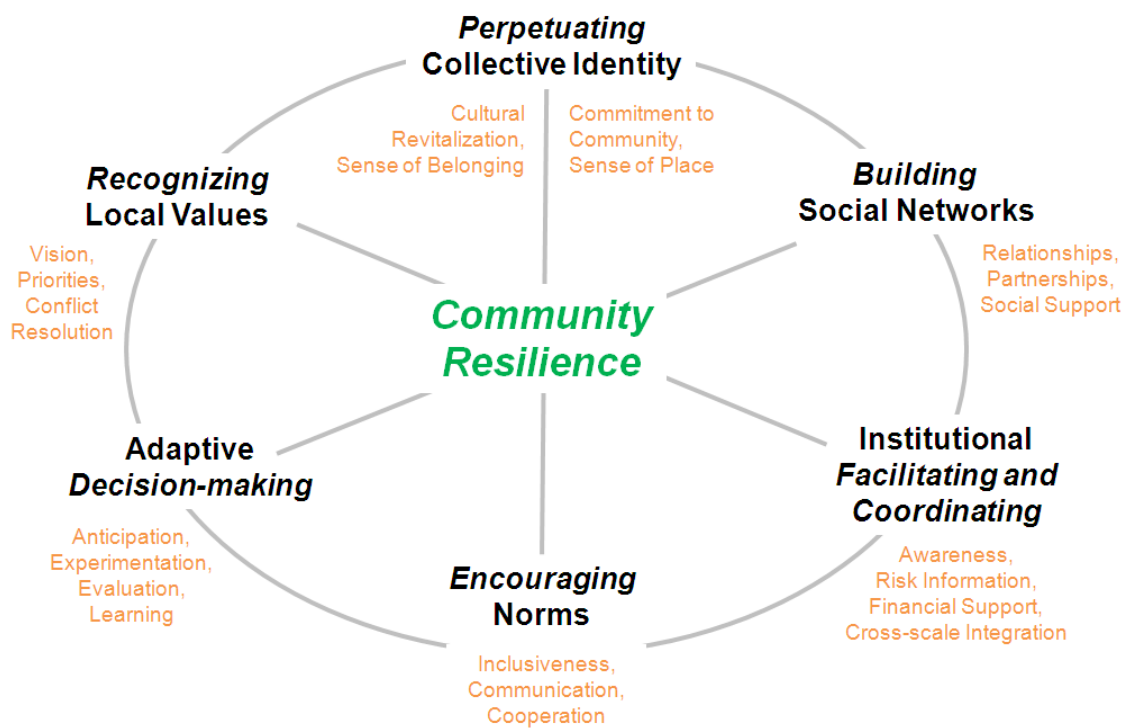


Figure 1: Model of Community Resilience. Community resilience is portrayed as emerging from a network of six types of socially embedded adaptive processes (bolded), which can also be thought of as various forms of community resources or social capital. Components specific to each of these six forms of social capital are listed in orange.

Perpetuating Collective Identity

The first theme that emerged as fundamental to community resilience involves the persistence of collective identity, involving a “subjective sense of sameness over time, despite internal or external change,” along with a shared commitment to that which goes

beyond individual self-interests and supports broader community well-being (Kirmayer, 2009). As expressed by Lee (2011), volunteerism for restoration work at Waikalua

Fishpond on Oahu demonstrates a value of and desire for community engagement:

So if I told you okay, can you come down to our pond and help us? But before you say yes or no, its going to be hard work, you're going to get dirty, we're not going to pay you, and we expect you to come down every year... And what would you say? Normally, people would say, "what's in it for me?"...But the fact is that we have thousands of people that are coming down. So why? Because they get to get a experience that is what people are looking for that they don't normally get in their busy lives now...Because they get something intrinsically out of it that maybe they don't know but it feels good and it feels right, but it helps my family and it helps my community.

Research in the fields of community psychology and public health has identified that community resilience processes include expressing a sense of community, experiencing interactions as a collective unit, and engaging in community action to address issues (Rolfe, 2006). Such processes may help to strengthen and persist a shared identity held through time, thereby situating a significant emotional and psychological rootedness or grounding within the community. It is assumed that in the face of potentially disorienting climate change stressors, this groundedness, although subjective, may serve great importance by providing a community with some sense of constancy and imperviousness.

Studies have shown that sense of belonging, or the extent to which community members regard the community as a significant reference group that they individually identify with, appears to play an role in the resilience capacities of individuals, families, and whole communities (Rolfe, 2006). In the case of Ho'oulu Aina, a nature preserve in Kalihi Valley on Oahu that is part of a federally funded community health clinic, providing a space (both physical and social) for tolerance, connections (whether personal, cultural, ecological, social, historical), and support cultivates a sense of belonging and opportunities for the community to be a community and for people to experience positive

transformations together while gardening, removing invasive species, and restoring native habitats (Freitas, 2011). As Freitas describes:

What we give here is the feeling of safety, of belonging. And that safety is in numbers, but it's also the safety of we have like enormous amounts of tolerance for all different kinds of perspective and ways of doing things and thoughts and ideas, whatever. We have absolutely no tolerance at all for people to be mean or put down one another. At all, none. Not even yourself. And so if you're in that space of making a choice that is hard...you don't have to feel that isolation, and not only you don't have to feel that isolation, you feel exactly the opposite, which is a sense of belonging. That you belong here. Because we need you. And it doesn't matter if you came today or if you don't come for five more years and come again, or you came once and you never come again. You belong when you came, and you should have that feeling of you're welcome, and not only just welcome, but you're welcome home to yourself here.

By coming together for a common cause, in this case to restore the health of the land and people in this community, –there's this feeling of, I see and feel how we're all connected and that if we work together, we can accomplish what we need to accomplish” (Freitas, 2011).

Assertions of collective agency through community engagement in political activism and other organized efforts driven by collective action may convey and reinforce the collective identity of a community (Rolfe, 2006). Community action represents endeavors in self-determination that not only address needs and pressing issues within a community, but demonstrate to its members and others in society that the community is a force in its own right, thereby inspiring confidence, commitment, and optimism for moving into the future. Collective agency and community resilience processes can take on many diverse forms, depending on the community (Rolfe, 2006). For climate change adaptation efforts, asserting collective agency, (and this can be through raising awareness about climate change, engaging in energy reduction and efficiency, supporting alternative means of transportation, advocating for local food production, or virtually any other form

of community engagement or activism that can be connected to climate change) is important so that communities cultivate feelings of responsibility, commitment, and empowerment when faced with the uncertainty and global scale of climate change, rather than responses of apathy or helplessness.

A strong sense of or rootedness in place due to profound historical, familial, emotional, and spiritual attachments to the geographic locality inhabited by a community is associated with a strong local identity that can be shared amongst community members (Cross, 2001). Especially in communities with locally resource-dependent livelihoods or strong cultural connections to the natural environment, place attachment is vital to collective identities and important for health and well-being (Kirmayer, 2009). Mailheau (2011) from Hui o Ko'olaupoko, a place-based environmental non-profit on the windward side of Oahu, shares her understanding about the importance of a sense of place for community identity and resilience:

I feel like the more people learn about what's around them, what the natural resources are or the history of Kailua, they become more attached to it. You learn about a heiau that might be off the side of a road you drive on everyday and you never, you've grown up here for 20 something years, and now every time you pass that spot you think of it, that's there... I think sense of place and sense of your neighbors and that desire to connect with people and with a place (is important for community resilience). It's important to know where you live. To make a deeper connection with it.

And yet, climate change threatens to transform ecosystems and natural environments integral to the cultural and collective identities of many communities. In this case, community dependency on a rigid collective identity can restrict resilience processes because it is based upon a strong relationship to a particular place and natural environment that will likely change. For example, strong cultural attachment to a coastal-based livelihood in American Samoa is evident in the continual construction of homes

within inundation and tsunami vulnerable areas (Freitag, 2011). A long-term resilience strategy might entail moving homes inland towards higher elevations near the mountains of islands if such a cultural attachment did not exist. However, a profound connection to coastal settings may prevent such actions, which interfere with the community's cultural integrity and attachment to place. As a result, community resilience to coastal hazards will either have to entail some sort of cultural adjustment (e.g. adapting to not having structures near the coast), or if that is unacceptable, employing alternative strategies such as building homes in a more temporary, flexible manner. Therefore, if coastal hazards destroy structures, they can be re-built more quickly and the perceived devastation is much less.

Evidently, the concept of persisting collective livelihoods in this theme may not be equivalent to constancy of a single particular collective identity. In order to provide redundancy in a community resilience process, a collective identity of a community should always persist, but need not be in the same form throughout time, i.e. it too evolves. For example, cultural continuity and collective identity of Native Hawaiians need not depend on completely going back to traditional ways of interacting with the environment, but instead may be revitalized via new, creative ways that replicate the desired cultural relationship to the land. Environmental restoration efforts of Waikalua Fishpond Preservation Society, Hui o Ko'olaupoko, Ho'oulu 'Aina, and Kakoō _Oiwī therefore, serve purposes of cultural revitalization by reconnecting people with cultural practices, values, and shared identities. Kahale (2011) of Kakoō _Oiwī provides an example of the potential impact that reconnecting can have on individual resilience:

When I was with the substance abuse people, there was two individuals in particular. They were older. And they came from a place where they used to grow kalo. And whatever reason, they strayed away from, they went out, they did their own thing. Got into trouble, messed up with drugs and alcohol. Came over here and they yeah, they completely go, —This is what I'm supposed to do.” They were able to go back, they were from Maui, they went back to Maui and they were able to remain sober because they reconnected with what it was that they used to do before. —Oh I remember my dad used to take me, I remember my uncle.” They remember when they were younger and the things that they did. And it's like they were able to get back on track. It was easy I think, not easy, but it was good for them because yes, that was something that they did when they were younger.

A theme of restoration, or desire to ‘go back’ and draw strengths and lessons from a previous state, both environmental and cultural, was constant throughout the interviews.

Freitas of Ho'oulu 'Aina provides a further example of this process:

The transformation can be as simple as —I remember my grandmother making--the smell of this plant makes me remember my grandmother making me tea.” Now that doesn't seem like an empowering moment necessarily, but it's a moment of connection where someone realizes within his or her own experience is an answer that makes him or her stronger or more rooted or more grounded or more who they are or more whatever it is that seemed to have forgotten right before they smelled that plant.

Activities that engage communities in cultural revitalization may serve an important role in resilience, so that communities are able to manage change, rather than let change manage them by holding onto a collective identity for inspiration and guidance. In summary, based on psychological perceptions of a sense of belonging, collective agency, sense of place, and cultural continuity or revitalization, a persistent collective identity may provide an internal source for community feelings of security, motivation, empowerment, and optimism—all of which are forms of social capital vital for community resilience. When faced with climate change and other stressors, the challenge of community resilience appears to —be true to who you are and learn to navigate accordingly” (Lee, 2011).

Recognizing the Local Value Context

An important theme for conceptualizing community resilience centers on the paramount roles that subjectively defined values and worldviews play in determining a community's identity, priorities, experiences, and perspective on what constitutes legitimate ways of engaging in resilience processes for climate change adaptation. Community resilience cannot be engaged without first understanding what is valued and most meaningful to the target community, how climate change impacts these values, and what is considered to be an appropriate resilience process and vision for the community. O'Brien (2009) provides a very useful review on values, citing consensus that values are considered to be significant predictors of attitudes and behavior, are contextually situated yet somewhat resistant to change, are transmitted between generations, and are cherished across all cultures. Deeply-embedded worldviews, cultural norms, and values are known to largely shape how communities perceive risk and respond when faced with change or stress (Adger et al., 2009). Therefore, by anchoring understandings of community resilience in a specific value and cultural context, climate change adaptation becomes meaningful to the target community and is more likely to be effective.

For example, anthropological analysis of a community in Leukerbad of the Swiss Alps revealed that even though scientific awareness about climate change is pervasive, the preferred response is to “work within the context of the challenges that appear, but not to attempt to predict, or avert, what the long-range future might bring” (Strauss, 2009). A general belief exists that fate, including that of the melting glacier, is as the mercy of God, and that avalanches, floods, and potential for displacement are not within the community's control (Strauss, 2009). Strauss (2009) emphasizes that despite

knowledge and belief that climate change is happening and will likely affect their own livelihoods, this community in Leukerbad maintains the notion that nothing preventative can be done to prepare. Clearly, effective community resilience processes for climate change adaptation in such a community would first have to somehow address this local belief, and failing to recognize its importance would impede any efforts for adaptation.

O'Brien and Wolf (2010) argue that a values-based approach is necessary for making climate change adaptation efforts equitable and culturally sensitive because it recognizes that different understandings of what constitutes a desirable community exist, and that the value assumptions of more powerful groups can influence the priorities and approaches taken to engage resilience in less powerful target communities. For example, Sonn and Fisher (1998) note that adaptations made by minority communities to social contexts have historically been judged based on the cultural values and norms of the white middle class. Characterization of oppressed groups labeled as lacking in community competence and resilience have failed to consider alternative settings in which people collectively perpetuated their cultural identity, allowing forms of the community to survive even though the appearance of assimilation is given (Sonn and Fisher, 1998). In the case of climate change adaptation, the tendency has been to prioritize economic valuation rather than discuss concerns about equity for the most vulnerable communities or about the more subjective dimensions of future climate change impacts, such as their effect on cultural and psychological relationships to the environment and between members of a community. The importance of addressing different values also emerged as a theme in the interviews, as expressed by Freitas (2011) that ~~being~~ being aware of a certain cultural, spiritual and community identity (is important).

And so unless you really understand that clearly, you cannot have interventions that are effective.”

Conceptualization of community resilience as anchored in local value contexts also allows underlying value conflicts within a community to be overtly acknowledged and addressed (O’Brien, 2009). Adger et al. (2009) assert that understanding the values that drive adaptation decision-making is easier at local scales, which involve well defined constituents rather than diffuse agents at macro-scales. However, value conflicts between diverse local interests often do exist at the community level. If left unresolved, such conflicts in values can stifle resilience processes, simultaneously enhance and reduce resilience for different individual groups, or lead to tension and divergence within a community (Adger et al., 2009). For example, the construction of sea walls as an adaptation to protecting private property from rising sea levels may conflict with public interests of beach access, coastal recreation, and fisherman activities. Therefore, O’Brien and Wolf (2010) point out that the ability to build common ground by reconciling value conflicts is likely to be a major factor in any community response to climate change.

The dynamics of values and worldviews is another important area of study that yields findings useful for social conceptualizations of resilience. Seligman and Katz (1996) assert that values may be creatively applied and dependent on context by showing that participants rank environmental values in different orders when asked to do so as general principles versus with regards to a specific issue. Likewise, Maslow’s (1970) theory of a hierarchy of needs argues that dominating goals act as strong determinants of an individual’s present worldview and values, which change as new motivations emerge once lower needs have been satisfied. Longitudinal studies of values have indeed shown

that socio-economic development tends to shift values inter-generationally from those focused on survival and safety to those emphasizing self-expression (Inglehart and Welzel, 2005). Because values can shift over time, cultivating a generational transformation towards values that support environmentalism and solidarity may be one long term strategy to addressing climate change. The place-based environmental education efforts by Lee (2011) and the Pacific American Foundation is an example:

If you can educate people when they're young, then you have firm foundation of values. So you're basically growing a new generation of people like yourself that are coming to me and asking me about global climate change and sustainability because you have a value system that you grew up with.

O'Brien (2009) characterizes three different types of worldviews (Table 3), which describe the basic assumptions and beliefs that influence much of an individual or group's perceptions of the world, their behavior, and their decision-making criteria."

Table 3: Characterization of Different Types of Worldviews
(Compiled from O'Brien, 2009).

Traditional Worldviews	Need for belongingness and group identity Recognition of local knowledge Support of traditional livelihoods Preservation of cultural icons and identities (including strong connections to nature)
Modern Worldviews	Material wealth Freedom and individualism Rational, scientifically-based technological and market-based solutions
Postmodern Worldviews	Well-being, equity, justice Attention to poor and marginalized Consideration of future generations Valuation of ecosystem services

Modern worldviews appear to be driving responses to climate change, and arguably, either drawing lessons from traditional worldviews or shifting towards postmodern worldviews may help expand engagement with climate change adaptation. For example, some indigenous ways of understanding humanity's role in, rather than domination of,

nature may help facilitate acceptance of the need re-evaluate societal lifestyles in light of climate change. Similarly, spiritual ecologists, including Sponsel (2011) assert that the present climate change situation may be evaluated as a reflection of a spiritual crisis, in which solutions lie in the restoration of humanity's relationship to the sacred, including the environment.

Building Relationships and Social Networks

The importance of strong relationships and broad social networks in community resilience was a pervasive theme throughout all research findings, and was especially emphasized by community voices in the interviews. For example, Mailheu (2011) discusses the importance of partnerships and overall relationship building in Hui o Ko'olaupoko's success:

Being a small organization and non-profit not owning any land, we really look towards building partnerships with people, with private landowners or even just your everyday homeowner...

I was really lucky there (in Waimanalo) to be able to make connections there with the kupuna, and to get their blessing. And that seems to be a huge thing if you can make those connections then everyone else seems to be like, —Oh well, Aunty's cool with it so this must be a good group to work with.” So it's just about talking to the right people when we were getting going and really just making good relationships...you've also got a network of people. When you need something or are lacking something for a project or you need the support of a certain person to push that through, there's always somebody out there that says, —Oh I know them, I'll get you a meeting with them.”

It is obvious that relationships and social networks are vital social dimensions of resilience because they provide a form of redundancy, expanding and strengthening connections between the available set of resources within a community. Social networks serve as means for distributing information, knowledge, assistance, power, and material resources within a community and from outside sources (Morrow, 2008). Relationships and the ability to collaborate are perhaps, the most substantial

resources to draw on in a social system. Foley (2011), a community planning expert expresses the need for the redundancy that collaboration provides:

You need both...community and public officials working together, you know. Doing mitigation planning, doing long term planning as well as short term planning. Just the fact that you need to work at multiple levels, multiple ways all the time.

And much like a persistent collective identity, social relationships serve as a source of constancy during times of uncertainty and unpredictability, such as during a disaster or changing climate.

Three types of social relations include bonding relations that connect members within a community, bridging relations that connect different communities, and linkage relations that connect communities with governments, institutions, and other official bodies (Kirmayer, 2009; Moser, 2008). By employing these three types of relations, communities are able to better leverage their own resources, those of other communities with mutual goals, and those of formal institutions. As Lee (2011) points out:

It takes a lot of people doing that with their different gifts and passions to make this collective change and build community resiliency from the bottom-up.

Each place-based organization interviewed emphasized the vital role of support received through social networks and partnerships, whether in the form of financial grants, technical assistance, volunteerism, learning and ideas, or access to natural resources. Partnerships were especially valued as a means for expanding and often, scaling-up the organizations' efforts towards broader levels of impact.

Resilience processes occur through building relationships and social networks by establishing social support, which is established within stress and coping literature as serving as one of the most common strategies rural communities use to deal with stress and promote well-being (Rolfe, 2006). Social support is characterized by the

assistance that people give to or receive from others, whether in emotional, material, or educational forms (Kirmayer, 2009). An example includes families in an Inuit community in the Canadian Western Arctic (some who participate in the wage economy and some who partake in subsistence living) that engage in reciprocity by sharing money, material products, and subsistence goods with one another, especially during times when either the variable wage economy or the environment restricts livelihoods (Berkes and Jolly, 2002). Similarly, relationships built through community organizations such as churches, clubs, athletic teams, parent groups, and others can be called upon in times of need, enabling well-connected communities to effectively respond to challenges (Morrow, 2008). Such has been the case in New Orleans, where communities' stronger formal and informal neighborhood associations have shown greater success in influencing reconstruction processes after Hurricane Katrina, regardless of governmental or other forms of aid (Morrow, 2008).

A case-study in the Grand Bayou community of 25 Native American families in Louisiana also demonstrates the role of social networks in community resilience. Historically, this community lacked access to formal education and other public resources, and while they identify themselves as belonging to the Atakapa tribe, outsiders perceive them as a mixed ethnic group, so they lack formal recognition from the Federal Bureau of Indian Affairs (Button and Peterson, 2009). By "minding their own business" and minimizing contact with other local residents in order to avoid conflict and controversy, grandparents and parents of current Grand Bayou community members left a legacy of social isolation and marginalization that became apparent after the community was displaced by Hurricane Katrina (Button and Peterson, 2009). Grand Bayou

experienced a delay in aid from FEMA (who claimed that they were unaware of the community's existence) and was met with similar responses from local elected officials (Button and Peterson, 2009).

As a result, members from the Grand Bayou community have engaged strongly in outreach by finding opportunities to transmit their concerns to and gain scientific information from countless organizations, such as the Corps of Engineers, the National Academies of Science, NOAA Coastal Services Center, Louisiana Department of Natural Resources, and communication with many others like the International Red Cross and the United Nations (Button and Peterson, 2009). Partnerships with other fishing communities in the coastal region were also established as well as with an Alaskan community that has endured similar challenges with coastal storms and erosion (Button and Peterson, 2009). Through this process, Grand Bayou residents cultivated greater social networks, thereby transforming their community from one that kept to themselves (and yet was still able to survive Katrina due to internal social support) to one that fully engages in developing their own capacity to manage future environmental change by leveraging bridging and linking forms of social capital.

Adaptive Decision-Making

Review of literature discovered large interest in principles of adaptive management and decision-making with regards to environmental issues and climate change adaptation. Much like adaptive management, community resilience relies on the capacity to steer change through decision-making processes in communities, so that the decision-making process itself is flexible enough to be able to learn and adapt over time (Nelson et al., 2007). Such requires a willingness to anticipate future change, experiment

with different management strategies, risk making mistakes, and constantly evaluate progress (Agrawal, 2008). Decision-making that is too rigid and controlling, instead of flexible and responsive to community concerns and changing environmental conditions results in poorly adapted policies, whether informal or official, that can be dangerous given the challenges and uncertainty posed by climate change. Mailheau (2011) describes that one of the major challenges faced by Hui o Ko'olaupoko consists of “hurdles within the government” resulting from litigation, institutional rigidity, and a lack of a progressive attitude:

A lot of times I feel like that maybe this City doesn't approach a certain (environmental) project because it's not feasible, it costs a lot of money or because they go about it in a way that's just the old school way...I think that at City and County level, they really just need to be more open-minded and look at examples of other states or other cities... even though it is kind of a hassle to deal with the City and work on their properties, we're hoping that by us maintaining the projects so well, they'll see that it's totally do-able.

In addition, views that regard adaptive decision-making as a threat to existing community power structures, programs, and policies can ultimately be limiting to community resilience processes (Folke et al., 2005).

Adaptive decision-making addresses the very root of the way humans and social systems perceive change and craft their planning and response strategies. Psychological findings suggest that most people respond to and address issues or risks that are perceived as immediate and personally relevant in a way that tends to be myopic by discounting the potential future benefits of current actions (Adger, 2000). As a result, proactive long-term approaches to managing climate change are unlikely unless impacts are perceived as significant and pressing. Yet, even if this were not so, taking a proactive stance by planning and anticipation alone, would not be sufficient strategies for community resilience because climate change poses a large degree of

uncertainty and unpredictability, especially at local geographic scales. Rather, community resilience to climate change requires a process of learning and adapting by doing, as Lee (2011) describes:

So how do you build resilience at the very fundamental level? You gotta make mistakes. I just went sailing with Nainoa the other weekend ...he said, —rigorous knowledge equals survival”...So you can have the best plans, policy plans all that kind of stuff, but nature doesn’t go by those plans...So he said, —You have to let nature tell you what to do, and you have to respond accordingly”...(Therefore), we’re constantly raising the bar and we have to. That’s part of the resiliency right, we cannot stay where we are because the world is moving so fast so we have to move with it.

Climate law and policy professor Burkett (2011) further describes the rationale behind adaptive decision-making:

Flexibility is often built in, at least from a law and policy perspective in the way that you...craft your policy. So if you craft your policy so that it’s driven by a standard or a principle, so you leave the discretion to the day to day decision maker. That’s a more flexible approach than having rules that are detailed and rigid...if you’re standard driven then you allow for a greater ability to be nimble, ability for the decision maker to be nimble given a particular crisis which is going to be even more important. So in the adaptation world then, you allow for this ability to be more nimble through more sort of flexible standards... and principles based policy, but then you absolutely have to have the portion of it that involves the evaluation to make sure that it was correct given the circumstances. And if there were things that need to be changed, that that would be taken into account with the next, in dealing with the next crisis.

