

BIOCULTURAL PLACES FOR TRANSFORMATIVE COMMUNITIES AND PROTECTED  
AREAS: CRITICAL PLACE INQUIRY AND YOUTH PARTICIPATORY ACTION  
RESEARCH IN COLOMBIA

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By

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## Abstract

This dissertation affirms the importance of explicitly and politically attending to place in research. Taking up such a critical inquiry of place, I facilitate a participatory and action-oriented approach through Youth Participatory Action Research (YPAR) and methods of photovoice and participatory mapping. This approach engaged six youth living in Isla Grande, Colombia, to co-investigate the significance of biocultural place relationships to their lives. This focus supports their community's efforts toward sustainable development and self-determination of ancestral territories alongside a National Park and Marine Protected Area. Emphasizing place in research conceptualization, orientation, approach, design, and practice, we achieved the following objectives: (1) to explore youths' relationships with place through critical place inquiry by supporting their role as co-researchers using a YPAR approach; (2) to encourage youth-led inquiry *with place* related to their experiences and understandings of well-being and sustainability in ancestral territory places; and (3) to assess and mobilize youth perspectives on place significance, based on biocultural interdependence.

Through analysis, this dissertation offers practical insight on the relevance of a biocultural framework to discern interdependent and evolving place relationships. Resultant findings illustrate youths' biocultural relations using a UNESCO-sCBD framework in terms of how language; material culture; knowledge, technology, innovations, and improvisations; social and economic relations; beliefs; and values are interconnected with biodiversity. These relations are discussed in connection with youths' understandings of well-being and sustainability. Local implications of this research include applying a biocultural framework to support formal education and livelihood diversification, and encouraging youth participation in community efforts toward sustainable development. Broad implications for protected areas include how a biocultural framework can inform governance decisions based on the knowledge, values, and interests of local communities to protect both nature and culture. Implications for future research include: going "beyond the research" to capture the daily lives of youth through mobile approaches; building on participatory approaches to facilitate intergenerational learning and exchange; expanding on economic relations to support biocultural heritage innovations; and supporting collaborative processes among diverse place actors through the development of biocultural indicators.

## Acknowledgements

Four and a half years ago, I had the impression that a PhD was like an ultra marathon—a lengthy, solitary, and deeply personal undertaking; an endeavor to push your boundaries, draw on your determination, apply your training, and demand your mental endurance; as a time clock counts the hours of isolated reflection and rabbit hole spirals that are nearly impossible to curb . . . even if you wanted to! While I admit that these exercises were undeniably a part of my experience, they alone do not portray the journey.

The bigger picture involved learning through collaboration and practice, with support from many instrumental people along the way: family and friends who celebrated the ups, lent perspective to the downs, and encouraged me to see defense milestones not as moments to dread, but as conversations through which to grow; mentors with whom I became acquainted through academic spaces and committees; friends who enriched my experience over gracious hospitality in my Western home away from home, evening cocktails, and workday chats; colleagues I met along the way through research-related travel, conferences, and networking; and strangers who serendipitously appeared to offer a listening ear, a warm chat, and a trinket of wisdom—while heading West on a plane, standing in the university lounge waiting for closed-door decisions, walking the Meewasin trail, during open calls for editing and word processing navigation.

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\* \* \*

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\* \* \*

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\* \* \*

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\* \* \*

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\* \* \*

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## **List of Abbreviations**

BCHI.....	Biocultural Heritage Innovations
CBD.....	Convention on Biological Diversity
CRSB-NNP.....	Corales del Rosario & San Bernardo National Natural Park
CRSBIF MPA.....	Corales del Rosario, San Bernardo and Isla Fuerte Marine Protected Area
DT-IC/RIMISP .....	Territorial Development with Cultural Identity Program and Latin American Centre for Rural Development
ESD.....	Education for Sustainable Development
Esri.....	Environmental Systems Research Institute
GAP.....	Global Action Programme for ESD
GEN .....	Global Ecovillage Network
GIS.....	Global Information System
IIED.....	International Institute for Environment and Development
IUCN.....	International Union for Conservation of Nature
MMA-UAESPNN.....	Ministerio del Medio Ambiente y Unidad Administrativa Especial de Parques Nacionales Naturales [Ministry of Environment and Special Administrative Unit of National Natural Parks]
MPA.....	Marine Protected Area
UN SDGs.....	United Nations Sustainable Development Goals
UN.....	United Nations
UN WPAY.....	United Nations World Programme of Action for Youth
UNESCO.....	United Nations Educational, Scientific, and Cultural Organization
UNESCO-sCBD.....	United Nations Educational, Scientific, and Cultural Organization- Convention on Biological Diversity Secretariat
YPAR.....	Youth Participatory Action Research

## Prologue

I would like to begin by taking a moment to situate myself in this research, giving you a sense of who I am and my connection to this study. By no means am I the protagonist of this story—that is not my “place.” Instead, my role, as you will come to see, is that of collaborator, co-researcher, facilitator, and narrator of place inquiry.