Therefore, instituting norms of anticipation, experimentation, creativity, evaluation, and maintaining social or institutional memory for learning are vital to decision-making in community resilience processes for addressing an uncertain, changing climate.

However, the stabilizing role of institutions, bureaucratic systems, and even human coping mechanisms in imposing order can impede adaptive decision-making processes (Moser, 2008). For example, the Kubler-Ross model can be applied to frame five psychological responses to change or difficult, arising challenges, which in this case, are societal responses to the threat of climate change (Wilding, 2011). Such

responses include denial (refusal to accept that climate change is real), anger (expressing resentment and blaming others), bargaining (acts of desperation), depression (doom and gloom), and acceptance (understanding that climate change is what it is and moving on to see what can be done). Understanding the psychological and political processes that drive these different responses may yield findings useful for adaptive decision-making. Ultimately, adaptive decision-making relies on a flexibility of social systems whose existing ways of doing things do not constrain necessary adaptive responses and positive change to occur.

A case-study of the Inuit community in Sachs Harbor of the Canadian Western Arctic previously mentioned provides some lessons for how a community is able to embrace change and forms of adaptive decision-making. Because they historically have had to deal with a high degree of environmental variability in the Arctic where biological production is low, resources are patchy, and availability unpredictable, decision-making in this community has developed to be highly adaptive. The Inuit have traditionally maintained flexibility in group size, location, and hunting patterns, thereby constantly moving and re-grouping to maximize resource efficiency while maintaining a generalist approach to hunting (able to switch target species) and having multiple back-up plans (Berkes and Jolly, 2002). While now settled in permanent villages, decision-making remains flexible and experimental in response to changing local sea ice and other climate conditions (Berkes and Jolly, 2002). Diversity of skill sets have also been maintained, where men can sew skins and women can hunt, if needed, and new technologies (e.g. snow mobiles, GPS) are being incorporated (Berkes and Jolly, 2002).

Furthermore, the Sachs Harbor community has engaged in various co-management arrangements with regional and federal governance bodies regarding issues of fish and wildlife management, protected areas, and environmental assessment, so that local decision-making is able to respond more flexibly and readily to changing environmental conditions without having to wait for the intervention of distant governments (Berkes and Jolly, 2002). For example, observations of unreliable sea ice in the spring may call for a change in the hunting season, which is normally fixed and sanctioned by the territorial government, but may be adjusted by the Inuit under these co-management arrangements, thus allowing for adaptive decision-making (Berkes and Jolly, 2002). This case study demonstrates how an extremely variable environment has traditionally challenged this Inuit community to incorporate adaptive qualities in their decision-making processes, thereby enhancing its resilience to current and future climate change. Those communities without such a historical and cultural precedent for adaptive decision-making will need to find ways to integrate norms of anticipation, open-mindedness, experimentation, evaluation, and learning into their ways of engaging with change.

Institutional Facilitating and Coordinating

The role of institutions in the community resilience process must be clearly specified. Agrawal (2008) highlights several critical ways in which institutions influence adaptation to climate change, including that they 1) mediate between individual and collective responses to climate impacts and 2) deliver and govern access to external resources for facilitating adaptation. Because of diverse and sometimes contradictory values regarding adaptation goals and responses, one of the most important roles of

governments or institutions with collective authority is to help resolve conflicts between community members. For example, some communities or individuals may consider maintaining the status quo in the face of climate change impacts as an adaptation goal, while others find current circumstances to be undesirable, so that adaptation becomes about what they consider to be progress (Adger et al., 2009). As Burkett (2011) notes:

Your adaptation may disrupt another person's ability to adapt, so at the top, I think the role for the top is to serve as a coordinator and harmonizer and administrator.

Evidently, adaptation efforts to climate change in one community may reduce resilience processes of another community, thereby necessitating some sort of coordination, which is also a role to be filled by institutions.

Local governments, academic bodies, and other institutions are able to deliver external resources to help support and facilitate community resilience, rather than dictate it (Agrawal, 2008). An important aspect of facilitating community resilience is the process of education, outreach, and raising awareness about future climate change, i.e. downscaling available information to communities and encouraging them to reflect on their available options and strategies. Foley (2011) describes that long term issues like climate change are not always on people's minds and communities may not be thinking about resilience until an event occurs. Therefore, institutions can play a huge role in raising awareness about the need to think about future climate change amongst communities as well as local decision-making bodies. As Burkett (2011) describes:

A lot of people need to know what's at risk in order for them to have a sense of what their values are... And then after that it's just about figuring out you know, what is relevant to know. I think it's enough to know that we don't know...but it could be X and sort of working through the probabilities. A lot of times people know their best means of adaptation, and then we facilitate. We as a decision maker, the academy, we facilitate people to empower themselves in doing it.

Institutions also facilitate by providing external support to communities, whether through material, financial, informational, organizational, or other resources.

Therefore, the role of institutions, whether academic, governmental, or even community-based, is to be both a coordinator and facilitator of community resilience processes for climate change adaptation.

Encouraging Norms of Inclusiveness, Communication, and Cooperation

Social norms align individual and group behaviors and actions with shared community values and interests. Norms of inclusiveness widen the range of available social resources and also allow for opportunities to challenge and push one another towards positive transformations. In contrast, norms that support narrow-minded attitudes or employ exclusion processes restrict opportunities for community members to interact with, learn from, and find common ground with one another. This theme of inclusiveness particularly arose from the perspectives of Freitas (2011) at Ho'oulu 'Aina:

So our approach is that whether you're a funder or a researcher or a student or whether you're in the health field or a farmer or a little kid, if you've just got here or you've been here for 4,000 generations, our job is to make opportunities for communities, for people to be a community. And there's not really a better way that I know, other than to take care of the land. And then vice versa. I don't know a better way to take care of the land than to have multiple peoples from all different walks of life and ages and perspectives put their hands together to take care of the land.

Freitas (2011) further describes the organization's process of fostering inclusiveness and a positive space for all to share a common experience:

You make a circle, you introduce your ancestors, you work, you come back, you say what you're grateful for, you eat some food...I think when we give all people the opportunity to stand in the circle, I mean it's fairly intentional that we strip away our titles that a 4 year old can introduce himself just the same as the most important person in politics in that circle. And there's no hierarchy and so you have to kind of be totally human and present in a certain moment.

Similarly norms of communication allow for opportunities to learn from diverse perspectives, as well as to engage in meaningful negotiation between stakeholders with conflicting interests. An important finding grounded in many experiences with dealing with diverse interests trying to collaborate is that establishing clear channels of communication early and often is one of the most important factors in partnership success, enabling a positive, beneficial, and educational collaborative experience for both partners (Moser, 2008). Lee (2011) describes the value of communication in his experiences with developing a community driven effort to restore the Waikalua fishpond:

I knew how to sit down and build relationships and help resolve conflicts. So that's what we did, so community involvement...really what that means is communication and being able to listen to what people's concerns are. And try to harness that to focus on something, and in this case that was the pond.

Lastly, norms of cooperation facilitate collaborative efforts, so that people work together towards common goals rather than against one another. Collaboration between scientists and communities in particular, are often best facilitated by intermediary institutions that perform effective communication, translation, and mediation between the two so that neither parties have to significantly change their norms, expectations, and roles (Moser, 2008). Establishing a commitment to work together towards the common good, despite any disagreement or lack of individual benefit, gives communities broader support for their efforts and really lays the foundation for a community to be strong and successful in the face of change.

CHAPTER 4: CONCLUSION

This study's conceptualization of community resilience provides an initial framework for understanding how socially-embedded community processes influence local collective capacity to effectively manage change, whether climate related or not. Based on this framework, resilience emerges from perpetuating a collective identity, recognizing local values, building social networks, adaptive decision-making, institutional facilitating and coordinating, and encouraging norms of inclusiveness, communication, and cooperation. These processes may be also thought of as forms of social capital, and are adaptive to the extent that they exhibit *robustness* (are strong and do not suffer degradation upon stress) and *redundancy* (are substitutable, so that key functions may be fulfilled by a diversity of resources or flexibility within a single type).

Further research must be done to test the validity of the conceptual framework as applied to different communities, as well as to determine any of its shortcomings. Efforts to develop methodologies for measuring resilience are likely to be met with large difficulty because community resilience is not formulaic, deterministic, or generalizable across all value contexts. Assessment of community resilience may be possible through indirect proxy measures, such as social indicators of resilience resources or positive outcomes within a community. However, qualitative case-study approaches are likely to be more effective in analyzing community resilience to climate change adaptation under this framework. And yet, it is also the opinion of this researcher that community resilience is essentially a process that must be put into practice, rather than over-intellectualized. Community resilience is about a way of thinking about and approaching climate change adaptation at a local level, of drawing on diverse forms of social capital,

and of engaging with change in adaptive ways so that opportunities for positive transformations can occur.

There are many possible limitations to applying a community resilience approach to climate change adaptation. Community resilience is an ongoing, long term process that requires commitment and for people and institutions to engage with change in adaptive rather than optimal, planned ways because of uncertainties regarding climate change impacts and constantly changing social and environmental conditions. Psychological, cultural, and institutional rigidities and barriers to change, as well as value conflicts, must be addressed for community resilience and local climate change adaptation processes to be successful. However, a community resilience centered approach addresses the social dimensions of climate change adaptation and draws on the strengths from within local communities. Lee's (2011) comments emphasize this process of finding inner strength:

And you know, an old kupuna always told me, he said...this is when we were trying to mentor kids, —Tell your mentees, don't go looking for the answers all over the place, the four corners of the globe. Because the answer is right here. We just have to figure out how to unlock it and tap into it.”

Community resilience is essentially, about figuring out how to unlock and tap into the social resources within local communities that will help them thrive in a changing world.

Upon further development, this project's conceptualization of community resilience may help guide community-based efforts addressing climate change and provide a framework for institutions to understand the social dynamics of community resilience and their role as a coordinator, facilitator, and overall supporter of this process. Integrating findings from further studies of community resilience with the dominant climate change adaptation discourse can aid in scaling-down such efforts to local geographic levels in meaningful ways.

APPENDIX A: IRB APPROVAL

UNIVERSITY OF HAWAII

Committee on Human Studies

August 30, 2011

TO: Marisa Watanabe
Principal Investigator
Oceanography

FROM: Nancy R. King
Director



Re: CHS #19450- "A Framework for Cultivating Community Resilience to Climate Change"

This letter is your record of CHS approval of this study as exempt.

On August 30, 2011, the University of Hawai'i (UH) Committee on Human Studies (CHS) approved this study as exempt from federal regulations pertaining to the protection of human research participants. The authority for the exemption applicable to your study is documented in the Code of Federal Regulations at 45 CFR 46 (2).

Exempt studies are subject to the ethical principles articulated in The Belmont Report, found at <http://www.hawaii.edu/irb/html/manual/appendices/A/belmont.html>

Exempt studies do not require regular continuing review by the Committee on Human Studies. However, if you propose to modify your study, you must receive approval from CHS prior to implementing any changes. You can submit your proposed changes via email at uhirb@hawaii.edu. (The subject line should read: Exempt Study Modification.) CHS may review the exempt status at that time and request an application for approval as non-exempt research.

In order to protect the confidentiality of research participants, we encourage you to destroy private information which can be linked to the identities of individuals as soon as it is reasonable to do so. Signed consent forms, as applicable to your study, should be maintained for at least the duration of your project.

This approval does not expire. However, please notify CHS when your study is complete. Upon notification, we will close our files pertaining to your study.

If you have any questions relating to the protection of human research participants, please contact CHS at 956-5007 or uhirb@hawaii.edu. We wish you success in carrying out your research project.

1960 East-West Road, Biomedical Building, Room B-104, Honolulu, HI 96822-2303
Telephone: (808) 956-5007, Facsimile: (808) 956-8683, Website: www.hawaii.edu/irb, E-mail: uhirb@hawaii.edu
An Equal Opportunity/Affirmative Action Institution

APPENDIX B: CONSENT FORMS

University of Hawai'i

Consent to Participate in Research Project:

A framework for cultivating community resilience to climate change

My name is Marisa Watanabe. I am a Global Environmental Science student at the University of Hawai'i at Manoa, in the Department of Oceanography. As a requirement for my degree, I am conducting a senior thesis research project. The purpose of my project is to summarize and bring together multiple sources of knowledge regarding climate change adaptation, social-ecological resilience, and community development to generate a community resilience-centered approach for addressing climate change. I am asking you to participate in this research project because you have relevant knowledge and experience in research and/or practice regarding these areas of climate change adaptation, social-ecological resilience, or community development.

Project Description – Activities and Time Commitment: If you participate, I will interview you once, in person with a potential for one follow-up interview. The interview(s) will last for about 45 to 90 minutes. I will record the interview using audio-recording software on my laptop computer. I am recording the interview so I can later type a transcript – a written record of what we talked about during the interview - and analyze the information from the interview. If you participate, you will be one of a total of approximately 12 people who I will interview individually. If you would like to preview a copy of all of the questions that I will ask you, please let me know now.

Benefits and Risks: I believe there are no direct benefits to you in participating in my research project. However, the results of this project might help me and other researchers learn more about community resilience. I believe there is little or no risk to you in participating in this project. If, however, you are uncomfortable or stressed by answering any of the interview questions, we will skip the question, or take a break, or stop the interview, or withdraw from the project altogether.

Confidentiality and Privacy: During this research project, I will keep all data from the interviews in a secure location. Only I and my research advisor will have access to the data, although legally authorized agencies, including the University of Hawai'i Committee on Human Studies, have the right to review research records. After I transcribe the interviews, I will erase the audio-recordings. When I report the results of my research project, and in my typed transcripts, I will only use your name if you give me permission to do so. If you would like a summary of the findings from my final report, please contact me at the number listed near the end of this consent form.

Voluntary Participation: Participation in this research project is voluntary. You can choose freely to participate or not to participate. In addition, at any point during this project, you can withdraw your permission without any penalty of loss of benefits.

Questions: If you have any questions about this project, please contact me via phone at (808) 269-0079 or e-mail (marisaw@hawaii.edu). If you have any questions about your rights as a research participant, in this project, you can contact the University of Hawai'i, Committee on Human Studies (CHS), by phone at (808) 956-5007 or by e-mail at uhirb@hawaii.edu.

Please keep the prior portion of this consent form for your records.

If you agree to participate in this project, please sign the following signature portion of this consent form and return it to me.

Questions: If you have any questions about this project, please contact me via phone at (808) 269-0079 or e-mail (marisaw@hawaii.edu). If you have any questions about your rights as a research participant, in this project, you can contact the University of Hawai'i, Committee on Human Studies (CHS), by phone at (808) 956-5007 or by e-mail at uhirb@hawaii.edu.

Please keep the prior portion of this consent form for your records.

If you agree to participate in this project, please sign the following signature portion of this consent form and return it to me.

Signature(s) for Consent:

I agree to participate in the research project entitled, "*A framework for cultivating community resilience to climate change.*" I understand that I can change my mind about participating in this project, at any time, by notifying the researcher.

Your Name (Print): HERB LEE, JR.

Your Signature: [Handwritten Signature]

Date: 10/19/2011

Questions: If you have any questions about this project, please contact me via phone at (808) 269-0079 or e-mail (marisaw@hawaii.edu). If you have any questions about your rights as a research participant, in this project, you can contact the University of Hawai'i, Committee on Human Studies (CHS), by phone at (808) 956-5007 or by e-mail at uhirb@hawaii.edu.

Please keep the prior portion of this consent form for your records.

If you agree to participate in this project, please sign the following signature portion of this consent form and return it to me.

Signature(s) for Consent:

I agree to participate in the research project entitled, "*A framework for cultivating community resilience to climate change.*" I understand that I can change my mind about participating in this project, at any time, by notifying the researcher.

Your Name (Print): Kristen Malani Mailhau

Your Signature: 

Date: 10/21/2011

Signature(s) for Consent:

I agree to participate in the research project entitled, "*A framework for cultivating community resilience to climate change.*" I understand that I can change my mind about participating in this project, at any time, by notifying the researcher.

Your Name (Print):

Dolores Foley

Your Signature:

Dolores Foley

Date:

October 28, 2011

Signature(s) for Consent:

I agree to participate in the research project entitled, "*A framework for cultivating community resilience to climate change.*" I understand that I can change my mind about participating in this project, at any time, by notifying the researcher.

Your Name (Print): Puni Freitas

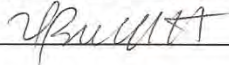
Your Signature: 

Date: Nov 2, 2011

Signature(s) for Consent:

I agree to participate in the research project entitled, *"A framework for cultivating community resilience to climate change."* I understand that I can change my mind about participating in this project, at any time, by notifying the researcher.

Your Name (Print): Maxine Burkett

Your Signature: 

Date: 11-3-11

Signature(s) for Consent:

I agree to participate in the research project entitled, "*A framework for cultivating community resilience to climate change.*" I understand that I can change my mind about participating in this project, at any time, by notifying the researcher.

Your Name (Print): Leslie E. Sponsel

Your Signature: Leslie Sponsel

Date: 11-8-11

Signature(s) for Consent:

I agree to participate in the research project entitled, "*A framework for cultivating community resilience to climate change.*" I understand that I can change my mind about participating in this project, at any time, by notifying the researcher.

Your Name (Print): Kristi Kahale

Your Signature: Kristi Kahale

Date: 11/2/11

APPENDIX C: INTERVIEW TRANSCRIPTS

Interview No. 1

	Codes
HL: And the solutions are not simple, they're complex. Its hard to explain it and it kind of sounds convoluted. But I understand you know, the, and you're looking at disparate parts now and trying to make sense of maybe some kind of cohesion and see where the connections are. Right? That's kind of what you're looking at?	cohesion connections
MW: Yeah.	
HL: So I think you should, I always like to think of things sort of like um, almost like a formula. Yeah. So what do you want, what is the expectation at the end that you want. So you want to have sustainability, but so as part of the formula you have public policy, you have community resiliency, you have values, strengths, resources, you have climate change, right.	formula expectation, end values, strengths resources
MW: Mhm.	
HL: And you add up all of those things and you want that to end up to equal sustainability. So in the formula we didn't have climate change before, right?	formula
MW: Mhm.	
HL: So you think about it maybe from a linear perspective. And I'm normally not a linear thinker, but I think it sort of helps to try to simplify what you're trying to do. You know, so now we have all of these A, B, C, D, E's and F's, how do we make that equal to Z? And them so that's what I think you're trying to find. Right?	linear simplify variables
MW: Mhm. Yes, yes.	
HL: So this is a profound question. So from a community resiliency standpoint—first of all my thought, my first thought that came into my mind as you were doing that, I guess from a political science perspective. Because I'm in this world of the non-profit that, I believe that non-profits can do things that the public and the private sector cannot.	unique role of the non-profit
MW: Mhm.	
HL: Does that make sense to you?	
MW: Yeah, yeah.	

HL: Because we have to survive—there’s no longevity in non-profits first of all. So we have to survive year to year, funding whatever right. But people that are involved in non-profits are I think, I found, even within my own organizations, are very passionate people about something. And for us, that passion is pretty much education. And then of course, the beneficiaries of education, which are the children. So that’s what drives us to be resilient when we face the challenges which are many. Right?

survival
passion
education
motivation
many challenges

MW: Mhm.

HL: So in the public sector, which I’ve worked in for 10 years, the city you know the city level, I used to work for Patsy Mink when she was the chair of city council when I was the chief of staff, so I saw municipal government at its finest and its lowest. And then I worked in the state legislature and I found strengths and weaknesses in that. And I’ve been lobbying in Washington for the last, gee, 20 years maybe. Although I’ve never worked in it, I’ve interacted with it so I know. And most of our funding comes from the federal government so in terms of the 3 levels of government, I understand how it works and many people don’t. But at the core, I’m really a grass-roots person. And so, I think the first, if we are going to affect change like we’re trying to do in our organization to make a paradigm shift in how we educate our kids, that’s how we’re going to get back to the pond, what I have discovered is that it has to be a hierarchical strategy. Which is I think what you’re searching for. So it has to start off with the voices, the voices are the children, right, then the family, then the community, then business, government right that makes public policy all the way up the line. You have to have that voice in probably, we live in such a specialized civilization now, we’re all kind of in silos, we’re engineers, we’re business people, we’re linguists, we’re teachers, we’re all in these silos, we’re health, non-profits. We have to get leaders in all of that sphere of influence to be able to, if we are able to consolidate that voice, that’s what drives public policy.

levels of public
government
grass-roots
paradigm shift
—ging back”
hierarchical
strategy
voices
bottom-up
advocacy in
all sectors
consolidate

MW: Right.

HL: I think maybe your struggle is, maybe from a more subjective standpoint is that you don’t agree with the public policy so far, or maybe its not enough to really get to sustainability.

MW: Well, it’s just it needs to be complemented by a

HL: So would you say that public policy right now has been more reactive or proactive?

public policy

MW: Reactive.

HL: See, so we’re trying to get to a more proactive stance.

proactive

MW: Right.

HL: So if you say its reactive, what is it reacting to? Is it reacting to the grass-root voices or is it just reacting to just same old same old politics at this one level that's not connecting to what the real voices are at the grass-roots level.

MW: Mhm.

HL: See what I mean, because in theory in participatory democracy, it's supposed to be bottom-up.

MW: Mhm.

HL: But we have high level lobbyists that represent interests that has a large voice in determining public policy. Because at the root of everything, they're looking at the mighty dollar right. So you have to kind of understand what the field, what the game field looks like. So, I think what drives community resiliency is being able to have the capability of developing a broad strategy and understanding the field to play to make the changes. Because it's not going to be easy, it's complex, but what I've learned at the pond is that time is on our side. Yeah, so when we first got to the pond, we thought oh you know, with technology, heavy machinery, 2, 3 years, 5 tops, we can clean this place up.

MW: Mhm.

HL: So, this year we're celebrating our 16th year and we're not cleaned up yet. You see what I mean?

MW: Mhm.

HL: So what that taught us is that its not about how fast you do it, its not about technology. It's about the process of doing it. Because at the end of the day, the greatest value that we've learned about the restoration of the pond is the relationship building and the process of doing the work.

MW: Not necessarily the end result.

HL: Right. So if I told you okay, can you come down to our pond and help us. But before you say yes or no, its going to be hard work, you're going to get dirty, we're not going to pay you, and we expect you to come down every year.

MW: Mhm.

HL: And what would you say. Normally, people would say, what's in it for me?

MW: Right, yeah.

HL: Right, what's in it for me? So that doesn't sound like you know, but the fact is that we have thousands of people that are coming down. So why? Because they get to get a experience that is what people are looking for that they don't normally get in their busy lives now. So that becomes a part of the resiliency formula. Yeah, so now let's create another formula that equals community resilience, you say quantify risk right? So in some respects, let's take the pond as a small microcosm model of global sustainability. We're trying to make the pond sustainable again, right?

provide an
experience
people miss

formula

MW: Mhm.

HL: So, quantify risk. What are the risks? Fortunately, we had a lot of scientists that worked with us. So we assessed the pond culturally, economically, physically, from a biochemistry standpoint. We looked at the whole field of play. The obvious ones are the invasive mangrove and the invasive limu, did you go into the pond and remove limu that day?

risks
assessment

whole field of
play

MW: No, we were just--

HL: Doing mangrove?

MW: Yeah, mangrove.

HL: But some people were doing that in April? I forget.

MW: Um, no I don't think so.

HL: Okay, gotta come back and try to experience that. So we quantify the risk, we quantify the impact of urbanization over the last 60 years on this pond that's 400 years old. So obviously its gone through many stages of human impact. So what we decided to do, and this is what happened, so we were able to quantify the risk, we know what all the factors are, we know all of the invasive stuff, we know the impact. We know the water that's coming down, in fact the water doesn't even flow into the pond anymore. It was diverted, you know that stream on the side. In the old days it was fresh water coming into the pond and the salt water coming in creating a brackish water environment that was ideal right.

quantify risk

scientific
assessment

old days
ideal condition

MW: So now it's just saltwater?

HL: No, its not just saltwater because the chiefs wanted it to be brackish water because they felt that the fish growing in brackish water tasted better. Right so almost all of these ponds on the coastal area had the stream coming in the back of it, bringing fresh water. So the pond was

a zone of mixture. We're far away from that happening again. Because kawa stream—you see that picture over there? That's the pond. That's a bird's eye view of the pond. So you guys were working over here right?

far away from restoration

MW: Yep.

HL: This is where we all met. This stream is Kawa stream, it empties over here into Kaneohe Bay. This is Kaneohe stream right. This stream used to come into the back pond over here and empty freshwater, and then this is the wall yeah.

MW: So its mostly saltwater now?

HL: Yeah it's all saltwater. So the salinity level is pretty much the same in the bay as it is in the pond.

MW: Okay.

HL: With the exception, there's still some freshwater percolation coming in the back of the pond. So we're able to quantify risk, but there's couple other factors now until we can equal this community resiliency. So what are those things? Well, we had a very interesting thing happen to us. We started this in 1995. We did an archaeological assessment and we did a cultural assessment. And in order for us to start we had to produce what's called a revitalization plan that was both culturally correct and I guess, environmentally correct. So we got that approved by State Historic Preservation. So all the things that we're doing at the pond now is to follow that plan to try to restore it to a certain time period. So again, we quantified all the factors, we developed a plan to restore it, and we've been implementing that plan ever since. So, 1995 that happens. 1998, a teacher from Castle High School comes down to the pond and hears that we're trying to restore the pond, she says, "I'm a science teacher at Castle High School across the street teaching 11th and 12th graders. They're at risk kids."

equation

cultural assessment

revitalization plan restoration to a certain time

serendipity

MW: Mhm

HL: Mostly Native Hawaiian. 70% Native Hawaiian. She says, "I'm not reaching them in the classroom with how I'm teaching science. Can I bring them down here and see if we can maybe reach them in another way?" So, a very special teacher, not Hawaiian—haole but passionate about the kids. So make a long story short, we put together a little ad hoc curriculum in the summertime. Kids start coming in the fall, in 9 months, we see this amazing transformation in these kids.

passion

transformation

MW: Mhm.

HL: They become the teachers. And they love it. It wasn't easy. At first, they thought, "What the hell are we doing down here?" Plus you know

initial difficulty

they came for 2, 3, 4 hours and they had to go back school. So they didn't want to go back school dirty. They came down with the jewelry and the nice clothes, they're teenagers you remember that right?

MW: Yep.

HL: So for this to happen it was amazing to us. So at the end, we said, —How can we duplicate this? How can we reach more kids?” So for the next 2 years I went to grant-writing workshops and all of that kind of stuff, again, passion right. Didn't win anything, and then we partnered with Pacific American Foundation. And then next thing you know I had 1.1 million dollars from the federal government to develop curriculum to teach math, science, social studies, language arts in the context of the fishpond. We called it Kahea Loko.

amazement with
success
how to duplicate
passion
commitment

MW: So that's the name of the project that's funded?

HL: That was the name of the project, yeah. So our goal was to, and we just hit it at the right time, this was 2000 now. No Child Left Behind came out in 2001. So our project was years. We were one of the first projects to be able to write curriculum in the context of Hawaii aligned to standards. Cause at that time, no one is doing anything by standards. Our goal was 95 teachers and we ended up training, we did a statewide training of about 350 teachers. Every place we went, it was packed. Because people were hungry for it. And then so now you add you know, education and curriculum to the formula right. Because what happened was, we taught the teachers the content, they go back into the classroom and teach the kids. Part of the content requires them to do field study, just like we did with Castle, so now they're learning in the classroom specific content and they're coming to the field and understanding the relevance of the content. And then they get more motivated, and that motivation equals higher student achievement.

exceeded goals
need

motivation

MW: Mhm.

HL: So now we're onto something big. See what I mean? So make a long story short, after Kahea Loko they said well what about, what impacts the pond? And then we wrote another grant to develop curriculum for the entire ahupua'a of Kaneohe. Everything that falls on that ahupua'a, you know what ahupua'a is, from mountain to the sea.

snowball effect

MW: Mhm.

HL: We did one for streams, we did one for forests, we did one for taro patches, everything that comes into the pond and in the bay. And we called Aloha Aina. So I don't know if you heard my speech, I usually give that speech about loving the land that's why we're doing the stewardship of the pond.

MW: Mhm.

HL: Remember?

MW: Mhm.

HL: It all goes back to that. And then we ended up training another 300 something teachers. And then we got an award for both of them from the DOE. Everybody wanted it. And we translated it to Hawaiian, we put it online. And we still get thousands of hits every month on the curriculum. Then we got asked by Kahoolawe, the Kahoolawe Island Reserve Commission to write curriculum for the island. And we did that for 3 years. That was another 100 something teachers just 7th to 12th grade. And then we got asked to do coral reef for the islands, 7th grade that's marine science so we did that. Then we got another grant to take the template of Aloha Aina and adapt that ahupua'a template to 5 islands, which we just completed in June of this year.

going back
need

MW: The 5 islands?

HL: Kauai, Oahu, Maui, Molokai, Big Island.

MW: Mhm.

HL: So, now we're over 2000 teachers that we've trained. So now we're in a mode of making a paradigm shift in the public education system in Hawaii. And our focus was on the 50,000 Native Hawaiian kids that are part of the DOE system. But it's really for everybody. But we kept getting millions because we developed a success right. And people like it and we were getting the results big time. And I've gone all over the place to talk about this, to New Zealand, to Canada, to Alaska, to Washington D.C. to talk about this story and the impact of place-based, we call it culture-based, mainland calls it place-based education, project-based education where people come down and do projects and performance based assessments. So you can see how our focus on education has impacted the stewardship of the pond beyond our imagination. Because now we have 5000 kids that come down to the pond every years and we still only have 5 community workdays and we have to limit it to 150 people because it gets it too big. So now, you what I've talked about the relationships, um, we've been doing this for 16 years now. And 2 years ago we were successful in getting money from the federal government to purchase the pond under the PAF non-profit. And we've developed a lot of partners in this journey. We have partnerships with all the universities, Manoa, HPU, BYU, the Hawaii Institute of Marine Biology, NOAA. NOAA funds us big time now. EPA funds us big time. Because they understand, because it all started with combining stewardship with education.

leading up to a
paradigm shift
inclusiveness
snowball effect
getting results
relationships
partnerships
serendipity

MW: Mhm.

HL: And taking care of the land, which is part of the answer that you're taking care of the

looking for in terms of global sustainability. So the lesson in all of this to me is that the planet has finally discovered that its an island and that the resources are not infinite like when we grew up we thought it was. Oh if you throw something into the ocean, no problem it's big. But island people, and if you go back to the first settlers of the Hawaiian Islands, they knew how to live in a finite environment for hundreds of years. So what is interesting is when I go to Washington is carrying the indigenous voice as part, so that voice, remember I said that voice, carry that indigenous voice to the public policy makers about traditional wisdom is part of the answer for global sustainability

land
finite resources
going back
indigenous voice
traditional
wisdom

MW: Yes, definitely.

HL: So see how all the things, so you know it started off, when we started the non-profit at the pond I didn't see all of this. I just knew, it became a political football between the Japanese golf course developer, the City and County of Honolulu and the community. And nobody knew what to do with it. And I just happened to be the only one that I grew up in the area, and I don't know if the Hawaiian ancestry counted or not but I was really the only brown skin guy around that said I'll take it, I'll start a non-profit and get community people to help me take care of it. I never did this before. I'm not a fisherman. But I had enough training from my kupuna at that time, by that time I was 40 years old that I knew that I had to step up. So there's a leadership factor there too. I think leadership is another component of this formula because if you don't have the proper leadership at all levels you don't have the proper drivers to push this toward that expectation. So community outreach and involvement—that's my specialty. That's what carried us, I wasn't a fisherman now, I never knew anything about non-profits, but I knew how to work with communities, I knew how to get people together

started off
without clear
plan or
expectation
kupuna
step up
leadership
all levels

MW: And build relationships.

HL: I knew how to sit down and build relationships and help resolve conflicts. So that's what we did, so community involvement is another part of the formula and really what that means is communication and being able to listen to what people's concerns are. And try to harness that to focus on something, and in this case that was the pond.

relationships
resolve conflict
listening
focus

MW: I have a question about

HL: Yes.

MW: So when, as you began getting all of this funding and anything, did you have any problems with these funding institutions that did you have problems, I guess. When you evaluate your own progress and success, did you have differences in say if, I don't know if NOAA wanted more like the actual physical and biological progress whereas you are looking maybe more at the value of the pond to us may be something

more than that, its cultural, its relationship-building. Did you have any conflicts of trying to prove to these funding agencies the value and the success of your project I guess.

HL: The, when the RFPs come out they have no idea about this kind of project. So there's a creativity that's involved in writing the proposed project to meet the outcomes of the RFP.

creativity in meeting funder's outcomes

MW: Mhm.

HL: But in most of them, there's a lot of latitude. So obviously what NOAA wants versus what US DOE wants versus what EPA wants versus what US Fish and Wildlife wants versus what HUD wants is all different. But this kind of project is so broad that it can appeal to lots of different funders. So for NOAA, our partnership with NOAA was based on building a submersible robot. Developing curriculum for it for 5th, 6th and 7th graders and then using the robot to steward the pond, and the stream, and the bay to collect data, water samples and all kinds of stuff, take pictures and stuff. So you see, there's an educational component, there was something that NOAA was very much interested in from an education, from a stewardship of the coastal resources standpoint, we just had to figure out a creative way to do it. And we did. US Fish and Wildlife was the same thing, it was developing. They actually had a Tesoro company in Texas that wanted to fund something in Hawaii having to do with coral reefs. Washington DC contacted me because they knew that they were one of the few that could develop curriculum, culture-based. So they asked us if we wanted to do it, and I said yeah. So we developed a curriculum for coral reefs. And that's what they wanted to do because they wanted to make an impact on education in Hawaii to educate more people about the coral reefs. And what they did, people have a perception that Tesoro was having an impact on the coral reefs because of the ships that are coming in.

broad appeal partnership

creativity in partnership and common goals

MW: Mhm.

HL: So we went through Washington, but already people knew what we were doing so that's how that one worked out. EPA, they have a specific grant called CARE. It's called Community Action for a Renewed Environment. It's really a grass-roots approach to identify problems in the community from an environmental justice standpoint and allowing the community voice to come up with their own solutions. So we focused in on the Waianae Coast because number one, that's the community that had the biggest problem. Pollution, human pollution, runoff, and the fact that a lot of people in the community still fish, and they earn their living subsistence on the reefs and stuff and the streams were impacting the reefs. So there's a stewardship component and there's also an education component.

grass-roots community voice and solutions

problems-focused

MW: Mhm.

HL: Now this ? is what we're doing with curriculum. But we've developed a curriculum for all of the Waianae coast as well in the concept of Aloha Aina. And we used Aloha Aina as the base of our stewardship proposal for CARE. And they loved it because they've never seen anything like it. novelty

MW: Mhm.

HL: And it meshes right, because at the end of the day when you look at all of these things, if you can educate people when they're young then you have firm foundation of values. So you're basically growing a new generation of people like yourself that are coming to me and asking me about global climate change and sustainability because you have a value system that you grew up with somehow right? cultivating
firm values in
youth

MW: Mhm.

HL: And that's exactly what they see us doing. And the greatest lesson that we learned from teaching those 11th 12th graders, was that we were too late. We had to go and start earlier. So that's why when we developed a curriculum we went all the way down to grade 3. And we just finished K-2 this year. need to start
earlier

MW: K-2, that's pretty cool.

HL: Yeah, so you see. Can you begin to see the philosophy of what we're trying to do and the paradigm shift we're trying to make. It's changing people's minds and attitudes in a very profound and deep way at a lot of different levels. So now, I'm training, I'm not only training teachers but the DOE and Kamehameha Schools have adopted and us, I'm a part of this program called Kahua, it's on islands so far. And so for every single teacher that comes into a district like the windward side, so we have 9 complexes in Hawaii right. So this windward district is one complex, every new teacher that comes into the district, they are required to go through at least a 1 year program in culture-based education so that they understand the resources of the community, who the people are, what kind of curriculum is available and how to make the content of what they teach in the classroom relevant to the student and where they live. That is major. That's major. We've been doing this for 4 years now. I also get invited to lecture at the college of ed at UH and Chaminade. I've partnered with all of them to develop programs to talk to teachers before they get into the college of ed to teach them about culture-based practices, before they get brainwashed by the system you know. They got professors that totally understand what I'm doing and again, I'm taking every opportunity to effect change at all of the different levels. And if you're going to try and effect change with teachers that have been teaching for 20 years, it's going to be hard so. If I can change your mind now or if you understand the values right when you were from kindergarten, that's paradigm shift
attitude change
multiple levels

culture-based

partnerships

multiple levels
older teachers
have more rigid
mindset

values

how you raised, the great thing was that 2 years ago we saw the 3rd and 4th graders that we first started with at ? School were teachers in training and they brought their kids to the pond. That's the generational thing. So my thing now is I tell everybody in our fishpond ohana and here is that we may not actually come to finish the stewardship of the pond or revitalize the pond it its entirety or at least remove mangrove and all of the invasive in our lifetime, in my lifetime. That we have to take a generational view and I think with sustainability and climate change, we have to take a generational view because it's not going to happen overnight. And it's only going to happen and it's only going to be sustained if we take this kind of approach. So your question about the importance of community resiliency

generational scale

generational view
long term process

sustaining

MW: Mhm.

HL: As one of the prime factors in the final expectation/outcome that we're looking for. It's huge. But you gotta work on that because that community resilience factor for me, its been 16 years in the making and it's still in the making because we haven't made the paradigm shift yet. But the thing is rolling, it's like putting the, shoving the snowball down the hill right. It's getting bigger and bigger and bigger. There's more people, now the whole country is talking about moving to a different way of how we educate our kids. And its falling more in the line with what we're doing, place-based, project-based, performance-based. Because what we've been doing for the last 100 years has not been working. We knew this for a long time because our Native Hawaiian kids have always been at the lowest level of student achievement for the last 100 years. So we gotta figure there's something inherently wrong in educating our kids, it has nothing to do with their abilities right. They're coming from a different culture, a different mindset and we haven't been able to adapt to that. You know nobody ever gave traditional wisdom and knowledge value. Now everybody's turning to indigenous people and looking and placing higher value on that knowledge and wisdom.

outcome

still in the making
snowball effect

long time coming

inherent limitation

traditional wisdom value

MW: Mhm.

HL: So our latest project is we're developing curriculum based on tsunamis. And we're focusing now on sectors, so we're developing culture-based finance curriculum that looks at the Asian fund development market. Still can use all the same things, culture-based, culture-based values. Right. So if you make a lot of money in this field, which is the top field in the world you know for jobs and that kind of stuff, then you have to have this philanthropic attitude to give back. Instead of the rich get richer and screw everybody else right. Can you imagine if you can do that, if we can cultivate 10 Bill Gates in the next generation with the correct values about giving back to the aina, that understand Aloha Aina at its deepest levels. And worked in the fishponds and got dirty and muddy. And remembered what that did for their brother or their

multiple sectors
culture-based

attitude
generational
—orrect" values
deep understanding

sister or these underprivileged kids, that's something special. So that's the vision and the passion we have. So I think part of community resiliency is understanding, just like for you right at your stage in life, is to understand what is your gift and what is your passion. And then go do that.

vision
passion

MW: Mhm.

HL: And it takes a lot of people doing that with their different gifts and passions to make this collective change. And build community resiliency from the bottom-up.

multiple
contributors
bottom-up

MW: It's interesting because you're helping me think through it, but when I try to look at a lot of the community resilience literature, that's what I kind of feel like is missing, the discussion about values and what does it mean to be a part of a particular community or culture or live in a certain place. And I guess, a lot of the literature looks at resilience as like an outcome, what are actual characteristics of resilience rather than looking at resilience building as a process.

HL: That's the key.

MW: Right it is the key, because everything is kind of focused on how do we operationalize what is community resilience, but the point it the process of building that resilience.

HL: So how do you build resilience at the very fundamental level, you gotta make mistakes. Right, you have to make a mistake so that, um, you know I just went sailing with Nainoa the other weekend, that's the other thing we're doing we're helping him, he's doing a worldwide sail in 2013 that's going to take 4 years.

role of learning
from mistakes

MW: Wow.

HL: It'll take the Hokulea around the world.

MW: 4 years?

HL: Yeah. The purpose is education. And he wants to be part of this paradigm shift in how we move education and make that a message, a global message about sustainability. Exactly what you're asking. And he realizes that Hokulea is an icon for our community and maybe it can be a small catalyst in the world to connect the dots from using navigation terms. Connect the dots to say that we are all one people and we have knowledge to be able to contribute to this problem. And that we have to get back to, I think, indigenous ways of understanding the concept of aloha aina. You cannot rape it, you cannot take advantage of it, you have to malama it, you have to care for it right.

paradigm shift
icon
catalyst
connection
going back
indigenous ways
care for the land

MW: Mhm.

HL: So you know we're looking at the stars on Molokai and well we had an experience, we flew to Molokai and the boat, Hokulea is (?) right now but they had a catamaran that was donated to them so the idea was to go sail to Lanai, go to an exclusive beach and just kind of have an experience. We went out halfway in the channel and it was way too rough. It bit waves so we came back. And the next day we tried to do the same thing and we couldn't go out. He said, and this is you know, I wrote down, "rigorous knowledge equals survival." It was amazing when we were out on the water with him, when we first went out, he goes, "you see these waves?" and the waves were like this, you can hardly see if it was a wave, swell, real small swells right. But he can tell by the amplitude of the wave, and the sky, this is daytime now, and the clouds, that this is the beginning of rough weather coming. And he could tell you than in the next half hour, we're going to be hitting rough waters. We're looking around and we're going, "how can you figure that out?"

MW: Right.

HL: So you can have the best plans, policy plans all that kind of stuff, but nature doesn't go by those plans. So and for him, everything is safety right. So he said, "No, we're turning around." Because number 1, the boat is not 100 percent tested yet, still going sea trials. We had a crew on board that was young, and we had teachers and new navigators that were young. They're not ready for big seas. So he said, "You have to let nature tell you what to do, and you have to respond accordingly." You have to be one with nature to understand nature. Yeah, so it's kind of going a little bit more esoteric, but that's, indigenous knowledge goes really deep. This is thousands of years of native intelligence and observation that is being utilized that has been stored in him and taught in him. It just hit all of us in very deep, profound ways. And it is about survival, global sustainability is about survival, it's about nature itself adjusting to man's impact. Right.

limits to planning

esoteric
depth of
indigenous
knowledge
survival

MW: Mhm.

HL: So who are we to think that we can fix nature? Right? We have to go back so just that thought came to me when you were talking about that. So you know, this is the other thing he said, ?? was his mentor he just passed away this year. In Samoa, in Micronesia, they choose navigators from when they're 1 years old. So when we're talking to these young navigators, and these kids are bright, they look like local kids but you think had these throw-away kine kids. We sat down with them and we talked to them when we were on the sail, these kids are brilliant. And they're like 22, 23 years old. They're brilliant. And for some reason, they said, "I don't know why Nainoa picked me but he came to my class 2, 3, 4 years ago when I was still in high school. And he picked me out. I don't know how he did that." They're brilliant.

going back

navigate

starting from a
young age

And he said, —but you know, we're not going to be the next Mao, because we're 20 years too late. We're already in our 20s." And Nainoa was the same way, even though he's considered a master navigator, you know from a Micronesian standpoint. And he was telling us about the kind of training that these little 1 year old kids go through. By the time they're 5 years old they can captain a ship already. Isn't that amazing?

MW: Mhm.

HL: I mean the kind of stuff that he told us that they train for and they do, he said it would be considered child abuse in America you know.

MW: Right.

HL: They tie up their hand and they throw them in the water. So that they can be one with nature, they can feel the waves. That's how a true navigator learns to read the environment. Isn't that amazing. So when I think about what they're doing in Washington sometimes I just scratch my head. But the interesting thing is the knowledge is there.

one with nature
disconnect with
Washington

MW: Mhm.

HL: And you know, an old kupuna always told me, he said, —you know herb," this is when we were trying to mentor kids. —Tell your mentees, don't go looking for the answers all over the place, the 4 corners of the globe. Because the answer is right here. We just have to figure out how to unlock it and tap into it." So if you think about that in the context of Aloha Aina right, my message was you cannot fully understand aloha aina unless you have aloha inside yourself first.

kupuna
solution from
within

MW: Mhm.

HL: Right, you tap into that you understand what that is. Then it's aloha kekahi i kekahi, it's love one another. Right it goes from here it goes to there. And then from here it goes there. See what I mean?

tap into self

MW: Mhm.

HL: So when you called and you said, —oh I met you at the fishpond." I didn't even hesitate, right because that's what aloha is. Because I knew you're reaching out for a purpose and my kuleana is to make sure that I spend whatever time with you on your journey because you're the next generation. You understand?

generational

MW: Yeah, I appreciate that. I know its huge because I have these 2 groups of interviewees, and it's been hard to get an interview with some academic and policy people. I notice more that people who work in the more community based, it's all about relationships and that's the value of the work and it's kind of what the work depends on.

HL: So you're building up your resiliency to that too?

MW: Right, right.

HL: And you're learning to navigate through that world. Right, which is a little bit outside of your comfort zone. When I first went to Washington, I was going like, "what the hell am I doing here?" It's such an intimidating place you know, but over the years I've met people and I've built relationships with people that go out of their way, just like this, to say, "Hey, this new funding thing is coming out. It's not even out yet, but it's coming. Get ready. Or we need you to come up here and do this you know, whatever." And we just do what we have to do. So you know, you're young and it's going to take time. But be true to who you are and don't let anybody change that and just learn to navigate accordingly.

navigate
reaching outside
comfort zone

relationships

MW: To me, that's the entire message about community resilience. Learning as a community who you are, and letting the solution come from within you and navigating whatever change comes your way. It's important to understand the risks, but to me I kind of see it relatively easier as a process.

HL: Because it's quantifiable.

MW: Right, because it's quantifiable. But how do you encourage the kind of introspection in a community and developing what

HL: That's the qualitative aspect. And everybody's trying to figure out a way to assess that. In assessment now, it's more acceptable to do quantitative and qualitative assessment right. So to be able to look at the hard data and also look at the intangibles because they have just as much value in student achievement or student learning as data, it's not just pencil and paper taking a test anymore. We want to look at a holistic way, look at all of the factors that contribute to the learning and the success of the child. Including relationships, including aloha, including all those intangible stuff. Including makahana ka iki, work with your hands, that kind of that thing. Having that one teacher that you really bonded with, that you wanted to perform and you learned a lot from. All those things are factors in the progress of student achievement. And you know, we've been so blinded by the

assessment

both hard data
and intangibles of
equal value
holistic view

relationships,
aloha, work with
hands, bond

MW: Right.

HL: western way of doing it that it's, I think now that we've fallen so far behind in all of the countries of the world in terms of our educational achievement. Now we're saying, ooh, everybody's saying that the way we're doing it is wrong. But we've let it go for so long and so, you know, our little small part as our little non-profit foundation is to be that creative, innovative force within the DOE that will hopefully

creative and
innovative force

expand and be a part of that change. But you have to, part of the voice is when people think that you're wrong, and you feel that you're right and it's pono, that you have to stand your ground. That's part of the resiliency. That's the hardest part.

pono
stand your
ground

MW: Mhm.

HL: So you're kind of going through a little microcosm of that, just within this project right. What you just said.

MW: Mhm.

HL: So where does that come from? Its comes from within. Because other people would say —a you know, this is too hard, I'm not going to do this, I give up.”

comes from
within

MW: Mhm.

HL: That's what I try to tell my daughter you know, she's 16, she's brilliant but she doesn't know what hard work is. She grew up on the pond, but it's kind of like, she had such a tremendous gift for music but it's like ah, it comes so easy to her, —tis not that important dad, anybody can do that.” She doesn't realize yeah. So she's got to go through her own journey, and as much as we don't want her to fall sometimes I told my wife, she's got to fall sometimes to wake her up and learn how to be resilient. Because someday if she goes to college, and she wants to go to college away from us, she's a junior now, so I say we got less than 2 years to build that capacity in her because once she's gone, she's on her own. So you're not doing her any favors by sheltering her anymore Mom, don't know if that rings true but anyway.

role of
challenges,
mistakes, falling

shelter

MW: So she's 16, was the pond 16 years old, or I mean

HL: She was born the same year that we started the non-profit. So I said you're one of the few kids that has actually grown up on an ancient Hawaiian fishpond in this century.

MW: Yeah, does she think that's cool or not really.

HL: I think she does cause for many years she wanted to be a marine biologist because of all of her uncles that are marine biologists, aquacultural specialists. She's a fabulous diver, she's fabulous in the water. But I think her gift is education. She likes working with little kids, but she doesn't, we see it but she doesn't realize it yet. But I think she's got lots of choices and she's got to figure out what she wants to be. But it's good to have the breadth of choices because when I was that age we didn't have that. We didn't have those kind of experiences. We just went to school that's it. We didn't do any field trips. And I went to private school most of all my life. We didn't do field trips. We

breadth of
choices

didn't do anything cultural. My grandmother, my mom them, they didn't want us to learn Hawaiian or culture. Because they felt that if we're going to get ahead in this world, we got to learn Western.

detach from
culture to get
ahead

MW: That's my family too.

HL: Yeah, what is that, Japanese right?

MW: Mhm.

HL: So, my wife is Japanese so I know. I've been the victim, you know I've had I dunno, I went to Japan and I fell in love with the Japanese culture. And I always knew I was going to marry a Japanese. And my wife is from here, she's 3rd generation. Anyway

MW: I have one more question. So as far as trying to evaluate the more intangible things with the kids and their progress, how did that go, was it difficult to institute—

HL: to assess the growth of the kids?

MW: Yeah, as far as the more intangible. Is that something that's instituted in the standards?

HL: Well we've piloted different things, in addition to the curriculum we have pre and post tests and basically from the student achievement standpoint, we were able to show that student performance increased from 20 to 30% when they did our curriculum. But we've also done a lot of mentoring programs around the pond, we've also done leadership programs, parent involvement programs, career development programs. And to me, they've all been successful. So we've always hits our numbers, but from a qualitative standpoint, which is, one of my big things right now is to try to come up, because all of the assessment tools that's available to us now, has not adequately assessed what we truly want to know.

limitations of
current
assessment tools

MW: Mhm.

HL: So my big thing in terms of completing the paradigm shift you know maybe in this generation or the next, is that we need to come up with an indigenous or Hawaii based evaluation methodology for student achievement that's holistic. And looking at all of the protective factors, indicators, that contribute to student learning and success beyond what we're doing right now.

need for
indigenous
evaluation
methodology

MW: So it's a current challenge.

HL: That's the big challenge. Because at the end of the day, we still need to collect the data to be able to show the progress. Kamehameha Schools is coming the closest because they have the resources and they have

the stability to be able to collect longitudinal data. So they've been nibbling at the edges, and they know, they have good data that shows the protective cultural factors that influence student learning and outcomes.

protective
cultural factors

MW: Mhm.

HL: But nobody's actually been able to come up with a, and I don't know if the final answer is going to be a homogenous assessment evaluation. I think it's going to be more along the lines of an a la carte where you can take bits and pieces of it depending on what kind of situation and environment that you're in. In Hawaii, we've worked with a lot of communities, a lot of schools and you know, the culture of the community or the school is different either socially, economically, politically whatever it is, ethnically. So I think at the end of the day it's going to be sort of okay, we got 20 things over here, 12 of these things really apply to our school, so we're gonna use that. And that's valid. So that's kind of where we are. But we've been piloting a lot of these programs to incorporate culture in all of the aspects of it. So parent involvement, it's an old problem, and career development, that's been around for a long time, but now with the technology we've taken it to a much higher level.

flexible
methodology

specificity of
community

need to
incorporate
culture

MW: Mhm.

HL: We have access to way more information now. We have 12,000 kids in our system of career planning. So I think you know, to answer your question, you know it's still, we've been able to satisfy our funders in terms of their needs, but my personal goal hasn't been satisfied in terms of where I think we need to go to complete this shift. It's going to take a lot more smarter people than me to kind of help figure that out. We have a cadre of about 10 of us, and they're all, I don't have a doctorate, but they all do and they've all been involved with us. But I've used my skills as a communicator and negotiator to bring them all together to agree that this is what needs to be done. And they all agree and they all want to be a part of it and they all represent different generations, different islands, different aspects. So now we're just looking for the right time, the right source of funding and the right partner for us to do this. So, it's kind of where our thinking has gone.

“experts” =
doctorate

communicator
negotiator
diversity

MW: Mhm.

HL: The other thing is that within a year, we hope to own the fishpond. That's going to be huge for us, and I think for the community in terms of the overall resiliency. Because it's going to be the first ancient Hawaiian pond that comes back into Hawaiian hands.

going back

MW: Mhm.

HL: Yeah. And what our plans are is to, that line over there, that white line

that's drawn over (?), is to, we're in negotiations with them to create what I'm calling, it's called HIKI, Hawaii Institute of Knowledge and Innovation. So from that small classroom that came to the pond asking for help, that's what it's morphed into. Hiki, which in Hawaiian means, —ʻān." I love it. So hopefully, I'm actually talking with other partners on the neighbor islands to have similar learning centers. So everybody can go to one place and be able to connect with the resources of their own islands, their own communities, but in a really high powered learning environment. Where if you call the professor or somebody in that institution, they're not going to say, —Uh no, sorry I don't have time." They're not going to have that kine attitude.

snowball effect

connection
local resources

MW: Right, right.

HL: And hopefully you might be teaching in one of these places or applying your skills to one of these places, who knows. But that's where we have, we're constantly raising the bar and we have to. That's part of the resiliency right, we cannot stay where we are because the world is moving so fast so we have to move with it. But we have to take all of the things we need to navigate in the new waters. So even if we weren't on the traditional double hauled canoe, we were on a double hauled catamaran, you know.

integrating old
with new
technology

MW: Mhm.

HL: The same principles of navigation apply. You can drown and die just as easily on a catamaran as you can on a double hauled canoe. You know, you take what you need, right.

MW: Okay, one last thing I was thinking about.

HL: Sure, does that answer your question? It's kind of a roundabout—

MW: No, yeah it does. So it all started with this one pond that you focused on and it kind of related to everything else and it can be broad, so if communities are looking at how they can build their resilience, would you suggest that they need something to focus on or some kind of project?

HL: I think so, I think you have to rally people around a cause or an idea or a notion. That's how a revolution begins. Interesting that Nainoa used the word revolution, and the next things he said, —oh I was thinking about it last night, I don't think I should have used that word." But it really is, we're trying to make systemic change, we're trying to, we need to, it's not evolving. Whatever's been working is not working so we have to make a change. And that is the definition of a revolution. So it has to be pono, first of all it has to be right. And it has to appeal to people at a very deep level and that's not easy to do. And I never thought that it would ever amount to something like this, going from this little fish pond that I really didn't know anything about, that was

rally around a
cause

systemic change

pono
appeal at a deep
level

motivation from

just you know, a rubbish dump. I never thought for a moment, but I had enough stuff inside of me that was taught to me about doing the right thing. I guess it's, I had to revert back to the values and the knowledge that I was given by my teachers to know and to recognize that this was the right thing to do. And nobody else was standing around me to do it, I had to do it. And now it's taken on a whole life of it's own, and it's not about me, it's about kids. And at the end of the day, I think that's been the profound thing that people are willing to invest their time and energy in even though they're busy. Because they get something intrinsically out of it that maybe they don't know but it feels good and it feels right, but it helps my family and it helps my community. How can you get people to think and care about the world if they cannot take care of their own house, right?

within
going back
values

MW: Mhm.

HL: So sometimes you have to go outside of yourself to figure out what you really have inside of yourself.

MW: Mhm. So finding something culturally relevant for the surrounding community to kind of—

HL: Well, in my case the culturally relevant part worked. But it doesn't have to be culturally relevant, it could be anything. I mean look at all of the causes out there, it could be cancer, heart, it could be child abuse, spouse abuse, it could be polio. I'm part of Rotary and our thing is to eradicate polio and we're almost there.

MW: Mhm.

HL: But it makes people come out, it makes people do things that they normally wouldn't do I think. Have you ever ran a race?

MW: Yeah, I used to do cross country in high school.

HL: If you run, you know. I wasn't really a runner until I met my wife and she was a runner. And I remember standing at the finish line at the first marathon and I was just, I was so emotional I never expected it, to see the people cross the finish line and what that meant to them and how that impacted me. You know, I gotta do running after that, I wanted to experience that because it's such a high right.

MW: Mhm.

HL: It was like whoa, I just never expected that. But I was blown away. I never ended up running a marathon but I could do 10K's no problem. And you know, there's gazillion 10K's every month. And we used to run one every month, and it was fun. And so it's when you think you no more any energy left and you want to stop right, something comes out that pushes you to that next level. And that's maybe a good

pushing force
draw out strength

example of what it takes to be able to draw out of people something
that they may not even know is inside of them.

inside

MW: Mhm.

HL: Right. How do you do that?

MW: That's the question.

HL: But when you do, it is powerful.

Interview Transcript No. 2

Codes

MW: Tell me a little bit about yourself, where you're from, where you went to school, things like that.

KM: I was born and raised in Kailua and Kaneohe. My home is in Kahaluu, but my stomping ground was kind of Kailua. I went to school at Lanikai Elementary and St. Anthony's. And my cousins all live in Kailua, so that is where we hung out and we played, but I always had that retreat of going back to Kahaluu and being in the country. I think that's kind of where I had my love for the environment.

going back

MW: Mhm.

KM: And I went to school, or I went to high school at St. Francis in Manoa and University of Hawaii Environmental Studies Program and did 1 year in Ashland, Oregon as well.

MW: Okay.

KM: Did, interned my butt off during college on almost every island in the Hawaiian Islands and was really fortunate to have, my practicum for my senior year was with Oahu Army Natural Resources. And I got a job with them immediately after graduating, so I worked there for 3 years, as a field tech for 2 ½ years and a horticultural assistant for another 6 months. So that's, my plant background has come entirely from those 3 years doing intense field work. And then I started working with Hui o Koolaupoko just about 3 years ago now as their community coordinator.

MW: That was my next question. Describe to me the position you hold and how you got involved.

KM: I was really, I started looking for a position, just something else, I was curious to move up in the ranks a little bit and it wasn't really possible where I was working. I got the environmental bug probably when I was probably in 6th or 7th grade here in Kailua. And I was just looking for an opportunity to kind of come back to my community or to work more closely with people and students and school groups and share my passion.

coming back
passion

MW: Mhm.

KM: So I saw this opportunity for an environmental restoration group in Kailua and went for it. It's been great. I'm half of our staff.

MW: Really?

KM: Yeah.

MW: So, it's you and...?

KM: It's my executive director and myself.

MW: Wow.

KM: So he does a lot of our grant writing, and bookkeeping

MW: Right, administrative

KM: All the administrative stuff and I do everything else.

MW: So you do the science and the outreach or...?

KM: I do all of our field work, all the recruiting of the field work and the organization of it. Any PR media type stuff, I do our website. I manage interns if we happen to have interns. Everything else. And we do, we have a mini lab in our office too so I get to do, I still get to do some lab work.

MW: Oh okay, wow. So you're very busy then I guess.

KM: We have a lot going on, but it's fun because I always get to have my hands in a different pot.

MW: What is the mission of your organization?

KM: Our mission is to protect ocean health by restoring the land mauka to makai. So ultimately, we're looking at the overall health of the ocean

MW: Mhm.

KM: But improving that by doing land-based actions. So doing stream restoration is a big part of it with our He'eia Stream Restoration Project. And Kaha Garden here is more of a small demonstration showing home owners what type of plants they can use, what they can do. And we're beginning to stress a lot more individual actions that people can take to do little improvements.

individual actions

MW: Cool. Could you define the community that you work within, that you try to help or represent or advocate for.

KM: Well, that can be totally broad. As an organization, we focus our work in Koolaupoko. So Waimanalo up through Koouala. And, but we get volunteers from the west side, from Ewa Beach and people just really looking, they like the opportunity that they see or the description. And they want to come out and help but there's always the question, —sh't there somewhere closer to my house that I can do the same type of

broad community
diverse
volunteers

work?”

MW: Right.

KM: And sometimes there is, sometimes there isn't so we get a huge, huge range of volunteers and people coming out to our projects. A lot of times it is students that just need service hours, but I like those because they get to pick who they work with.

MW: Mhm, mhm.

KM: It's usually not a mandated thing.

MW: Right.

KM: So they're choosing to come out and to get dirty. And we have a lot of repeat volunteers. I think this year we've had about 5000 hours of volunteer service.

MW: Okay, wow.

KM: It works out to about 1500 people

MW: Right.

KM: It seems like so many more.

MW: Right. So you guys have several projects going on, service, workdays

KM: We have usually two a month, sometimes more, sometimes less. But there's usually at least 2 things a month.

MW: Describe your or your organization's approach to achieving your mission. What are, I guess, your main focuses on how you're going to achieve restoring ocean health.

KM: How we're going to achieve it? Um, being a small organization and non-profit not owning any land, we really look towards building partnerships with people, with private landowners or even just your everyday homeowner. We're working on partnerships, the He'eia Stream Restoration Project is on Kam School's land. That project has been so amazing and returned such awesome results. We've been lucky enough to get funding for another 2 years.

partnerships

MW: Mhm.

KM: And an additional partner on the stream just above the Kam School's property. So it's a new landowner, but continuing that work. I'm working on partnerships with other large landowners like Kualoa Ranch. And we kind of take the approach of, just let us work on your

partnerships

land, and we'll take care of the rest."

MW: Right.

KM: We'll write the grant, we'll manage the grant, we take care of reporting match and finding that different match monies. A lot of times, grants you'll have to have a one to one dollar match. So we usually do all the grant work. And with homeowners, one of our upcoming projects is actually an incentive program and kind of a co-op. It's an rain garden installation. We're writing a manual that's going to fully describe how to stake out your rain garden spot and to install it. And it has a large plant list of Native Hawaiian plants included in it.

co-op

MW: Mhm.

KM: So that's going to be a statewide manual but we've also got \$500 per 50 rain gardens. So we're able to install 50 rain gardens in Koolaupoko

MW: At individual homes?

KM: At individual homes and we have \$500 for each rain garden.

MW: Okay.

KM: So there should be minimal to no cost for the home owner to install these.

MW: So I guess you guys kind of act as a resource and you really leverage relationships and building upon other organizations.

KM: Yeah, definitely and being a link for the community too. When I first started, we were holding talk story sessions, we were calling them. And it was kind of just a monthly community meeting. If there was an environmental issue or something that the community wanted to talk about, it was a forum that they could come and discuss and bounce ideas off of each other. They were, they had varied success. They started off really strong. Waimanalo was awesome, people came with good ideas. Kailua was kind of, people came when there was a hot button issue. And Kaneohe never seemed to come.

link for the community

forum

MW: Haha.

KM: But that, building that relationship with those individuals and those communities was huge for us in Waimanalo because they came to us and told us what they wanted to see. And we were able to connect with the kupuna and the older resources in the community to get their okay, their blessings on it. And we've been doing a huge community recycling program every year. And that was something that came out of the talk story sessions. Huge as in we're moving like 5 roll off bins full of scrap metal and rubbish from the watershed.

relationship

connect with kupuna permission

MW: Oh, not just like aluminum can recycling.

KM: No, this is like tires and cars.

MW: Okay.

KM: And 18,000 lbs of scrap metal in 2 days.

MW: Hahaha.

KM: And stuff like that it was totally community directed. I never would have thought to. community directed

MW: So the people that you get, physically helping with the labor, they're all volunteers because I mean it's just you and your director so?

KM: Yeah, for those days we have usually about 100 people helping, whether they're on-site or out in the community. It's all volunteer and the community, especially in Waimanalo, pitches in so much. We had one of the organizations donate 100 lunches for all the volunteers, so it's really, really community based. Everything from the support that we get as an organization to the support the volunteers gives us. community supported

MW: How do you think that occurs? How do you get so many people involved and willing to, you think it's?

KM: Um, I think in some areas and in Kaneohe, it's a lot harder than in Waimanalo where people have a bit closer connection to the land in Waimanalo. I was really lucky there to be able to make connections there with the kupuna, and to get their blessing. And that seems to be a huge connection to land kupuna blessing

MW: Right.

KM: a huge thing if you can make those connections then everyone else seems to be like, -Oh well, aunty's cool with it so this must be a good group to work with." importance of making connections

MW: Once you get over that hurdle, right.

KM: So it's just about talking to the right people when we were getting going and really just making good relationships. And now I see, I see our volunteer opportunities or our newsletter being passed around and somehow forwarded back to me from someone I didn't even know had my email address. relationships

MW: So they're like, -Oh have you seen this organization?" And you're like, "Yep."

KM: Or I'm on different list serves through other organizations and they get it from me or someone else and it ends up getting back to me, so it's really interesting to see how that happens. Or to be looking for new forums to post our opportunities and then, oh, they already have my stuff. They found it somewhere, they picked up on it somewhere so. It definitely took about a year to get that momentum going, but over the last 2 years it's been going strong and moving on well.

MW: I guess, so what are some of the challenges that face small community based efforts, non-profits, kind of organizations?

KM: For us, it really seems to be hurdles within the government.

gov't hurdles

MW: Mhm, okay.

KM: For projects like Kaha Garden, this is a City and County Park. So we have to go through, it's very strange. You have to say, it's almost like, —"We'd like to give you this gift." You have to go to city council and they have to approve it. —"Yes, we'll accept your gift." So we had a Memorandum of Agreement to maintain this park and to do all these installations. The only job of the City here is to mow the lawn and pick up the trash. But now the MOU is outdated and a new administration came in, just as the old administration is like, —"Sure we'll renew your MOU" and the new administration is like, —"I don't know about that."

litigation

short term gov't

MW: So it's just a lot of litigation.

KM: Lots of litigation. We have another project that was supposed to be under construction, should have been completed by now. And it's still in the planning and permitting phase.

gov't delays

MW: Okay.

KM: Because we take it back to whatever, their people want to look at it and they say, —"Oh no you can't have a tree there." We have to go back and get the landscape architect to draw a whole new set of plans at whatever dollar amount it costs without that one tree there, and we take the plans back in and they're like, —"Oh yeah and you can't have, and that needs to be another parking stall." Okay.

gov't rigidity and regulations

MW: So, is this only, mostly you've had challenges working with government or any other kind of institutions that are more top-down.

KM: It seems like that's the biggest hold up.

MW: Mhm.

KM: If we as an organization didn't have other projects lined up and didn't have an income from our other grants, in the time that we've been waiting for the City to approve these other projects, we would have

problems stemming from

folded. We would have gone broke and had to close up shop. So it's really unfortunate. It seems like that's where a lot of the problems originate. And then there's always planning events and just hoping people come.

slow gov't
process

MW: Mhm.

KM: You know, I can throw an Earth Day event and expect 500 people to come and maybe only 100 people will come.

participation

MW: Mhm.

KM: So it's a little bit up in the air about volunteers and about getting participants but it always seems to work out.

MW: Mhm.

KM: I think the biggest problem is dealing with the red tape at the City and County level.

gov't delays

MW: So I guess, do you have any, if you could somehow try to have a solution to that, what would you suggest? For them to support organizations and efforts like these, to make it easier?

KM: I think that at City and County level, they really just need to be more open-minded and look at examples of other states or other cities. Portland is so progressive in their green streets and environmental building codes. Whereas in Hawaii, it's, you know we're trying to do this project. We are improving a City and County park.

gov't rigidity

progressive

MW: Mhm.

KM: To redo, rebuild a rock wall and improve the parking platforms with permeable pavers while across the street, they're re-paving the entire parking lot with asphalt. And I think what slows us down a lot is they're like, "Oh we've never seen this before. This isn't code."

gov't rigidity

MW: Mhm.

KM: Well, that's because it's better than the code.

MW: Mhm, mhm.

KM: So a lot of the building codes need to be updated just to reflect the times. And we're hoping that by doing, even though it is kind of a hassle to deal with the City and work on their properties, we're hoping that by us maintaining the projects so well, they'll see that it's totally do-able.

leading by
example

MW: Mhm.

KM: It's maintained purely by volunteers with just a little bit of their staff time once a month or so. That these types of things are easy to implement and the cities should be doing them everywhere. It would make such a difference. enacting change

MW: So if you just stick in there.

KM: We'll stick with it, we'll keep going haha.

MW: With my project, that's kind of one of the issues I'm looking at. When you look at a community that is faced with risk or disaster like Katrina for example, there's the government response, which in that case kind of failed more or less. But then there are also other things that kind of kick-in, like community support systems.

KM: That's kind of the nice thing about working in a small community like Kailua or Waimanalo or even Koolauapoko as a whole. It's large enough that we've got all these areas to work in, we've got a huge volunteer support base. But you've also got a network of people. community networks

MW: Mhm.

KM: When you need something or are lacking something for a project or you need the support of a certain person to push that through, there's always somebody out there that says, "Oh I know them, I'll get you a meeting with them."

MW: Mhm.

KM: Or relations maybe with another organization aren't so good. So, and that's the other thing, there are so many other environmental groups working in Kailua, in Koolauapoko. People get a little hurt sometimes. They feel like their toes are being stepped on. negotiating relations with other groups

MW: Mhm.

KM: And we run, we ran into that when I first came on board also and it just took a little bit of time to meet a few other people and to have them help kind of smooth everything over. Like, "Oh don't worry about it, I'll talk to them."

MW: Mhm.

KM: So the community has come out and been strong for us in that way. Just making those connections and helping us build bridges to talk to new people and to kinda move into new projects. connections

MW: So what do you think people who work in government or academics and policy levels, what do you think they can learn from the

experience of you organization and more bottom-up approach to addressing issues?

KM: That's a good one. Um...you know a lot of times I feel like that maybe this City doesn't approach a certain project because it's not feasible, it costs a lot of money or because they go about it in a way that's just the old school way. not feasible
costly
rigidity

MW: Mhm.

KM: I think they're looking at a lot of the organizations that we partner with, we're really trying to be progressive. And to utilize these other formats that other cities on the mainland are using and showing success in and trying to adapt that here in Hawaii. It's just about being progressive and showing that we're doing it, and we're doing it well, so get on board. progressive

MW: Mhm, right. So you think they just need to have a more open mind and less rigid kind of—

KM: Yeah, yeah and in Hawaii that's kind of, I feel like it's kind of an oxymoron. It's the good old boys that are still in City and Council and that aren't just going to change their ways. rigidity

MW: Mhm.

KM: But, we're trying. And you know, we go in there and we've got these gifts to City and County or to City Council that we want to do this project, and they say okay, and we do it. But it's going to take a lot more, it's going to take many more projects for them to see that this is something that can really catch on. change
requires time

MW: Mhm. Do you guys work with any academic or research institutions? Do you partner with any of those?

KM: Yeah, we do. HPU is a big partner and a big part of the Heeia Stream Restoration Project. They actually formed a field studies class that does all of the monitoring, pre- and post- water quality monitoring for the project. It includes things like photo points and erosion control or erosion monitoring, as well as the water quality at different points along the entire stream all the way down to the makai connections. academic
partnerships

MW: Mhm.

KM: So they've been a really big part. And their field monitoring class was never in the field before this project. They would pretend that they were taking samples. So two years, we had that class out in the field with us and now it's kind of morphing into a paid internship through HPU. So there will be a few set students and it'll be their job and their class to be out there doing the monitoring.

MW: Mhm.

KM: We're also looking at having some different research students from UH working on the rain garden projects.

MW: Mhm.

KM: You know, we want to have a scientific aspect to all the work that we do. Even the rain gardens. We want to know what the pH of the soil was or different pollutant loads in the soil existing and maybe a year after the rain garden has been installed. And also if there is overflow from the rain garden.

MW: Mhm.

KM: Is it cleaner water that is coming off of your roof or your driveway? Is it cleaner after it's had time to filter through the rain garden? So, having a scientific aspect to everything and making that understandable for our supporters, is a big thing. Because we try to put all the information, all the scientific data, on our website in some type of understandable format.

MW: Right. How has your experience been working with the academic institutions?

KM: It's um, it's—they're academics. That's just my personal feeling. Some people are field people, some people are lab people and some people just do research their entire lives. And it's great because I don't have the equipment or the know how to run some of the tests that we need. They also don't realize that, —Oh gah, we couldn't get a 3rd sample because the bottle broke because we were climbing down a rope into the stream.”

MW: Mhm.

KM: So there's a little bit of miscommunication between the different levels, but we wouldn't be able to do it without them, and they are getting research projects and data through us also. It's really nice to have the connections with the different universities because seem to all be able to offer us something slightly different. If HPU, if we can't find what we need at HPU or they don't have the resources to help us, there will be some researcher that's looking for our project.

mutual support

MW: I have questions specific to community resilience. Have you heard others or have you yourself used the term resilience to describe or frame community issues, whether it's social resilience or ecological.

KM: I think using the exact term of resilience, probably not. Yeah, I'm familiar with it, but now that I think about it, it's definitely applicable

applicability of

to a lot of our projects. Just, like Kaha Garden alone, when the project first started, nobody wanted it here. The homeowners next door didn't want it, they said it was going to be a homeless camp and it was going to be too noisy and no one would maintain it. And I was down here working here on Wednesday. Every single person that walked through the garden said, "Thank you, we love it." Some guy actually—you know most people ride by.

resilience

MW: Mhm.

KM: Just say, "Oh you guys, thanks, thanks. You guys working hard." And they just keep riding or they just keep jogging by. Most don't stop to help.

MW: Mhm.

KM: But they say thank you and that's, it makes me feel good. It makes the volunteers that are working with me feel good. And occasionally people will stop by. One guy on Wednesday said, "You know I used to park at the other end of the wall and run down here, turn around." He said, "One day I actually just ran around the corner and I saw this place and now I park here. And I start my runs from here." I was like, good, thank you. That's what we like to hear. It makes me resilient, it makes me energized and wanting to come back to these projects. Even when some mornings I show up, there's carpet rolled up and thrown on my plants.

personal
resilience

MW: Really?

KM: Yeah we get all kinds of interesting things happening. But there are so many people who are willing to take care of this project.

MW: Mhm.

KM: It's not in their backyard, they didn't grow up around here, but they want to come help. I don't think I've ever used it, the exact term, but it definitely applies.

MW: What is your understanding of community resilience? What do you think makes a community resilient? What are some features of resiliency?

KM: I think having a strong sense of place, a strong sense of community or the networks. Knowing your neighbors, knowing those maybe influential people in the community. Definitely for me, I feel like the more people learn about what's around them, what the natural resources are or the history of Kailua, they become more attached to it. You learn about a heiau that might be off the side of a road you drive on everyday and you never, you've grown up here for 20 something years, and now every time you pass that spot you think of it, that's

sense of place
and community
networks
history
place attachment
culture
local knowledge

there.

MW: Right.

KM: And for me too, I learn something new every week about Kailua and that sense of place is huge. It keeps growing for me all the time and it makes me more attached to my projects and more attached to the community because I have these new stories to share. Yeah I think sense of place and sense of your neighbors and that desire to connect with people and with a place. Just on the sense of place thing, for me, that was kind of a shocker when I started this position. Because I'm lucky enough to have, I've hiked the entire Koolau summit trail. Like I know that place like the back of my hand, nooks and crannies that most people look at from the beach and on the mountains. And to me Koolaupoko and Koolauloa were always these places. It was always how this side of the island was divided.

developing an
attachment
sense of place
neighbors
desire to connect

MW: Mhm.

KM: And people look at my t-shirt when it says *Hui o Koolaupoko, voices of the watershed*, they're like, "Ohhh is that what that means?"

MW: Hahaha.

KM: Like, "where are you from? You're from Kailua, how long, oh...you don't know what Koolaupoko is?" So it's kind of a shocker that people who have lived here 50 years or more don't know these general place names.

place
detachment

MW: Mhm.

KM: It just shows that much of a disconnect. Or when I say the term *ahupua'a*, and people go, "Oh yeah, the fish!" Like, no that's humuhumunukunukuapua'a. So there is totally a disconnect from nature, but when you find those people or when I get to tell stories, you see light bulbs go on and it makes a huge difference.

disconnect
stories

MW: Why do you think that's so important?

KM: I think it's important to know where you live. To make a deeper connection with it. For me at least, it makes me more respectful of the land.

deeper
connection
place-based

MW: Mhm.

KM: I'm not one to dump my trash, but if I know about the place that I am and I gain a respect for it in that sense, just by knowing about it, I'm going to do my part to care for it.

local
responsibility

MW: Mhm.

KM: I consider Waimanalo, Kailua, Kaneohe all my home. I'm that close to it. I know the sub-watershed and each place has their name so I've just gotten more connected to it over the years. I wish that it was something that more people focused on or it was taught. education

MW: Is that part of your, or one of your goals of your organization?

KM: We focus a lot, we have identified all of the sub-watersheds. The information is on our website. We always stress the term ahupua'a or watershed, so it's definitely a topic that we touch on. And for some of our projects like Kaha Garden, if we have time or if people are interested, I always offer to walk out on the wall and talk about the different watersheds and how the water feeds in and how what the original water flow used to be like. outreach

MW: Mhm.

KM: For some of our other projects like in He'eia, there's kind of the mo'olelo kind of the tales about the area that I find amusing. Or how the valley got it's name. Those types of stories I like to share, it gives people a laugh, it give them a little bit more of, —Oh that's why this area is called that." stories culture

MW: Cool. I have a question here that says in what ways have communities you worked with achieved or failed to achieve resilience? You might be able to answer that from an environmental standpoint.

KM: I think, maybe I'm a glass is half empty kind of person. But I think, I necessarily wouldn't say that I think people have achieved resilience, but I see the different watershed areas definitely moving in that direction, especially in Waimanalo. Every year I host my project there, there's always more people on board. We like to start with the youth groups, and then the kids get really into it and the parents come out and help for a day. So there's definitely this movement beginning in these areas and that's really nice to see. In Kaneohe, it's um, well Kailua also, like I said before, there's so many different groups focused on their particular area. So it seems like when you meet with different people or you try to have a community meeting there's always different people there and they're just there to push their agenda. They're there to talk about one thing and that's that. And that seems like that can be a big road block towards resilience or to actually getting a project in motion. process youth movement stakeholders narrow interests

MW: Mhm.

KM: And even down to the watershed level within He'eia. There's 3 different groups working along the stream, and they don't all like each other. It would be, if they could all say, —Love what you guys are doing, and this is how it could connect to our project, or even what working together

you're doing up there is affecting our project negatively in this way" and worked together to find a solution or worked together to connect their amazing projects and to connect their amazing projects and to connect their volunteers instead of scheduling workdays on the exact same day and then fighting for volunteers. If they could work together to work those issues out, He'eia especially could be an amazing example of a working ahupua'a.

communication
connecting
efforts

conflict
resolution

MW: Mhm.

KM: It's got lo'i and traditional ancient lo'i up in the back of the valley, it has the large wetland area that's being restored, it's a huge lo'i right now. And the fishpond at the mouth of the stream, that's a working fish pond. They harvest moi and seaweed out of there all the time. It could be such a cool system.

system

MW: And then you guys have the restoration?

KM: Our restoration is on their property, on the Kam School's property.

MW: Okay.

KM: So we work really closely, it's the nursery essentially, who we have the partnership with. And they've been the landscapers for all of our projects and that's how our partnership started.

MW: Oh okay.

KM: They were contracted with us to do projects and then they're like, "hey we've got all this land we'd really like to do something with." We're like, "Cool, we'll write the grant. We'll write the grant and get you volunteers. You guys make the plants and we'll take care of the rest."

creating
partnerships

MW: That's cool. Do you find community resilience to be a useful metaphor or idea, not necessarily that you can measure, but as a way of framing what you're trying to do?

KM: Yeah, I think so. The concept of stewardship and building those bonds. Yeah, I just think it's a new term that needs to start being utilized a little bit more. Because I know of all the talking that I do and all the people that I interact with, it hasn't been something that I've used. But I think it's something that people can definitely identify with if they're shown those connections a little bit. I think it definitely differs for any type of community. For me, in environmental, and working so closely with volunteers, I guess for me it would be more of resilience to like kind of come back to the land. To get away from the direction we've been heading in so long and such a reliance on products or on things being shipped in. To be able to rely on ourselves and rely on our community.

bonds
stewardship

connections
community
specific

going back

rely on ourselves

MW: Do you have anything else to discuss that we haven't really gone over?
Anything you'd like to say?

KM: I don't know. No, I don't think so. If you think of any other questions,
you can feel free to ask or call me.

Interview Transcript No. 3

Codes

MW: Tell me about your background and experience, a little bit about yourself.

DL: Okay, so I've been at the university for about 20 years. And my PhD is in public administration, working a lot in community organizations.

MW: Mhm, mhm.

DL: And I first started out in public administration here but moved here because I wanted to work with community and they were doing a lot of work with communities.

MW: Mhm.

DL: So I've taught courses in community planning and collaboration and things like that.

MW: Okay. I guess, describe to me the PI position that you hold on this project and how you got involved.

DL: Okay, so principal investigator. So there was a call for proposals from NOAA.

MW: Mhm.

DL: And you know what NOAA is.

MW: Mhm.

DL: So we submitted that in the Spring of 2010 and then got the award specifically about looking at what they do and what they're interested, specifically about, on American Samoa, how to build community resilience, particularly after the tsunami hit there.

MW: Mhm.

DL: So I was the principal investigator and I brought another professor on. And it was kind of our way to take students, graduate students down there to work on where they are, and what would help, developed a draft manual and we're testing different tools, you know how to build resilience to disasters.

developing tools

MW: Okay, okay. So the objective of the project is to, to kind of, it's an assessment or developing a manual?

DL: Developing a manual and developing what is it, where are they. So part

assessment

of an assessment in terms of, and what would they need to be, and what would they need to do to become more resilient. needs

MW: Do you think this kind of project, is this project relatively common or uncommon on kind of a local level for community resilience?

DL: I think it's relatively uncommon. uncommon project

MW: Mhm.

DL: And so I think a lot of things have been about, you know kind of more top-down. We also as part of a class last year not connected with this, but took this course out to Hauula to work with the community out there on what's community resilience and how could they think about what they need to do. top-down more common encouraging thinking

MW: That's kind of for my project, I'm looking at community resilience specific to climate change. So because a lot of the policy frameworks, everything has been kind of more top-down, I'm just trying to see how, the relevance of a community resilience approach for a more bottom-up approach—

DL: Yeah I think you know, for a lot of these groups, you know, climate change is so far in the future. climate change not immediate

MW: Mhm.

DL: Although some of the things we're talking about are relevant to climate change, what they're most concerned about is kind of immediate things like disasters and so. So it is getting to issues like climate change, but if you kinda get them where they are now it's really kind of more specifically things like tsunamis and hurricanes and things like that. more immediate concerns

MW: So have you done a lot of field work yet there or you're about to go there on Monday?

DL: No, we started in last January.

MW: Okay.

DL: And I've been working in American Samoa for a couple years so.

MW: Okay, so do you have any kind of preliminary finding about practices of resilience that you found within specific communities that you worked in, whether they're cultural or I don't know, social or institutional?

DL: Well, I think in the case of American Samoa, they, you know culturally, cause they're a real community —al" community

MW: Mhm.

DL: They are more resilient, you know.

MW: Mhm.

DL: I think in terms of things like more longer things like climate change that's not been on their, in their thinking. longer term not in their thinking

MW: Mhm.

DL: So they haven't thought about climate retreat and other things.

(Interruption)

MW: So, what have been some of the lessons learned working at a community or village level versus working top-down kind of—

DL: Well, I don't work top down so I can't really

MW: Oh

DL: But from a community level, it's basically, they aren't really organized to think about resilience, they're not thinking about resilience in general until something happens. lack of planning and forethought reactive

MW: Mhm.

DL: So part of what we're trying to do is raise that awareness. raise awareness

MW: Awareness, okay. So I have a question, what do you think is the purpose or value of this kind of new focus on resilience in community development—to me resilience is kind of a new buzz word, it's used kind of in different disciplines in everywhere.

DL: It's used all in different ways, yeah.

MW: Mhm. So it's kind of confusing sometimes, but what do you think is the value of it for community development? Do you think it's more of a just a metaphor, is it a new paradigm maybe, or is it something that's actually measurable as an outcome or is it more of a process kind of?

DL: I think it's much more of a process. I don't know what metrics you'd use to process

MW: Mhm.

DL: I mean it'd be very difficult. You could you know, I mean, longitudinal, come back and say economically and different ways, how lack of metrics

did disasters, you know 20 years, 30 years down.

MW: Mhm.

DL: But in the immediate time frame I think you know, it's the whole idea of getting people to be more aware. I mean you could measure certain things, what have they done structurally to their homes. Have people retreated from the ocean? So there's a need for both because you need top-down in terms of building codes, land use policies, all of those things. It's not a question of one versus the other.

raising awareness
top-down and bottom-up together

MW: Mhm.

DL: It's a question really that you need both, and both, and community and public officials working together, you know. Doing mitigation planning, doing long term planning as well as short term planning.

working together

MW: Mhm.

DL: In terms of what's needed, from everything from thinking about it, if flooding happens or a larger disaster, what are the evacuations. Because if you have a loss of life or a loss of business, you're going to be less resilient.

planning needs

MW: Mhm.

DL: But then you also have to think about more long term issues.

long term thinking

MW: Mhm.

DL: So I'm not so concerned that it's used in different ways, in different things. Just the fact that you need to work at multiple levels, multiple ways all the time. I mean that happens with sustainability or any

multiple levels and ways

MW: Right, right.

DL: It always happens. It's not, we're not where we're going to have everybody using the term in the same way. But it's important for people to define what they're doing.

MW: Mhm. So as a planning, is resilience used more as an idea versus like a tool that can be operationalized or?

DL: I think I mean, it's both. I mean, it's a way of thinking but there's all kinds of tools. I mean that's the whole idea of the draft manual. What is it now, what do they need to do, and how are they going to do it. So I think there's a lot of tools.

resilience as a way of thinking and associated tools

MW: How is resilience related to risk? Because for risk you can do a lot of very technical risk assessments

DL: Yeah, I think they're very related. It's all part in parcel. closely related
to risk

MW: If you could define it, what is your understanding of community resilience?

DL: Well, in part, it's the ability to bounce back after something has happened. But it's more about really thinking about how prepared they are in all kinds of ways to, you know, to come back whether it's climate change or specific disasters. ability to bounce
back
more about
thinking

MW: So are you saying the value of it, is that it's more of a proactive way of thinking?

DL: Mhm.

MW: And planning, but I guess any planning is sort of proactive. Well, that's what it's supposed to be. So you have a lot of experience in community development, that's a level you work at.

DL: Yeah.

MW: Do you think the term community resilience is fairly well developed or under developed. When you talk to other people in your field, is there a common understanding of what that means?

DL: No, I don't think that there's a common understanding, I think there's a lot of different ways of thinking about it. diverse ways of
thinking about
resilience

MW: Mhm. And is it something that's relatively novel or has there kind of been a history of using the term?

DL: No, I think it's relatively new. In terms of thinking about it, I think even you know large organizations are thinking about it now, like FEMA or some large organizations have very much thought about more the structural aspects of climate change, more hard things you know. new

emerging in
larger
organizations

MW: Mhm, mhm.

DL: So I think actually involving the community, the whole community is, in these things, (?) on the science you know in terms of different things. community
involvement
link with science

MW: Mhm. What do you think are some of the advantages or disadvantages of using a resilience-centered approach for community development.

DL: Well I think the main advantages are that you know, you have to involve, the community has to be involved in it. I don't know what um, um, I don't know what the disadvantages would be. I mean there's necessary to
involve
community

advantages to doing both and not neglecting you know, different approaches but.

MW: Mhm. In the context of things like disaster management and climate change, what is the value of a bottom-up community-based approach? Why is it important?

DL: These are the people that are really the primary responders and all that. So if they don't accept these things, they're going to ignore them and the science so I think that's why.

primary responders accepting

MW: Mhm.

DL: Even kind of large bureaucratic organization are using things like the whole community approach even if they don't know how to do it yet.

MW: What are some of the major challenges of community based, bottom-up efforts in general?

DL: Well I think in general, people are very busy, they're involved with, they don't have the resources. They don't, they're used to the way things have been so it's difficult. Change is difficult. And the messages from policy makers has not been clear.

busy
lack of resources
rigidity
communication

MW: Could you kind of elaborate on that?

DL: Well climate change, people are saying it doesn't—more people say that it doesn't exist now than 10 years ago.

MW: Mhm.

DL: That we have major policymakers that say that it doesn't exist. So I think that's problematic.

politics

MW: So, in terms of your work in American Samoa, has it been relatively, have you engaged the community and the stakeholders, has it been relatively easy because like you said the, their immediate concerns are some of these tsunamis, so this is something that they want to engage in or?

DL: Yeah, it's been something, I mean we had to use a cultural approach because everything is done through chiefs and all that, which has been time-consuming but I think it's really working.

cultural approach

MW: Mhm. So can you just describe to me the status of the project right now, what stage you're at?

DL: Well I've been focusing on one village mostly, so right now you know we've done a number of community processes down there again and, until I go down there this time I'm not going to really know what the

status is.

MW: Right, right.

DL: You know they've done a healing garden, I don't know where it is in terms of being completed and different things in terms of really thinking about what's happened there. They're really focused at this point on things like identifying their evacuation routes and you know, doing GIS maps showing them the inundation that's predicted and those kinds of things.

MW: So this is a NOAA funded project and they ask for proposals specifically for community resilience or?

DL: Yeah, yeah.

MW: Okay.

DL: Well it's more general, but that was basically the

MW: Is that something NOAA's trying to do more of I guess?

DL: Yeah, NOAA is very much involved in that.

MW: Especially the coastal kind of (?)

DL: Mhm, coastal services, Pacific services.

MW: Okay. Do you know of any similar projects like these in the Pacific, community resilience like

DL: Oh there's a lot actually if you go to the NOAA website, particularly the Pacific services website, you'll see a lot of efforts. Everything from wetland recovery to all kinds of aspects. They have a lot of projects. a lot of similar efforts

MW: Mhm. Do you think outside of NOAA is it a common kind of project or is it?

DL: Well I think organizations like Sea Grant, a number of groups have projects.

(Interruption)

MW: Do you have anything else that you'd like to say that we haven't covered?

DL: No.

Interview Transcript No. 4

Codes

MW: Tell me a little bit about yourself and your background.

PF: Sure. I grew up on this island between 2 communities. One was on Ewa Beach where my parents had their home and one was about 4 miles from here in a place called Puunui, where my parents live now and still live. And I went to all different kinds of Christian schools growing up even though my family was Catholic. And then I went to Kamehameha School for high school and then I went to college in Hilo for Hawaiian Studies then I went to University of Hawaii at Manoa for a double degree in Hawaiian Language and Art and then I got my MFA from UH at Manoa. And then I had babies, got married and divorced and all those different things that you do. So, generally the work that I'm doing now is tied more closely to my passion for Hawaiian identity and Hawaiian politics. That's kind of where I came from.

passion

MW: Mhm.

PF: And malama aina became an important part of being able to, people always use the word empower but the power is always there so it's not even a matter of empower as much as revitalize people's connection with the power that exists. And so the, Hawaiiin cultural identity and malama aina go hand in hand and my work as an artist, even though I'm trained as a painter was very broad from painting to carving and other kinds of sculpture and installation so the idea was to help various communities, the Hawaiian community as well as the not Hawaiian community come to an understanding of the importance of indigenous relationship to land. And so myself and my partner Kacey, have gone through different places and activities and communities and built relationships here and there. In this particular place in Kalihi we've been for almost 5 years now and it's come to broaden my work very much from being specifically focused on Hawaiian identity and politics to having that be an important thing for our aina, but I think I've learned from this valley how important it is to be inclusive of that reconnection, reconnecting of people.

revitalize
connection
power from
within

indigenous
relationship to
land

broadening focus

inclusiveness
reconnection

MW: Mhm.

PF: So in that sense, it's shifted to some degree but not super far. It's just become broader and more inclusive.

broader
more inclusive

MW: Mhm.

PF: And as far as art goes, it still feels like art. Like community organizing is the same as, organizing a hundred people into a circle is not that different from paint on a canvas except people can understand the

circle a whole lot better.

MW: Mhm.

PF: But as far as the action, it feels the same. Trying to provide spaces for people to make those connections and provide opportunities for a transformative experience, that we all have an opportunity to grow toward what this aina is needing, which is, well which is a lot. connections transformative experience

MW: Mhm.

PF: But you need to be actively engaged to hear it. And so that's what I do, that's where I came from to what I do.

MW: So what is the mission of your efforts here?

PF: Here at Ho'oulu Aina, the mission is, we have a mission statement. Our mission statement is that Ho'oulu Aina is a welcoming place of refuge for people of all cultures to sustain and propagate the connections between the health of the land and the health of the people. It's a lot to hold into so we have also an olelo noeau that we use, which means that the breath of the land is the life of the people. So basically that's our mission, that coming together for an imu or for planting or for invasive eradication or to build a canoe, whatever it is, the coming together the function is to help those connections to be made. Now the health of the land and the health of the people, even that can be very complex. And it's not that complex in my head, but I know that it can get complex as you do say, evaluation. coming together build connections evaluation

MW: Mhm.

PF: And so some of our basic kind of success indicators that we're looking for in terms of connection is someone making connection to themselves, their body, their ancestors, their past and their history whether that's their personal past or cultural history, the future, so maybe that's a kid saying "oh I know what I want to be when I grow up." That's making a connection through the work that we do, you know maybe through planting or learning about the forest the child may come to understand and see hope for their future in a different way. That's making a connection to the future. success indicators = making connections

MW: Mhm.

PF: And then connecting definitely to the land itself, making connection to the aina and that can be kind of as basic science as "oh realize now that I breathe the air that the trees breathe." To something maybe a little more spiritual such as, "I can feel the presence of my ancestors in the movement of the wind through this forest." Which, both of those are real examples. but it can feel so dichotomous when you look at Hawaiian cultural and spiritual perspectives and then science ecology science spiritual dichotomy

perspectives.

MW: Mhm.

PF: And so our curriculum methodology to be able to facilitate that bigger mission includes, and it could be anything but it's based on 8 different ways of looking at a particular engagement. So that might be through metaphor, through history, ecology, through a hands on experience so it kind of rounds out that dichotomy a little bit so every voice is welcome. So basically our mission is to make that connection, help people to make that connection, make the spaces for that connection to be made and the outcome of that connection is this transformation. And it doesn't happen in every person at the same time with the same experience and so our staff is wonderfully talented and diverse and responsive, really listening to everything from what's going on with this taro plant to what's going on with this kupuna and I think that's kind of the answer. And then hopefully those transformations that are needed, can happen.

inclusive
connection leads
to transformation

MW: Mhm.

PF: And so the transformation is the, is guess the, it's just basically transformation and connection. That's what we talk about, stories.

stories

MW: Transformation and connection. And you mentioned the revitalization of power and values or?

PF: Yeah I think that we've all kind of become accustomed to, especially in cultural terms or community terms, ~~the~~ empowerment of"

MW: Mhm.

PF: And I'm thinking, power is an interesting thing. And so we were very specific in our mission statement to use words like sustain and propagate. So sustaining and propagate the connection between power and land is different from empowering people to rise up against their oppression.

sustain

MW: Mhm.

PF: And so what it names, even the language is that—which is why I think resilience is an interesting field of study because I think you're able to bring a value set to the science. Whereas sometimes political movements of empowerment, whether that be empowerment of refugees, or empowerment of women or empowerment of children or empowerment of whatever, I mean it just seems to reinforce again and again a certain power structure that disempowers. And so the words sustain and propagate, revitalize, reconnect, those kinds of words I think are stronger language to help people—because the transformation can be as simple ~~I~~remember my grandmother making-

bring a value set
to the science

-the smell of this plant makes me remember my grandmother making me tea.” Now that doesn’t seem like an empowering moment necessarily, but it’s a moment of connection where someone realizes within his or her own experience is an answer that makes him or her stronger or more rooted or more grounded or more who they are or more whatever it is that seemed to have forgotten right before they smelled that plant. And that’s what I have to say about empowerment, haha.

introspection
strength, roots,
grounding,
identity

MW: Haha. No, this is very useful because as far as what I’ve been looking at for resilience as a process, there’s always the question of you have to start off with well, what it is that you value and what is your identity as a community first and if you don’t have that really hashed out then you can’t really build resilience to anything. So I think a lot of the literature is more well developed in the area of here are some principles and ways you can assess resilience, but they don’t really have ways of integrating the community identity and values into

PF: Right. Well there’s a really, it’s so funny because I just showed Kat that funny video of that, you know that super dorky, and like I love it, it’s like 7 minutes long and it already opens all these doors to the way that your mind can like. Anyway what I love about that video, breaking down the concept of resilience to change, right, means that you have to identify what the community identity is first before it changes to something that it is not.

establishing
community
identity

MW: Right, right.

PF: And probably what other people, but this I just an assumption based on other readings that I’ve done, not necessarily only on resilience but also about community health.

MW: Mhm.

PF: But there’s a Western cultural assumption of what a healthy community is, or what a wealthy individual is, what a healthy, wealthy, haha what a healthy youth is. And so identifying the word resilience can often be associated only with a certain value set that does not necessarily apply to most people’s who are in need of the most resilience.

cultural
assumptions
implicit in
definitions of
resilience

MW: Mhm.

PF: Hahaha, and so if you have an assumption of what the cultural identity or the community identity is, and you have this assumption, and you’re either doing research on or trying to effect change toward a higher level of resiliency, and yet that identity is not clear

assumptions of
identity and goals

MW: Mhm.

PF: The factors that you're implementing are going to negatively affect the capacity of that community to, well actually I mean it could be just like introducing new factors that are going to make them more resilient like taking their children away. I'm thinking particularly of the Chuukese community in this valley are dealing with CPS issues on a major level. If their children are not assimilating fast enough, they get taken away by CPS and they're placed in military homes sometimes, which is especially difficult for the kids because it's a very big cultural gap. Whereas it's already established in the CPS standards that the child should be placed with as close a relative as possible.

cultural
appropriateness

MW: Mhm.

PF: Anyway, kind of a tangent. But what this sets up is an assumption that this child is not going to make it if they don't get a certain level of intervening, this child is not in a safe or healthy situation then there needs to be a certain intervention and basically assimilation processes so that there can be survival. Now that's assuming that the community assessment, I mean the assessment of this community's identity is the same as another community's elsewhere. And it's definitely not. I mean I guess I can name 20 different indigenous communities who have gone through similar experiences through the last 20 years, and yet still it is still repeating probably because of resiliency studies

community
specificity

MW: Mhm.

PF: Not being aware of a certain cultural, spiritual and community identity. And so unless you really understand that clearly, you cannot have interventions that are effective.

cultural
appropriateness

MW: Right. Because you're not building any resilience towards what the community actually values and is to begin with.

PF: Exactly, to begin with. Right, right.

MW: You might be transforming them to a different

PF: And so in that sense you could be using ideas of resiliency but implementing actions of assimilation and acculturation, which we've already experienced.

MW: So what is Ho'oulu _Aina's approach towards managing different ways of thinking, so having to evaluate and assess your own success and mold that to someone else's ideas and assumptions of what a healthy community is?

PF: Well it's still experiential even for those who and I don't know how it is that we've come this far without having a really oppressive funder coming in and telling me what I should and shouldn't measure. But we

experiential ways
of
communicating

haven't, and they've been really encouraging to be like —figure it out, what do you think?" And basically the community feels good when the community is a community. So our approach is that whether you're a funder or a researcher or a student or whether you're in the health field or a farmer or a little kid, if you've just got here or you've been here for 4,000 generations, our job is to make opportunities for communities, for people to be a community.

providing opportunities for community

MW: Mhm.

PF: And there's not really a better way that I know, other than to take care of the land. And then vice versa. I don't know a better way to take of the land then to have multiple peoples from all different walks of life and ages and perspectives put their hands together to take care of the land. And so it works on both sides. It's necessarily reciprocal. And so that's our approach. And we make a circle, I mean you've been to a third Saturday, a workday, you know.

care for the land

MW: Mhm, mhm.

PF: You make a circle, you introduce your ancestors, you work, you come back, you say what you're grateful for, you eat some food. It's not that complex and if you experience it, you can understand it. And that's if you're a funder or a community member because both are community members.

experiential ways of communicating

MW: Mhm.

PF: But mostly the evaluation is coming from the funders and so there's a disconnect. I mean I like your ideas about bottom-up, top-down perspectives on community because there can be a certain assumption on both sides of that up and bottom, I mean bottom and top. Well first of all there's an assumption of what is bottom and what is top.

disconnect assumptions

MW: Right.

PF: And then there's assumptions about who knows what and who should be listening to who. And I think when we give all people the opportunity to stand in the circle, I mean it's fairly intentional that we strip away our titles that a 4 year old can introduce himself just the same as the most important person in politics in that circle. And there's no hierarchy and so you have to kind of be totally human and present in a certain moment. And I've seen quite important transformations in those people that most people would name as top.

creating an inclusive environment and social space

MW: Mhm.

PF: Because of that simple thing. And because there's a memory like, —I remember my grandmother" and there's that memory of —I'm a community member, this feels good to me too. I feel like I'm making a

memory

difference here. I can see and experience and feel the investment that I'm making here and that the people around me are making the same investment." That makes a difference and so, the question, you started the question, what was it?

experiential
process

MW: What is your approach towards building that

PF: Making space for multiple voices.

multiple voices

MW: Right, resolving differences in assumptions and goals or values.

PF: Yeah, so that is our approach. Working together, and eating together, farming together, harvesting together, swinging a machete together. And so, the last 3 months we've had a gentlemen come for the third Saturdays, and this happens from time to time with different people from different perspectives. And this is funny. We are organic farmers.

working together

MW: Mhm.

PF: Our garden, our food production is organic, there's no GMO, there's no fertilizer whatever. So this guy works for CTAHR, and he is a GMO advocate. Like he is like strong GMO. He came and didn't work, stood in the garden the whole time, hahaha, pretty much like, what is the word, heckling.

MW: Oh no.

PF: Hahaha, he was heckling our staff member about the importance of GMO. And it's easy to get pissed off because then people are accustomed to that divide that —"In here and you are there" and there's a divide. And I really commend our gardener who just had so much love, continued to work and listen and he's like, —"Man, I appreciate what you're saying, that's not where I'm going. Yeah, what we do here is different from what you're saying. Thank you very much for coming." There was a lot of love and communication, but there was no like, there was not, what is the word, divergence. There was divergence, but there was not condemning.

patience
listening

overcoming
divide

communication

MW: Mhm.

PF: And the same guy, at the end of the day I'm like, —"I don't know about this guy. Why did he even come, like what did he think he was coming to?" I was very confused. And the insistence like, for hours he was at it. I'm like, —"What did he get out of that?" I was very confused.

MW: Haha.

PF: The next month he comes back with like seeds, hard to find seeds!

MW: Mhm.

PF: He's like –these are seeds, they're not GMO. No, no, no, no GMO. No GMO. You just tell me what you want. I brought these for you. I know that, you know.” And so he brought these organic heirloom seeds for our garden even though the perception was that conceptually this is not the kind of garden that he supports.

MW: Mhm.

PF: And then he came back again with his wife and they're like working so hard and going back there was a lot of conversation. Now if we had decided that this guy works for this particular organization and he has a certain perspective and he's not welcome in the circle and he's not only not welcome, he was being an a**hole, like. Haha.

opportunity for conversation welcoming diverse perspectives

MW: Mhm.

PF: If we had cut him out entirely and not treated him as welcome, we would have missed the opportunity for one, for him personally to have a transformation. Two, for his family to have that transformation, of that, you know bringing his family back. And then also to be, for our staff here to work alongside someone that has that very strong divergence but not, without making him feel bad about his perspectives.

opening opportunities for exchange and transformation

MW: Mhm.

PF: That's a beautiful skill development. And it's necessary. So that's kind of our approach. Like it's okay if you don't agree with me, you're still welcome. There's a certain trajectory that you might get swept up in if you continue coming. Hahaha.

MW: Haha. So just being very inclusive.

PF: Very inclusive, yeah. And then we get a very different kind of community identity.

MW: Mhm.

PF: Because there's so many different kinds of communities there.

MW: Right. Based on your perspective, what do you think are the challenges of resolving a community identity in a place that's less rural and I guess more urban?

PF: So you're saying like how would I do this without land?

MW: Yeah.

PF: It doesn't have to be land, but it should be sacred. You can build a

canoe in a warehouse. I know a community who does that. You can come together around poetry and dance. You can, whatever it is that you're doing, must have utility. It has to have a function so that reciprocity is present. Otherwise, you're just blowing smoke. Otherwise it's too intangible. So you can restore a building, you can build rooftop gardens. There's a billion trillion things that the world needs, do one of them.

coming together
for a tangible
purpose

MW: Mhm. And

PF: On that point too and just one more thing. It's very easy and I've become involved with how many groups over the years. And it's important as you come together to do this thing that is useful for the world that you don't sit around naming the people who didn't show up. That whoever shows up is the community of that day and just really be present and grateful for the gifts that they brought on that day. It's going to be different, sometimes it's 3 people, sometimes it's 300. I mean we have groups that are so unexpected. Like today's group was very unexpected, like okay, we're making nets, we got Tokelauans, we got Chuukese, I mean we're all over, it's but whoever shows up, that is our community of the day and we welcome and embrace and honor it. If we stood around and said, —You know, the Laotians didn't show up today.”

serendipity
embracing the
present situation

MW: Hahaha.

PF: Hahaha. It wouldn't really be that helpful, but whoever shows up is who needed it that day and that's who the project needed too. So it's not enough to just come together to do something that's useful. It's also important to recognize and honor the gifts that come, even if they're not the ones expected.

MW: Mhm. As a general question, what are some of the biggest challenges with your work.

PF: Hmm money.

MW: Money.

challenges with
money

PF: Well, it's funny because it's not even just money. But it's specific to staffing. Being able to pay people what we're worth.

MW: Mhm.

PF: That's very difficult. None of us get paid what we're worth. Hahaha.

MW: Mhm.

PF: But if we all worked only on volunteer basis because this is our life not our job, we wouldn't be able to impact the world in the way that we

are. And so that fact that we can pay everybody just a little bit is great. But um, I definitely, the people taking down that tent right there, they're not getting paid enough. But I'm struggling to figure out not just how do I find money for next year, but my intern this year, he kicks ass. He's not the first one you know, and you get these kids and you really want to send them on their way to be able to take care of their families well and then not have to deviate from their most, their truest values, their truest gifts and their truest passions in order to pay their bills, I'd say that's the biggest challenge. And you know, that's a top and bottom issue also. Organic farmers are struggling. If you really care about the earth and if you treat your plants the way that they're meant to be treated, there's not enough money to pay for that.

passion
compromise

MW: It's hard to compete.

PF: Yeah. It's hard to compete economically and it's not even viable. I know one farmer who, said, "I don't we just make it, I grew it organic, but I don't have enough money to pay for the sticker, signs for my produce." I'm like, "I think that's a good idea."

MW: Haha.

PF: So definitely putting money I'd say is the biggest challenge, but it's all tied to perspective and values. In our community, our big economy, our economic community, or everybody who participates in our economy, if we see that as one community, if we shared a certain set of values, then we wouldn't have that same problem. But we don't, so there's definitely a divide.

diverse values

divide

MW: A divide in value systems and power distributed between.

PF: Yeah, there's a divide, exactly. And defining what wealth is. And that's another thing. I have all kinds of like resiliency questions. How is that you could go through, like what would it take to go through all of whatever it is that you go through, as a Native Hawaiian say. As a Native Hawaiian, you work hard, you really care about your family and culture, and blah blah blah, you're going to do malama aina and you're going to teach your kids whatever, but in order to make it, you need to make a certain amount of money. And then I'm looking at the ones who've made it. They make enough money to take care of their family well, to take care of their parents, to have a little bit of land to farm and still be true to their value system, I mean the value system that they were grown up in. Now what is it that makes that person not succumb to just like the general, and I'm going to use the word Walmart as an adjective.

remaining true to
value system

MW: Haha. The dominant

PF: Yeah.

MW: Walmart paradigm.

PF: The Walmart paradigm. What is it that is going to allow you to, to not succumb to that. Because it's easy.

MW: That's a fundamental question, haha. What is it that allows people to stay true to their value system and who they are and what they want to be instead of what their circumstances allow them to be.

PF: Or what becomes convenient because even I make twice as much money as I did some time ago when I was younger and poorer. And yet it's not a lot of money convenience

MW: Mhm.

PF: And the more money you make, it seems like your values are somehow, you know I was satisfied with this much but now I really, I like fancy rugs.

MW: Hahaha.

PF: I don't really like fancy rugs. But you know, I have rug envy or I need the fancier pillow maybe. So these material goods, that become, I mean partly it's just human nature that the more you're able to have the more desire you have. But then at the same time I think that the material culture, that Walmart paradigm, is so overwhelming that something that can be as simple as "I can afford a slightly more expensive pillow now that I make this much money" becomes you know this huge thing that I've totally forgotten why I'm even doing what I'm doing in the first place. overwhelming
material culture

MW: In the first place. Right.

PF: And that's just same, coming back to that identity right like who am I, why am I here and how can I stay true to that. coming back
identity

MW: So and part of what you guys do here is you provide that opportunity to do that, to reconnect and to hopefully, strengthen an identity to hold onto.

PF: Totally. And the, it's funny earlier we were talking about, I don't know if you've ever heard of like various studies, but there's a study of indigenous schizophrenia, like indigenous peoples and the diagnosis of schizophrenia and how like when you're dealing with two different worlds you're often go through this feeling.

MW: Mhm.Oh.

PF: So there's like mass worldwide mis-diagnosis of schizophrenia for people who are actually just going through painful acculturation painful
acculturation

processes.

processes

MW: Mhm.

PF: Well you know maybe that's what schizophrenia is, who knows. Anyway, hahaha. What was I saying?

MW: Hahaha.

PF: Oh, that the difference is the importance of, so that you don't get to that schizophrenic moment, and what we can give you here, what we give everyone here, whether they're staff or not, whether they're volunteers or staff or funders or policymakers, is that when you go through that feeling of like, "I'm going to walk on this other path because I remember my grandmother's tea or because my father was a farmer or because it just feels right. Or because of whatever it is. Usually when you make that choice in your life, you feel fairly isolated, which leads to extreme depressions sometimes, especially if you're a leader in your community and you don't have a lot of support then that comes to more schizophrenic emotions or experiences. There's gotta be another word for it. What we give here is the feeling of safety, of belonging. And that safety is in numbers, but it's also the safety of we have like enormous amounts of tolerance for all different kinds of perspective and ways of doing things and thoughts and ideas, whatever. We have absolutely no tolerance at all for people to be mean or put down one another.

isolation

safety and belonging

tolerance

MW: Mhm.

PF: At all, none. Not even yourself. And so if you're in that space of making a choice that is hard, like "I'm going to diverge from that Walmart paradigm, I'm going to take a different" You know there's like 10 people over there, who I don't think they've smelled the inside of a Walmart quite some time or maybe they did but the way they live their life is different. And so you don't have to feel that isolation, and not only you don't have to feel that isolation, you feel exactly the opposite, which is a sense of belonging.

choices

MW: Mhm.

PF: That you belong here. Because we need you. And it doesn't matter if you came today or if you don't come for 5 more years and come again, or you came once and you never come again. You belong when you came, and you should have that feeling of you're welcome, and not only just welcome, but you're welcome home to yourself here.

belonging

welcoming

MW: Mhm.

PF: That's, it takes special people to create that.

MW: Mhm. If I were to try to explain that what you guys do here is resilience building because you're starting at the very basics of identity and values and things like that, I feel like I'd have a very difficult time trying to communicate that.

PF: I often have a difficult time. But if you take that same person that you're trying to communicate with and invite him for whatever reason you might, and put him in the circle, he'll get it immediately.

experiential
communication

MW: Interesting.

PF: And it's not even resiliency, it's anything. There's this feeling of, —I see and feel how we're all connected and that if we work together, we can accomplish what we need to accomplish.”

connecting
together

MW: So it's very experiential like actually being there doing it, hands-on.

PF: It is. It is. I find that some people can get it just conceptually easily without having experienced it because of whatever other experiences they might have in their life, and a lot of times it's those people, it's not like I have some really efficient scientific way that I've organized them in my head, but those people that I'm talking about that don't need to come here to get it, either they're doing it already in their lives or the choice to go along that other path was painful for them and continues to be painful for them. So maybe they're living in a, and I'm saying the Walmart paradigm, but Walmart is a bottom word, like you could also say the University paradigm. They're living in this paradigm that has somehow been painful for them. That the choice to leave their grandmother's tea or that choice to not be an artist, or the choice to whatever it might be. Or maybe it's the experience I see sometimes with social workers or people who are working really close with the community, they have this seed planted in them that what they're providing to their clients or to the community that they're serving, is not enough, or it's in the wrong context or it's in the wrong language. I'm thinking of one, she's like a birth class teacher or something, which you know that's kind of out there. That's pretty like on the other path, of like not your standard. But still there was something in her that was painful because she's like, —I'm giving these people this thing, but I know something is missing.” And so we do a lot of traditional medicinals for birth and for education and growing and harvesting, whatever. And she was like, —Ahhh! This! I've been missing this, I get it.” Before she ever came, or whatever. Because she had the pain or that frustration or that missing-ness.

MW: Mhm.

PF: And so there's that. And then there's the opposite, you know those who will be like--I have one professor particularly that I'm thinking about, who is strongly opposed. This concept, could not see how this was, that Ho'oulu Aina was, what does Kat call it? Was...whatever

Kat calls it, I forget I gotta ask. Anyway she couldn't see it. And then she came one time and like, —OhhI get it.”

MW: Mhm.

PF: Strong resistance for long periods of time, and then —Oh I get it” with just one experience. I think also it's really important to recognize the intention of everyone who's coming from the different perspectives.

MW: Mhm.

PF: Like we're all trying to do the best for our families and for the world and even for ourselves sometimes. Even if someone cares so much about him or herself, that all they care about is take care of myself—that person is still part of us. There's a values set, you know it's not like that person is an evil person, and I think once we break away from those perspectives

(Interruption)

MW: What is your understanding of community resilience? What does it mean to be a resilient group of people rather than just individual resilience?

PF: What is the difference maybe or what is my understanding..hmm. Well I think that, well there's different things right. If you say community resilience, you could be saying like how, what are the factors that help a community continue to be a community?

MW: Mhm.

PF: That doesn't necessarily mean a healthy community.

MW: Right.

PF: Right?

MW: Right.

PF: And then there's the kind of like, the healthy community, there's an assumption with community resilience, you say what are the factors that make a community continue to be able to be a healthy community. And then there's the Kalihi community, which is a very multi layered by space and time and culture

assumptions of
healthy/resilient
community

MW: Mhm.

PF: generation, values. We are a diverse community. So for our resilience, what does it take for us to get along? To recognize that we share resources? To even recognize that we're related to one another. And

then the second layer of course, which includes the word health and the idea of wholeness.

MW: Mhm.

PF: And then, so I think looking at it on those two levels are important. Because it's easy to say —“well, it seems to me that the Samoan community is much more resilient than the Filipino community in Kalihi.” And yet, I'm not... what the? That could be anything, right.

MW: Mhm.

PF: So that means that there's a particular assumption, that there is a value set attached to the idea of resilience in general. value set attached to resilience

MW: Mhm.

PF: I guess kind of coming back to what I said earlier about resilience. I like that the study leaves the space for a certain value set to be applied to science. So the science of resilience, it applies to trees. It's the same thing. So it's just a matter of what you're trying to be resilient, like what state you're trying to maintain. importance of identifying desirable state

MW: Mhm.

PF: Is it like a state of, for our forest, is it a state of nativeness? Is it a state of healthy watershed? Is it a state of good air quality? Is it a state of canopy? I remember I did a, we worked on a grant once on the kind of inherited the working plan or whatever. The evaluation and the measurement was to measure vegetation. I'm like, “Okay, percent of the land vegetated!”

MW: Mhm.

PF: —“Are you sure that's a good idea? Because like, it's pretty vegetated right now with invasive species.” Haha.

MW: Right.

PF: The same way bad science in the forest can, or in the garden or whatever can lead you to measure that aren't clear or that you're making assumptions, or that you're measuring something against a value system that is not applicable for that space. That same, it's clear when you're doing it with plants, right? If I'm looking at an invasive plot of land and I want to clear that plot of land with invasive and plant natives because of whatever science has determined that native species within a riparian zone is going to restore whatever health of the watershed for the longevity of blah, blah blah. So, that's good science, but if you're only measuring it in percent vegetation then your measurement is wrong. culturally appropriate assessment

MW: Mhm.

PF: That's easy for a scientist to see. But I don't understand how it's not easy for people to, for scientists to see that in terms of people.

MW: Mhm. When they're applying their work to a community?

PF: Yeah. It's the same kind of science if you're applying a value set that is not applicable, then you know. But that's why I like it. That's why I like the study. Even the word resilience, there's an assum—I mean you can tell from knowing the project and our work

MW: Mhm.

PF: that we're very strengths based, we're very gifts-focused. strengths based

MW: Mhm.

PF: We might report data on how maybe diabetes measured have improved, but we're not focused on chronic illness. We don't do talks with the community about chronic illness.

MW: Mhm, mhm.

PF: We talk about gifts and strengths. Now resiliency, it almost tried to pretend or hide the negative factors or the challenges or the problems. And so it's maybe, from a gift-focused perspective, it could be dismissed. Because of that. Because it still, the word itself still implies that we're dealing with negative impact and challenges and those type of factors. But I'm not of that thought. I think that it's a great way of looking at a lot of different things because you are able to apply the value set that is applicable to your community. But if you're using the science without being responsible about the value set that you're applying to it, then you might as well be talking about chronic disease. applying a value set applicable to your community

MW: Right.

PF: Then you're just pretending that you're not a problem-solving science. problems focused

MW: Mhm.

PF: I think we need more scientists that are not just problem-solving. We need more thinkers that are really great—we need more scientists, and researchers and just thinkers to go beyond this idea of like —Identify the problem. Identify the need. Solve it. Move on. Like find out how much it costs us.”

MW: It's linear.

PF: It's very linear and you know, what you focus on will grow. If you focus on chronic disease, guess what's going to grow? Chronic disease. linear

MW: It's very outcomes-focused rather than a process I think.

PF: Yeah.

MW: Resilience as an outcome, but that's not really the point.

PF: Exactly. If resilience is the outcome, and the problem is—it's just a way to like, okay so now the outcome is resilience. So we've just—instead of being problem-focused and naming like, "Oh I'm into obesity. Well, I'm into cancer." You know? problem and outcomes focused

MW: Right, right.

PF: We've just said, "Oh well, if we just group all the problems together—obesity, cancer, diabetes and gang violence." Haha. And we're going to put that all together with the, with our math problems, and then decide that the outcome is resilience, it's not changing it. But the thoughts behind, the potential behind—I don't even know if there's such a thing as resilience science. Or a field of study of resilience. I think that the potential of that is to look at it from a lot of different ways, to look at process a lot more. To look at identity. To look at values and value impacts. A lot more, and in a scientific way. focus on process, identity, values

MW: Mhm.

PF: I think that's why our work here is sometimes like, people can be dismissive. There are fields of people that can be dismissive because it's too touchy feely, it's not articulate enough, there's not enough hard data. But resilience studies are, it's pretty hard data. And you can take a very scientific approach to the kind of work that we do. And come out with ways of looking at our communities and our worlds that are valuable. Without, you know people get caught up in quantitative, qualitative. "Oh well that's all qualitative, so we're just going to throw it out." dismissive esoteric

MW: Mhm.

PF: Or "that's all quantitative, so I'm going to throw it out." Both are problematic.

MW: Mhm.

PF: But this kind of science, if you're responsible about the values application, I think it's broad enough in its thinking to apply to multiple. values appropriateness broad

MW: So it sounds like, I'm just making sure I'm getting everything right.

PF: I might be wandering around, sorry.

MW: No, no, no. So there needs to be an explicit ethic behind the research and also in what you're doing.

PF: Well, I mean I think there's ethics in all research, right?

MW: Mhm.

PF: And you wouldn't assume a value set in most scientific studies.

assuming a
value set

MW: Mhm.

PF: That's what I would say. Hahaha.

MW: Right. It's funny because it seems so simple.

PF: It seems so simple, but it's not. It's not simple. Isn't it so funny?

MW: It's too easy not to address.

PF: Yes, it's so easy not to address it. And it is an oblivion. So what would it take? But it's true, I mean recently there was a discussion with people who make decisions about how money is made and how land is managed. And there were people in this particular discussion who would not see. And so what part of the discussion was, —You measurements are not applicable to our community.”

MW: Mhm.

PF: And what we'd like to see is a system of measurement that is applicable to our community. It's better to come up with our own measurements. Okay you're measurement didn't fit. It's not enough to be like —You're measurement doesn't fit me! I'm me and you don't understand me!” Which is where we, we've been at that place for kind of a long time already.

MW: Mhm.

PF: So what do we need to do then. We need to say, —This is the measurement that fits me.”

MW: Mhm.

PF: And that's what you're doing. That's why I love what you're doing. You're like, —Okay. What is the measurement that fits us, what do we need to do? What is the value set that is applicable? What is the system that we can create to make it is as —Naduh” to social science as it is to

community
specificity and
applicability

eco-science.

MW: Mhm.

PF: That you cannot just assume a value set. Hahaha. Yeah.

Interview Transcript No. 5

Codes

MW: Tell me about yourself, your background and experience.

MB: Sure. So about 3 ½ years ago, I guess about 3 ½ years ago, there were a number of faculty members on campus who felt like the climate issue was really urgent for Hawaii and other islands. And that a lot of their work, academic work could be supplemented by, not supplemented but would have more impact if there was a way for all that work to get out to the community. And at the same time for the community concerns to make it back into the academy so that the academy could be responding to sort of real world problems related to climate change and resilience in the island and in the state. And so they came together, created the Center for Island Climate, well at the time it wasn't called that, but it was basically a center that would do law and policy and climate change issues. And it was housed in the Sea Grant College Program and I started January of 2009 as the director part-time, and part-time law professor. The Center, with even more of a focus on law and policy and outreach, is sort of exclusively concerned with finding ways to address barriers and enhance opportunities for creating a more resilient Hawaii and other islands as opportunities arise to work with other islands. And so we've done a lot of things. We've done a lot of outreach, we've done a lot of panels and presentations and discussions and convening meetings of decision makers. We've published a lot of white papers, policy papers that are meant to assist people on issues of coastal development, sea level rise impacts, climate change adaptation and freshwater resources, looking at setback rules. We did a briefing sheet on the current observed climate change impacts that we have distributed widely. And we participated pretty heavily in all the state processes in getting from vulnerability assessments to, well hopefully a state adaptation plan. Our primary partner in that has been the Office of Planning and their Ocean Resources Management Program, the working group and the policy group. We assisted them in drafting the framework for climate change adaptation in the state.

applied
dimension of
academic work

addressing
barriers and
enhancing
opportunities

policy papers
cc impacts

vulnerability
assessment

adaptation

MW: So what types of theories or instruments does the Center draw on, is it mostly like policy and law?

MB: Mhm.

MW: Is it, and you said you mentioned partnerships with planning and

MB: Well so the Center itself, we have 4 departments that were part of the creation and we have representatives from those departments on our board. It's not exclusive to these, but the 4 were the law school, SOEST, the college of social sciences but specifically, very specifically DURP, the Department of Urban and Regional Planning, and Center for Hawaiian Studies.

inter-disciplinary

MW: Right.

MB: And so all of the relevant schools, the deans of those schools have signed a memorandum of understanding and in the creation and in the support of the Center. But supported more so in terms of, you know sort of support of our effort as a Center. As far as financial support, we get it elsewhere and so, yeah. It's not, we don't work exclusively with those departments but that's where a lot our focused efforts have been. And the most active, I mean we've worked with each department so far pretty actively in a various projects.

MW: So, could you specify for me what scale or what level you guys work at, because I mean you guys work with more like institutions and communities, and you're trying to create an exchange.

MB: Yeah, no that's a good question. I think we see ourselves working at every scale, as needed. So we've got a lot of funding and we've partnered with the federal agencies, we've worked with decision-makers at the state level definitely, at the county level, we've done education and outreach programs that are aimed at community and we, at the community level I think we could do more of that. work at all scales

MW: Mhm.

MB: But everything that we do, we see as, at this point, supporting probably decision-makers at sort of legislative level and the agency decision-making level in order to sort of to support community decisions and community adaptation so. We do different things, we use different tools at each scale, but I see us working at every scale. supporting all levels of decision-making

MW: Mhm, mhm. Could you describe some of the community level efforts you guys have been involved in?

MB: Well we did a, with the Center Hawaiian of Studies, we co-hosted a panel series on native Hawaiians and climate change, and we looked, we did a more general discussion and had speakers from the community, you know food advocates from Waianae, and folks around campus that have been doing a lot of work, not necessarily on climate and Native Hawaiian issues, but have thought about one or the other or were asked to think about it in that given time. It was a campus thing, the intention was for it to go off-campus. But in the time that it was on campus, we did a food, we had a food focus and then a freshwater focus discussion. And that discussion, especially the freshwater one was very, it was at the, it was in the evening at the hale, and it was well-attended and really sort of drew from a number of different people. We haven't yet, we don't actually do like um, trainings and out in the community, we just don't have the capacity yet to do that. broad

MW: Mhm.

MB: And then a lot of it because of our law and policy focus isn't necessarily going to be you know going to neighborhood board meetings and saying

MW: Right.

MB: It could be, we just haven't got there yet.

MW: So that's a goal but it's?

MB: Yeah, that's a goal, but we've been really focusing on some big projects that we've got research requests and funding for that have been more at the decision maker level and so the community level has been more outreach and education. funding mostly for decision maker level

MW: So some of the barriers towards getting involved in some of the more community things has been funding-wise or?

MB: Just funding and capacity, just having enough staff and staffing issues. Yeah, I think that's probably the biggest element. lack of staff

MW: Could you describe to me the state of current research and efforts regarding the human dimensions of climate change just in general?

MB: Well I think it's been definitely dwarfed by the science. And even the scientists sometimes I think underplay the importance of the human dimension. Even to the point of finding better ways to or finding it necessary or sort of understanding that it's necessary to communicate with people and make it relevant to them. That even if the science is uncertain, that people, that humans don't like to live in the, just the level of uncertainty itself if it's framed appropriately is usually enough for people to do something. importance underplayed by the science communication framing

MW: Mhm.

MB: So I think there should be a re-orientation towards the human impact. It also allows for us to understand what happens today and allows people to feel more engaged in it so. But you know that said, I think that there is a shift in the focus that's happening more so now. A lot of the grant proposals and things that you see coming down I think reflect where people think that the focus should be are more so on interdisciplinary work and linking science with community and education and that sort of thing. re-orientation current shift interdisciplinary

MW: Could you comment on the, also the scale that climate change human dimensions efforts kind of focus on, like more on decision makers and policy and international things versus more local level, planning

MB: Yeah, I think it's probably definitely more of the former. But there emphasis on

have been people who have been doing local level stuff for long time, community based adaptation. It just hasn't got as much attention, but I think it's happening. Yeah, I think it's happening. But yeah the line of focus has been, in terms of policy at least, has been on a sort of larger scale efforts to engage people and that's not working as effectively whether you're looking at international negotiations or at congress for example.

larger scales

MW: Mhm, mhm. Could you describe how modern policy and institutions and how they in turn drive change in response to climate change issues?

MB: Sorry, can you rephrase that?

MW: How institutions and policies that are top-down, I'm trying to understand what is their approach towards addressing climate change issues versus a local level approach, community resilience focus.

MB: Well in terms of a top-down level, part of the problem, especially from an adaptation perspective is that they're looking for big numbers, big stats, big you know some sort of way to, some unifying theory.

top-down issues

MW: Mhm.

MB: And the problem is that a lot of climate impacts are very local, are very specific, are very variable. And so it's a much coarser view or overview of what the particular problem is. And in migration for example, if it doesn't come to pass then you have difficulties justifying that it's a particular issue.

localized impacts

community
specificity

MW: Mhm.

MB: So at the top, if you want some sort of assessment of how many people or why they're moving, there are numbers that are going to come up from any number of places, it's 25 million, it's a billion, it's going to be this by this number, and you're trying to find a way to cluster and categorize impacts that are really hard to substantiate. And they're also trying to fund for things that are really, that are not, that you may not know the better answer to. And so from the bottom you can have a better sense of who's moving, why they're moving, how long they're moving, when they're moving. And you may have better ways to guard against it, how to make your community more resilient, how to get more food sources, how to get water better distributed. Now the down side is is that your adaptation may disrupt another person's ability to adapt, so at the top, I think the role for the top is to serve as a coordinator and harmonizer and administrator.

better analysis at
local scale, but
top valuable as a
coordinator and
administrator

MW: Okay. This is just my opinion, but, so resilience requires a certain amount of flexibility, and how do institutions and policies try to incorporate that sort of flexibility?

MB: Well I mean a lot of what they're doing right now is doing something after the fact which is part of the issue. Okay and so flexibility becomes more ad hoc or post hoc, which is not a good thing. but flexibility is often built in, at least from a law and policy perspective in the way that you, in the way that you sort of craft your policy. So if you craft your policy so that it's driven by a standard or a principle, so you leave the discretion to the day to day decision maker. That's a more flexible approach than having rules that are detailed and rigid.

reactive

flexibility with principles driven policy

MW: Mhm.

MB: That clearly say if x then y kind of thing.

MW: Mhm.

MB: And so you can allow for more flexibility with the risk of potentially, with discretion that may or may not be effective but hopefully can be corrected if you draft your policy correctly. But if you're standard driven then you allow for a greater ability to be nimble, ability for the decision maker to be nimble given a particular crisis which is going to be even more important. So in the adaptation world then, you allow for this ability to be more nimble through more sort of flexible standards and principles based policy, but then you absolutely have to have the portion of it that involves the evaluation to make sure that it was correct given the circumstances. And if there were things that need to be changed, that that would be taken into account with the next, in dealing with the next crisis.

importance of evaluation in adaptation

MW: So do you find, or do you think that these principle based policies are something that's being—these policies relevant to climate change adaptation, do you think they are being implemented in relatively flexible ways, is that common?

MB: Well I think that's yet to be seen. We don't know. I think there are elements of say Hawaii law that are flexible that we need to continue to cultivate. The public doctrine helps. That's more sort of a principle approach in terms of resources. To the extent that we have at least language that encourages us to be precautionary, the precautionary principle. I mean there are elements of the law that are currently like that, but they're not at this point labeled as climate change adaptation.

MW: Mhm.

MB: So whether or not there should be a whole another body of law that is climate change adaptation, I don't know if we need to do that, but we need to infuse into all of our identification of current policy that will work better that is more flexible, that is more adaptive. So there's a sense of legal adaptation and political adaptation, not just climate change adaptation.

MW: Also part of resilience is first and foremost you need to know what your values are and what you're trying to protect or cultivate. And that process to me, versus vulnerability and risk assessments hasn't been developed as well.

MB: Wait, sorry which hasn't been?

MW: The process of determining and resolving the communities values and determining like a vision for what they want, that needs to be determined before you can try to start the resilience building process. Looking at like literature and more technical things, there are a lot of more risk assessment strategies, but it's not as clear how you go about doing that.

MB: So I think I understand what we're saying, so you're basically saying we're doing a lot of vulnerability and risk assessments but we're really having no sense of where the community would like it's direction to be given a particular

MW: Right, right.

MB: And there are a couple of ways to deal with that. I mean first, a lot of people need to know what's at risk in order for them to have a sense of what their values are.

risk awareness
for determining
values

MW: Mhm, mhm.

MB: Right I mean

MW: Right.

MB: That's what charges a lot of the political discourse right now.

MW: Mhm.

MB: And so in a process of, there's an element that's just technical. The risk assessment is just high probability, low risk, doing that matrix and figuring out what falls in high probability, high risk. And then in terms of the adaptation planning itself, there's a lot of opportunity for understanding where your values are. I think the risk assessment if it incorporates the right people and not just decision makers but the affected elements of the community, then you can have a sense of what you value and what's important. I don't think this is just a value-oriented thing, but do we want local agriculture? Well then, that says a lot about how we observe, or how we understand risk with respect to optimal growing areas and land use decisions you know.

opportunity for
values with
adaptation
planning

MW: I just have a few more questions.

MB: That's okay, yeah and I have about, I can talk really fast.

MW: Okay.

MB: And we can talk more by phone if you want to I'm sorry.

MW: Sure, no. So what do you think are some of the major challenges facing local communities that are engaging in the process of building resilience to climate change?

MB: I think there's an incredible lack of awareness.

lack of
awareness

MW: Lack of awareness.

MB: That's like number 1, 2 and 3. It's not to any fault of their own necessarily, but I think there's a profound lack of awareness. And then after that it's just about figuring out you know, what is relevant to know. I think it's enough to know that we don't know, if to say we don't know but it could be X and sort of working through the probabilities.

uncertainty

MW: Mhm.

MB: But being able to downscale to have that information to the community is important.

downscaling
science impacts

MW: So just increasing that awareness would be a big step forward.

MB: Oh, absolutely. And then I mean a lot of times people know their best means of adaptation, and then we facilitate. We as a decision maker, the academy, we facilitate people to empower themselves in doing it.

facilitator not
director

MW: So it's more about being that initial getting people to think about it, reflect.

MB: Totally, totally. Think about it. And hopefully, instill this sense of shared responsibility for the outcome, for an optimal outcome for as many as possible.

MW: And what is your understanding of community resilience, what allows a community to be resilient?

MB: I think it's a strong sense of membership in that community, a strong you know commitment to shared success, however defined. And obviously just what the terms themselves mean, the community can remain relatively intact you know before, during and after some kind of shock. And I think that there's a good degree of optimism in the face of it.

strong
membership

optimism

MW: Mhm, mhm. Okay, is there anything that we haven't covered that

you'd like to add?

MB: No I mean it sounds like what you're doing is really interesting, I'd definitely like to see what you come up with.

MW: Yeah, I can send you my final paper.

MB: Yeah, that would be good.

Interview Transcript No. 6

Codes

MW: What do you think ecological anthropology can contribute to the climate change discourse that other fields can't, such as planning or policy or natural sciences?

LS: For ecological, it's a little difficult because actually ecological anthropology is not strictly isolated within anthro.

MW: Mhm, mhm.

LS: But a lot of ecological anthropology crosses boundaries.

multi-disciplinary

MW: Mhm.

LS: Like into geography or even into climate science in some cases. I think if you looked in that book on Anthro and Climate Change, the contributors, I think some of them are broader.

broad

MW: Mhm.

LS: But I think maybe in general at 2 levels. One is kind of the species level from an evolutionary perspective, archaeologists and prehistory. The archaeological record really can help document, together with other sciences, climate change through prehistory. Even like on islands like on Hawaii, I think probably the most direct thing is if you can get a pollen record from lakes or swamps, or something like that, deposits, and can actually see how vegetation patterns have changed through time. And you might pick up cycles and maybe in some cases even El Nino, La Nina oscillation.

documentation of climate impacts

MW: Mhm.

LS: In fact in one book I edited, Betty M is an archaeologist, talked about that in the case of the Amazon. El Nino, La Nina fluctuations even show up in the Amazon. So that would be one level, which is really, it could be global or it could be regional. At the kind of opposite end, it would be community-based.

community-based

MW: Mhm.

LS: And that's what most ecological anthropologists work with. Small-scale societies, particularly indigenous ones. And there are things on the course syllabus under the climate change section, like online some video about Inuit and how they are coping with it. So, local communities are really faced with this. And the bottom line for them is food production and water resources and whether their environment is going to change radically. It may be changes in temperature and

small-scale societies indigenous

rainfall that affect food production. In some cases it could be quite severe. There might be areas even where there's desertification. Other areas where maybe there's increased rainfall and I could foresee one scenario, I don't know, but the Hawaiian Islands becoming much, much drier. But in terms of indigenous societies, I think people in the Andes, people in Nepal, Himalayas, they're seeing, in Ethiopia and other highland regions where there are snow fields and mountain glaciers, they're seeing really marked retreat in those glaciers. And it's not just an aesthetics thing that the snow looks nice or something, but that snow seasonally, some of it melts and it flows in the streams and rivers and it's used for irrigation. And like Tibet, is really the water tower of Asia. If you look at a map, the major rivers that feed in to China, Burma, Thailand, etc. the Mekong, all of those, their headwaters are in Tibet and ultimately linked to those ice fields, the glaciers. So there is melting and in some areas it's quite substantial. And that could have all kinds of repercussions.

climate impacts
on livelihood

MW: Right.

LS: Including for food production.

MW: Mhm.

LS: And like Thailand's rice basket, but there are others as well, and they export a lot so that affects a lot of countries, not just Asian countries in terms of rice production. So I think in anthropology, there are those 2 ends of the spectrum of looking at the global picture and actually there are a number of books written on human evolution from an ecological point of view. And some of them touch on climate change. In the archaeological record, which is usually local, regional. For example, in Arizona, New Mexico, and Texas those areas, Colorado, there have been really substantial changes in climate over thousands of years and centuries. There, in the arid places, they can read that through tree rings, and measure the width of the rings and see when there were periods of severe drought and more rainfall and so forth. And that whole field, which some call geoarchaeology or prehistoric ecology, there are people, archaeologists in our department who could speak to that.

prehistoric
ecology

MW: Okay.

LS: There are low-lying islands in the Pacific, coral atolls—Tuvalu is one of the most important cases now which are seeing sea level rise and eventually they're going to be environmental refugees and maybe the total land area that they have is going to be swamped. And likewise places, not so much in the Caribbean, they're generally volcanic islands. But in the Indian Ocean, there are also low-lying coral atolls. And so those are local communities that are responding right now, it's not in the future.

MW: Mhm.

LS: So sea level rise and perhaps changes in temperature and rainfall. The only thing is, one good thing about being islands in an ocean, and we're favorable here, we're high islands, is that the ocean tends to buffer changes. They're not as marked as they are on continental areas. That's an important factor.

MW: Mhm.

LS: So Hawaii might be better off than places like Arizona with drying out of climate that's going to happen more, looks like it is, wildfires and so forth are more frequent. So the anthropologist could really document, at the community level, how people are responding. And maybe whatever memory they might have of past climate changes, which wouldn't be a very long term memory but there maybe something in their oral traditions, mythology, legends, folklore, about that kind of thing too. And they may have also moved from some area possibly because of climate change. I just saw a title of an article on Nepal where some local farmers are now refugees in cities, trying to find employment there because they're having problems with crops and it's linked to climate change.

human responses
at community
level
social memory
culture

MW: So like you said, anthropology really can do a lot for the documentation not just of impacts, but how communities responding.

LS: Especially. But also impact, that's part of it.

impacts

MW: Just on a very local scale.

LS: And it's not just food production, but disease patterns. As things get warmer farther and farther away from the equator, there may be the spread of malaria, dengue fever, and other kinds of things. And you know, it can have serious repercussions. And some diseases might spread more rapidly. Possibly, and I'm not a medical anthropologist, but possibly some of them could be pandemics.

MW: Also, even things like, analyzing how identity is tied to a environment

LS: To a place.

MW: To a place, right. And what happens that environment changes or you're displaced from it.

LS: Especially if you're displaced. Lot of changes—they're not overnight.

MW: Right.

LS: They're gradual. But people are seeing them and responding. So it might not be as traumatic in some cases, but certainly Tuvalu is really

a problem immediately. It's now, it's happening, it's been happening. The other thing is, there are, what I referred to in an article I circulated in class on community impact on biodiversity, there are (?) centers, which are centers of crop, how to put it, ancestors of crops and domestic animals, domestic plants and animals. They're centers which are diverse, highly diverse and they're sort of reservoirs that could be tapped into for agricultural products for genetic engineering of food and so forth. Species and varieties of plants, corn or whatever. There have been times when there have been blights on corn or potatoes and sometimes they've gone back to some of those original sources to find varieties that are more resistant. And so with climate change, some of those could be impacted and maybe, possibly extinguished. That is narrowing, all of that kind of thing, is narrowing options for future adaptation.

biodiversity

narrowing
options

MW: Right.

LS: And if things really got bad, and there are scenarios like that, people could be reduced to really living off the land again. And trying to make a go of it as hunter gatherers, fishers, some kind of subsistence economy. Or at least portions of the population could be reduced to that. And that thing I mentioned today in class about homesteading. People have been experimenting with that for centuries and basically trying to be as independent as possible in every respect, even medicinal plants instead of regular health care for some of them, particularly in remote areas. And food production and so forth, wild animals hunting, fishing, gathering wild plants but also seasonally, gardening. Organic gardening and all that, no chemicals. And again, that sort of thing needs to be documented on record and available for people that might want to go that route, to have that knowledge and somehow gain the skills needed to make a go of it.

independence

documentation

skills

MW: Mhm.

LS: And there are, I don't know a lot about them, you know, survivalist groups.

MW: Mhm.

LS: Who are often extreme right-wingers or whatever and they're afraid of attacks by black helicopters from the UN and all that, some of them are armed and so forth and so on. But anthropology, as it's done cultural ecology, a lot of it has documented survival knowledge and skills in different ecosystems and different biomes, whether it's tropical forests or what. The Arctic even. There's something called The Survival Book by I think it's Paul N. and some others and they're anthropologists. It was funded by US military and it was basically collecting that kind of information for different types of environments from the arctic to the equatorial regions and everything in between, and also islands in the sea. In case, for example, pilots crash and survive and they've got to

survival
knowledge

survive from the local whatever is available, resources. They have to know where to get water, what's safe, where to find shelter, where to find edible plants, what are hazards—poisonous snakes or whatever and so there's a little paperback on that somewhere here. And there are army military manuals on survival too. Well this kind of information in the future might be really important for people who are adapting in one way or another somewhere to climate change. The question, as far as I'm concerned, is not whether the climate's changing, it's simply how is it changing and how fast and what are going to be the consequences, and how are people going to respond to survive and flourish. It's not a question, as far as I can see, although I'm not deeply into all of this, of whether or not humans are the cause or a portion of the cause. I think that's obvious, I think it's been well document, the IPCC and all of that, there's general consensus among those scientists. So the issue you're dealing with is really the crux of what the big question is.

information for
adaptation

MW: Mhm.

LS: And it can't just be top-down. It's going to also have to happen at the community level, grass-roots. And there's going to be a lot of experimentation. I mean it's really going to put the premium on human adaptability in every respect, including physiologically perhaps in some cases responding to climate extremes, but also behaviorally and in a sense information wise, the whole thing. Maybe stop me if I get off on tangents.

top-down
grass-roots
experimentation

MW: Haha. Could you tell me more about applied anthropology? What's the current state of that as far as is it common for anthropologists to engage in more kind of practical interventions and policy?

LS: No. Just in general, in mid-1980s, the job market started shifting.

lack of applied
anthro

MW: Mhm.

LS: There were more jobs outside of academia than inside. And so people were finding employment, that maybe they wanted university jobs at college but couldn't get them, so they were going into government business and industry. This was the mid-1980s. It was really a major shift. Because in the 60s and 70s, anthropology, it was just exploding in universities. Courses and departments being added, and faculty and so forth. But then there was, part of it was budget from like state universities and state economies, but other things happening too. So there was a major shift in, although applied anthro goes way back. I mean it goes back to the colonial powers, the British and African

MW: Right.

LS: But also World War II. Most American anthropologists were involved in World War II in one way or another. Some of them in the military, others in research capacities or teaching or whatever or spies in some

cases even. But after World War II, applied really took off but it really got a stimulus when the job market changed. And so there are separate organizations, separate journals, you can go to the society for applied anthro website and they list maybe 2 or 3 dozen universities that have departments that really concentrate on applied. This one does not. Our applied course has been taught maybe 4 or 5 times in 30 years. So it tells you where priorities have been.

MW: Right.

LS: That may change. Applied anthropologists are also involved in looking at climate change in various ways, including in government offices as well as at community level. I have not looked closely in recent years at the applied literature to see what's going on with climate change.

MW: Mhm.

LS: I kind of put it on the back burner cause I was absorbed with other things. But I'm starting to look at it more and more and this book in class is part of the beginning of that. And incidentally, there are also a number of books on people, like Buddhists, there's a book on a Buddhist looking at climate change, there's another one by a Christian theologian, another one by a Jewish philosopher looking at religion and climate change.

religion and
climate change

MW: Mhm.

LS: So the whole area of spiritual ecology is starting to look at that too. And some of that is also on the ground.

MW: So as far as anthropologists on the ground that work with communities that might be affected by climate change now, do you think a lot of their work is applied? Is it common for anthropologists to get engaged in the actual community affairs as far as advocating

LS: It really varies, yeah, yeah. I wrote an article on advocacy anthropology. Most anthropologists here, maybe even 100% in the faculty, would probably say they have done some kind of applied work, but they would not consider themselves to be applied anthropologists and so there's kind of all degrees of it. Some would say, —Oh applied anthro just isn't prestigious or I'm not interested in it, I don't find it intellectually exciting,” or something. But they probably don't know a lot about it, that's probably the reason. The people who are doing applied anthro, a lot of it is contract work.

advocacy varies

MW: So like consulting?

LS: Yeah. And so there in some ways, there's more freedom in academia even, but in other ways you have to worry about the next contract, trying to get the next job. So it's quite varied. But basically there is a

rift between applied and basic anthropology. And people in universities, most of them tend not to do applied unless it's a department that actually decided to focus on that, which came with this shift in the job market in part.

MW: As far as the mainstream discourse on climate change, I would think that anthropologists would have a huge voice and expertise to share

LS: On?

MW: On climate change adaptation. But it doesn't seem like it's

LS: It's new, it's new. What is the date of that book? new issue

MW: 2010?

LS: Something like that, it's very recent. And in fact, just a week or so ago, the triple A, the American Anthropological Association, hosted something about a new commission on climate change.

MW: Mhm.

LS: So this is 2011, when did people first begin to raise alarm about climate change? It's been a couple decades, hasn't it? So anthro has been very slow in getting involved. And I think part of why they're getting involved now is there's more and more money for research grants. emerging focus

MW: Right.

LS: And I think that's part of it, but I think that also, you've seen it enough in the media now, that people are increasingly becoming aware that this is a problem. awareness

MW: Mhm.

LS: And so anthros are beginning to think of how they might contribute to that. You know some, you could just, for example, I clip stuff out of the newspapers and put them in folders and I have a folder on climate change. And you could take that and from an anthropologists' point of view, sum analyze discourse or symbolism or other things like that, interpretive anthropology. And you could just look at that file from that point of view—what is the discourse on climate change in the mainstream media? anthro point of view

MW: Mhm.

LS: And how does it vary with different, like Fox news is going to take it differently than CNN. And then alternative media may look at it very differently as well. And maybe in other countries, if you were to

compare across nationally, the Norwegians or others who might be much more on top of this than a lot of people in the US.

MW: Right.

LS: So those raise interesting issues about cultural differences, national differences and so forth in the discourse on climate change. And attitudes and values and worldviews and all of that. So lot of things, you know, could be done by anthropologists in addition outside of being in the field of a particular community. A lot of other things can be done.

cultural differences, attitudes, values, worldviews

MW: I have one question about, in anthropology is there a specific literature or definition of resilience? Because I know there's for adaptation, different sorts of cultural adaptation, but what about resilience?

LS: I think that's part of adaptation. And I'm sure if you go to this or that textbook you might find the word and maybe a definition. Resilience, in a way, is adaptability.

MW: Right.

LS: Just the ability to respond and some communities may have a greater capacity for that than others. As an example, there have been cases of some climate change in areas where there's a lot of mono-cropping, single crops, and there have been some research done on that and compared to areas where there's polycropping. Many species and many varieties of a species and more diverse plant communities, whether it's domestic or wild tend to have more resilience to those changes. It's just like playing the stock market, yeah.

crop diversity

MW: Okay.

LS: It's possible that the food production of the US, the grain belt and so forth, it could be impacted quite seriously over time and what's that going to do to the economy and all of that? And a lot of that is monocrops.

MW: Mhm.

LS: So they're more vulnerable than more diverse agricultural systems.

vulnerability

MW: So I guess, anthropology provides a lot of good insights on the ground, but is there room for scaling towards broader levels of analysis, society?

LS: I think anthropologists are most comfortable with small scale, person to person kind of situations in which case, if they were studying climate change US, they might be studying a community in Appalachia or in New Mexico or Amish community, farmers and how

small scale

they're dealing with adapting to climate change.

MW: Mhm.

LS: And one of the problems is a lot of this appears that it's a gradual thing, and so there's a whole field, not so much in anthro, they came late, but there is some of that, of disaster and hazard research. A lot more in geography.

gradual
long term

MW: Mhm.

LS: And some other areas and when anthropologists have been involved with that, you know you can't just go to a community and wait for a disaster to happen, it might be 20 to 50 years. But you go when there's been a disaster and sometimes it's happened for places where anthros have been working for some years, and all of a sudden there's a terrible landslide, earthquake or whatever. And so they go back and interview people and see. And some of them get involved in very practical ways, and others tend to remain very aloof and neutral. It varies a lot.

variation in
practical vs
theoretical

MW: Mhm.

LS: I would be able to say a bit more when better informed, after reading that book.

Interview Transcript No. 7

Codes

MW: Could you tell me a little bit about yourself, your background, and how you got involved in this.

KK: Got involved?

MW: Yeah.

KK: I got involved with the program on a volunteer basis. Well, actually initially I was doing some private contract work for a sober support organization.

MW: Mhm.

KK: And we would bring individuals who are in recovery here. I was responsible at that time for a variety of cultural activities. So anywhere from playing ukulele to stand-up paddling, surfing, canoe paddling. Anything cultural. Including learning the different native plants. Anyway, so bringing them here was a way for them to get back to their grass roots there. You know this is where their ohana started.

MW: Mhm.

KK: And part of the healing process. So that's how I actually got involved. And so when that grant and contract ended, I continued to come because I felt that project itself was really important on many different levels. I continued to come and then eventually was able to become a staff, which was actually just recently.

healing

multiple levels

MW: Oh okay.

KK: So I've done many different things within the organization, anywhere from the community part to marketing and stuff like that.

MW: Mhm, okay. What is the mission of Kāko_o_Ōiwi or this organization in general?

KK: The mission is to, exactly what our name says. Kāko_o_Ōiwi and Māhuahua_Ai o Hoi. Kāko_o_Ōiwi means supporting natives or strengthening natives. And Māhuahua_Ai o Hoi is replanting the fruit of Hoi. And so this whole ahupua'a is actually Hoi. So it's all the way from Haiku all the way to that ridge right there. And so it's the replanting of the kalo. So we have 405 acres. And our goal is to plant 200 back to kalo, which was its actually state back from, the latest or the earliest picture that we have was 1928, when all of this was all loi. And that's our big goal

restoration

previous condition

MW: And how does that tie into the community part of?

KK: We rely heavily on community involvement. The purpose of it is to, this is for the community, food sustainability. So we can bring back that native diet. sustainability
native

MW: Mhm.

KK: Which in the long term is going to help with the overall health of the community, the people. long term
health

MW: Mhm. And how does it kind of tie into creating a social kind of setting for the community, or do you see this as a place that brings people together?

KK: Oh definitely. Yeah, yeah, yeah. People have said, —Oh have the kids, I don't know if I can bring—— said, —Oh, a there's something from everybody. Just because you cannot get in and do any heavy manual labor, doesn't mean that there's not something for you.” We can have kupuna sitting in the chair right on the side, telling stories while everybody else is working. That's something. That's important. You know for them to be there, just doing that, is important. You know to mom's with their babies, if all they can do is stand on the side and hand somebody social gathering
inclusiveness
stories

(Interruption)

KK: Then, yeah.

MW: So, what kind of drives or motivates Kakoo Oiwi? Why did, besides just food sustainability, why did all of these people come together to try to restore—

KK: It was the kupuna. Like Liko's mom and Auntie Alice Hewitt and the Bright family and several others. They wanted to keep this undeveloped. And they've been fighting for that past 50 years to keep a lot of this land undeveloped, wanting to restore it to its natural. There was plans for originally, Kamehameha Schools wanted to put multi-million dollar homes over here. kupuna
undeveloped
restoration

MW: Mhm.

KK: And they wanted to create a marina similar to that which is on Hawaii Kai. And across the ridge they had plans for a nuclear power plant.

MW: So they were able to stop that?

KK: They were able to fight and keep that from occurring, so yeah.

MW: Could you—my project focuses on how is it that certain communities

can be resilient to whatever change that they're facing, not just climate change. So whether it is something like development or population change or social change and cultural change—that they can be faced with that change yet retain their most basic set of values and identity. So I guess, do you have any comments on how these, this community of kupuna or elders were able to maintain kind of a resiliency?

KK: They just did not give up. And they were heavily involved in every aspect of the community, all the way up to the state capitol, lobbying for their voices to be heard, building relationships with all the political figures within the community and getting to know them. And I have seen many, many times, Aunty Alice and Aunty Rocky. All of these dignitaries and all of these politicians know them by their first name.

persistence
multiple scales
relationships

MW: Mhm.

KK: And for this area specifically, there's family generations and generations and generations. I think that's huge. I don't know if, and I don't know because I'm not a part of the other communities on Oahu, but I know that Kaneohe and this Koolaupoko, has—there's some strength here.

family roots

strength

MW: Yeah, definitely.

KK: I live in Kailua and the changes that are occurring there—it's scary.

MW: Right.

KK: It's really, really, really scary. Wow, that was a deep question.

MW: Well it's interesting because if you look at Oahu, just within Oahu there are so many different types of neighborhoods and communities

KK: Yeah.

MW: And you just comparatively look at well, what lead this community down that path versus a different like Heeia being able to

KK: Yeah, why maintain you know

MW: how did that, if we can learn how

KK: how they did it

MW: from those experiences, how that happened.

KK: I know Aunty Rocky and Aunty Alice constantly lobbying. That's really, yeah. It's having key individuals. And you know, they didn't do it for personal gain. They did it for the overall community. Like that was what they were supposed to do.

lobbying
leadership
responsibility

MW: Mhm.

KK: And yeah, it, kind of emotional to know what they did.

emotion

MW: Right.

KK: And yeah, is there anybody in any other community that can lobby like that?

MW: Mhm.

KK: But their desire to was to keep this back to its natural state, you know, agriculture. Maybe there was key components or individuals in other communities that feel that agriculture and change is just needed for their community. So of course, that's what they're going to lobby for.

—"natural" state
diverse interests

MW: Mhm.

KK: That's probably why Hawaii Kai looks the way it does now.

MW: Different interests, right.

KK: Yeah, yeah. And in Kailua, you have such a split over the Target. Because that's not community resiliency, you're depending on, but then if you talk to some of the small business owners

conflict of
interests

MW: Mhm.

KK: They're saying, —Oh **a**, but that Target is going to bring in people." I don't know how that's really going to work.

MW: Mhm, mhm.

KK: People who shop at Target aren't necessarily going to shop at those small boutique stores that have become popping up all over Kailua. And you know, a pair of, a t-shirt costs you \$65.

MW: Mhm.

KK: That's ridiculous. But anyway.

MW: What are some of the challenges with, in your experience, with the work that Kakoo Oihi has been doing, whether it's the funding or getting volunteers.

KK: All of the above.

MW: Yeah.

KK: I think our project is still fairly new in comparison to some of the other project who seem to already have a steady flow because maybe, you know, they're more out there. But in the last 6 months, we've gained huge momentum. A lot of our volunteers don't necessarily come from this community. They come from outside.

momentum
outside
volunteers

MW: Mhm.

KK: And maybe it's because city people want to experience the country so they're going to come here to do that. But we want to focus on the people of Kaneohe because this is theirs. This is for them. This is their long term you know, food production right here. So we want to make it personal. Challenges with the grants is corporations or funders or grantees accepting that yes, you can make money with kalo. Last I checked, a bag of poi was still pretty expensive.

outreach
local focus
long term
personal
feasibility

MW: Mhm.

KK: And going back to the whole native diet and anybody can eat poi. There's no, you can have an allergy to everything under the sun and not have an allergy to poi. So, health benefits are really good. Environmentally, having it planted, it's going to in the long run help everything that's occurring down in the ocean. Does that answer that question?

health
environmental
quality

MW: Yeah, the challenges, yeah.

KK: Yeah, they need to realize that yes. That's some of the things that we've been told, —Oh there's no money in kalo." So they won't fund it because they think it's a waste of time or it's not going to be profitable.

funding
challenges
communication

MW: So as far as the land, do you guys have a lease or ownership or?

KK: We have a 37 year lease

MW: with?

KK: Hawaii Community Development Authority.

MW: Okay, so they're the

KK: the landowners

MW: the landowners

KK: Basically, it's the state.

state partnership

MW: So that's the state, right okay.

KK: Yeah.

MW: So you were saying that one of the challenges communicating to the funders and the grantmakers that this is an important and very useful part of building the community's capacity to sustain itself and be resilient. So, why do you think it's difficult for them to understand? Just economically or?

KK: I don't know, yeah. Probably just, yeah I don't know. Because I know that when they're writing a grant, they're putting everything in to being able to provide jobs to people who are in this community. All the way up to the whole food sustainability, everything is covered. Even addressing educational opportunities for the

addressing
multiple issues

MW: youth

KK: complex, yeah, yeah. Why, I don't know. I'm sure our executive director probably has a few ideas, even our fiscal officer. They probably have a better idea.

MW: How many people are employed?

KK: We have, actually getting a paycheck, would be, maybe 7 total.

MW: Do you guys have any partnerships with any other organizations whether they're community based or if they're more like academic institutions or besides the state organizations.

KK: Oh, yeah. Yeah. We partnered with West-Pac because they'll fund us. People that we've asked to get money with. T & C. Of course, we've had assistance with Kamehameha Schools.

funding
partnerships

MW: Mhm.

KK: So some of the large ones. I think we have a list of some of our partners on our

MW: website, okay.

KK: We have had Forest City, who came out on a work day that they have. Their company, nationwide, does an environmental day where they go into the community and do something somewhere. And Forest City here on Oahu chose us. And nationwide, the Forest City here won their photo and their community project because it was like amazing.

MW: Right, because this place is

KK: Amazing, yeah. Totally amazing. So you know, there's partnerships like that. And then we've got, oh what is the name of that company, whose going to come out and donate machinery. There's a small

section here that we can actually do some work with machines. Other than that, it's all by hand. But they're going to donate their time and machinery for us to help. Yeah.

MW: It's mostly been supportive partnerships and

KK: Yes. Yeah. Well you know like T & C is giving money, West-Pac give money, OHA obviously, Kamehameha Schools. Yeah, there's quite a few. I know I'm not thinking of them all right now.

funding
partnerships

MW: Okay. Besides just the goal or trying to reach that goal of restoring or replanting and creating food sustainability, what do you think is the value of going through this process of replanting, besides just trying to meet that end goal, what are some of the other benefits?

KK: Oh the cultural, the cultural aspects are huge.

MW: Mhm.

KK: You know, cause one of the other goals we have is to create an area of la'au lapa'au where there will be cultural practices that can continue on, planting of native herbs and plants for that use. A place where kumu hula can come and all kinds of native practitioners, whatever their field is, to practice the culture. That is key.

cultural space

MW: Mhm. Because if you don't have the land to

KK: Yeah, exactly.

MW: and if your culture is very connected to the land fundamentally, it provides a space.

KK: Yes, yes. Oh yeah, yes. Yep.

MW: Why do you think, you mentioned that a lot of the volunteers actually don't necessarily come from here, why do you think it is that they come rather than people from the actual area?

KK: Well, like I said, this place is definitely, it's special. It really is special. And so people who live in this community, however I've had people say, —Oh my gosh, I didn't even know that was back there.” And they live here. Most people who have lived here for 20 or 30 years, like a lot of these homes that are right here on the edge, this tree line, obviously there's homes all the way down, many of them have been here 20 or 30 years. So you know, they know that all this empty space is back here.

place attachment

MW: Right.

KK: They're I'm sure much happier that it's going to be a loi instead of

other homes. But why do I think that—just because it's a place that they don't have over there. I don't want to say that you know how you live in a place and you take it for granted, I don't want to say that. It's just not, it'll, it'll come. I think it'll come, it just hasn't come yet.

missing-ness

MW: So as far the volunteers that do come from other places and you interact with them, can you kind of comment on their experiences here

KK: Oh, they love it.

MW: from what you can judge, how it affects them or if you've seen any re-connecting.

KK: Oh yeah, definitely have. When I was with the substance abuse people, there was 2 individuals in particular. They were older. And they came from a place where they used to grow kalo. And whatever reason, they strayed away from, they went out, they did their own thing. Got into trouble, messed up with drugs and alcohol. Came over here and they yeah, they completely go, —This is what I'm supposed to do." They were able to go back, they were from Maui, they went back to Maui and they were able to remain sober because they reconnected with what it was that they used to do before. —Oh I remember my dad used to take me, I remember my uncle." They remember when they were younger and the things that they did. And it's like they were able to get back on track. It was easy I think, not easy, but it was good for them because yes, that was something that they did when they were younger. For individuals who maybe, it's their first experience with something like this, they think it's an amazing experience, it's like —Wow!" Both being here, because you're surrounded by so much urbanization, just to have 405 acres that you're looking at and getting involved with, the comments are like, —Oh my gosh, this is so amazing, this is so beautiful." And they'll come back. And a lot of people who come to volunteer, will like myself, get an opportunity to get a job.

sense of grounding

going back

re-connection

memory

new experience

MW: Its kind of similar to Ho'oulu _Aina the actual physical space and community work days kind of provides a space for some people to reconnect with a sense of grounding that they had before

KK: Yes, yeah.

MW: And for people who may not have had that experience to have that.

KK: Yeah, yeah.

MW: Has this, as far as when you guys talk about your goals or your mission or even the past, have you or KK: other people in Kakoo Oihi used the term resilience to describe

KK: Oh yeah, we want to have a resilient community. We want to be self-sustainable. We want to be able to not depend on out-source for jobs,

independence

for food, and for support, even in the emotional. And of course, above all everything else is the culture. You know, we need to have a place where our culture can thrive.

cultural space

MW: So to you guys, community resilience means?

KK: Okay. Self-supportive. That means that we can rely on everything within this ahupuaa to survive. We don't need to go outside. We can hire from inside, we can provide jobs for people who are in this community. So it means self-supportive to me. We'd like to be the role-model for others. I think to community, it's the ahupuaa, everything from mauka to makai.

self-supportive

role-model

MW: So as far as looking back into the history of how this area was able to fend off development and what not, I'm trying to understand how you think that was able to

KK: to happen?

MW: Right. Because I'm sure it wasn't immediate, it was a very long process. But what made these particular individuals in the community able to keep, to be resilient to

KK: To continue to grow? Right. That's a hard question.

MW: Mhm.

KK: And it's only hard because it's like something that you feel right here. And listening to Auntie Rocky talk. And you just don't give up and one thing that it's now raising up the next generation.

emotion
persistence

MW: Mhm.

KK: Who's going to be able to continue that.

MW: Right, right.

KK: Because there's nothing to say that in 30, 40, 50 years or when this lease comes up, that they're not going to take a look at it again and say —it's develop." I mean, hoping society on a whole understands that you can't build on every piece of land and on Oahu, we only have so much land. We hope that they'll acknowledge that we need agriculture. But going back to your original question, yeah. It's something that comes from inside. You just know that it's right. You know, and I think Auntie Rocky just had that vision already. And she knew she had to fight. She spent many hours lobbying in the capitol. I don't know if that answers your question.

comes from
within
vision
lobbying

MW: Mhm.

KK: Let me tell you that I get chicken skin when I think about that because out of all the other places. Why? Why this place? And you look at it and you're just here and you're like blown away by the opportunity and just everything. It really is emotional. emotion

MW: Mhm.

KK: I don't know if I have the words to describe.

MW: Mhm.

KK: Yeah, this got saved. Out of all of Oahu, this got saved. saved

MW: That's why, I'm just really curious as to what these individuals themselves who did it, what drove them, if they could reflect. Was it some kind of cultural thing, family

KK: Oh definitely, oh definitely. Auntie Rocky's family has been in this area for 200 years, they can trace, they have a strong lineage on paper. Not everybody has that. family roots

MW: Mhm.

KK: So that's, they always say, —M kupuna are telling me to do it.”

MW: Mhm.

KK: So they know that they have all of what you said, cultural and you know, family. And they're telling them that this is the right thing to do. And for Liko to be here, he gave up a huge career and big pay to come over here and do this. motivation

MW: Mhm.

KK: Because he knew that he was supposed to be doing this.

MW: Could you describe Kaneohe and Heeia for me, the general community or neighborhood as far as social or economic things?

KK: Majority of everybody works in town. How's that one.

MW: Mhm.

KK: That's a hard one. I don't know if I can answer that one, I don't know what to say to that one.

MW: Well if someone that wasn't familiar with this area were to ask you what is it like

KK: In this area? A lot of local families who have been here for a long time.

So there is several generations that are still living here, that are living in the family home. You know they've taken over, it's the next generation. I think that can be said about most of Oahu. Anyway, describe it more? I think of course it's changed over the last 30 years, probably over the last 50 years. Like with most of Oahu and especially Kailua. So many people from the mainland because they can buy the house, they can afford the house. Which is another reason it was so good that they didn't develop this because you know that there wasn't going to be a local person on this if that happened. I don't know what else. Close, everybody's close knit. It has that small town feeling even though it's so close to Honolulu. Everybody knows everybody. Like Liko knows all his classmates, plenty of his classmates still live. I went to McKinley and I don't see, I see one classmate that I run into. One that I keep in contact with, no I actually have a few more but that's okay. But they're all over the place. So even though we lived in the city, they've all branched out. Whereas here, I think that they mostly have stayed.

changing

close knit

networks

MW: Could you comment on where you and your organization, your co-workers, your colleagues, where you guys draw strength from as far as when you come to work and you're trying to get your mission accomplished, whenever you face whatever challenges you do, where do you guys draw your resiliency?

KK: Oh, that's a good one. I like that. Personally for myself, and in our conversation, I have to say that there's 4 of us that we get along really well, we've been here the longest, and we work very well together. And in our conversations, I have to say that really it's our kupuna that we draw from. Knowing what they have already done and the sacrifices that they've made, and with a smile on their face, their attitudes are really good.

kupuna

sacrifice
positive attitudes

MW: Mhm.

KK: They're very positive. The words that come out of their mouth are very positive. That's encouraging, I think that's where we draw our strength from.

leadership
strength

MW: Mhm.

KK: Knowing that okay wait, somebody has to step up to the plate. So out of the 4 of us, two of us are in our 40s, and the other two are under 30. So it's like they're the next after us. So it's almost like okay we have the kupuna, like Liko's mom, and then there's Liko and then there's the two younger ones. Like okay. We have to do it. We have to do it for what they did and prepare others for the next

generational
leadership

MW: to perpetuate

KK: to perpetuate it, yeah. It's important to get this done. It's one of those

things that you feel inside. It's an emotional attachment. Liko will say that his kupuna told him to do it. They're calling him. That's what he says. And like I said, his mom and his dad, their family has been here a long time. I don't have that family connection, but I definitely have a connection and I don't know why.

emotion
kupuna
connection

MW: Mhm.

KK: It really was a feeling that you had. That I don't know if you can put feelings on paper.

feeling

MW: I feel like as far as resilience goes, if you don't continue to foster that kind of connection, then you really lose a lot of your values and identity and that's why you're a lot more vulnerable to whatever else it is that comes your way. Do you have anything else, any other comments about your personal experience with the organization or the organization's experience just trying to

KK: Well, we're new you know and I really think that we're still trying to figure it all out.

MW: Mhm, mhm.

KK: We're trying to tread water and get our bearings in how everything can flow. Because eventually we'll have a for profit side, right now we're non-profit. But yeah, right now we're just

MW: How old is the organization itself? Or the project here.

KK: 3 years, almost 4 years now. Yeah.

MW: When did you start working here?

KK: Almost 2 years.

MW: Could you comment on how things have change or progressed at all?

KK: He (Liko) came on full time probably a year now. So even when I first started to volunteer, he wasn't full staff yet. So the fact that there's money coming in now is probably

financial
momentum

MW: It's growing.

KK: Yeah, yeah. So that's been a good thing.

MW: I can't think of anything else but if you have any other comments.

KK: Well you can always email if you have any other questions.

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