My name is Jennifer, Jen, or Jenny, depending on whom you ask. I am a settler-Canadian, a researcher, daughter, granddaughter, sister, niece, aunt, cousin, partner, friend, colleague, student, facilitator, doer, and dreamer. I have Scottish ancestry and roots in Nova Scotia's Acadian forest and Bay of Fundy tides. I was raised on a small, rural hobby farm where the smells of sawdust and stone foundations carried history forward through the restoration of our heritage home amidst the activities of daily life—freshly baked bread, newly tilled soil, gardens taking root, braided onions laid to dry, lined nest boxes and banded kestrels, the sound of wood splitting and the crackle of kindling, the jigs and reels resounding from the summer kitchen. Then, and now, I have a deep connection to this place—the ties with family and community; the sounds of the forest . . . hoots of barred owls, yips of coyotes, peeps of peepers, the screech of a redtail; the touch of the first warmth of sunshine in spring and the sweet aroma of mayflowers; the smells of the railway tie bridge under a hot summer sun and of algae-covered slate when the brook runs low; the stillness of mist over the fields in the morning, the red hue of blueberry fields before the rise of a harvest moon, the filtering light through forests of colour in the fall, the rustle of beech trees in winter, still adorned with pale yellow leaves; and the feelings evoked as the sun's fading light touches the tips of the hardwoods.

My attachment to the human and more-than-human company of this place is what makes it “home.” Although situated, my place attachment also extends beyond the property stakes, county markers, provincial lines, and territorial waters. For me, boundaries do not dictate who can make meaning of a particular place. Nor do they demarcate sole “inhabitant” responsibility to protect this sense of place from pervasive threats, such as those that I continue to see in my home places: garbage littering the ditches; logging trucks carry loads of toothpicks; rainbows of oily emollients lining the surface of streams; migrating youth in search of better opportunities; barns collapsing, weathered from lack of use; railroad beds no longer with rails; fracking test sites left to seep. Paradoxically, as these threats infringe upon our personal and collective sense

of place, they may also encourage us to be more sensitive to the world around us. In this way, critical place issues can extend and reinforce our sense of place and awaken our imaginations to consider (re)newed ways of becoming.

For me, threats to place—despite being undoubtedly disheartening—are catalytic. They deepen my understanding of inextricable connections with place, recalibrate and shift my ego further from the centerfold, and inspire personal and academic pursuits toward sustainable transitions. I have come to understand threats to place as both silent and overtly apparent, resulting from dominant economic and political discourses, leading to blind eyes and collective action, and happening to “us,” not to “them.” Most notably, I have come to see threats to place as opportunities for social learning, community building, adaptation, regeneration, transformation, and connection.

This dissertation is motivated by such opportunity, arising from a desire to recognize, understand, and respect diverse biological and cultural connections with place. Although far from my home places, the site community of this research—Isla Grande, Colombia—has become a part of my extroverted and “global sense of place” (Massey, 1994, p.154). Let me take a moment to explain. On the surface, the community is unfamiliar to me in several ways: geographically—located in the northern tip of South America in the buffer zone of a National Park in the Caribbean Sea; ecologically—home to mangrove lagoons, tropical coral reefs, native dry forest species; linguistically—being Spanish-speaking, a language I am in the throes of learning; historically, culturally, and ethnically—home to Afro-Colombian descendants who settled in the area following a history of colonialism and slavery; and politically—undergoing efforts to defend identities and ancestral territories from marginalization. With respect for these salient differences in our life stories, I have come to see threads that connect with my own home places through shared place-based themes: the influences of mobility, economic and political discourses, environmental degradation, cultural loss and revitalization, natural resource use and management, ecological and social injustice, conservation efforts, educational reform, sustainable development efforts, and transition movements. Perhaps more poignantly, my connection to Isla Grande is based on the interactional significance of ecological, cultural, economic, and political place relationships to our lives, and how this significance motivates learning and action to strengthen and transform our relationships with place toward

sustainability.<sup>1</sup>

My first encounter with the Isla Grande community was in 2012 when I was invited to do research as a part of my M.Sc. in Conservation and Rural Development at the Durrell Institute of Conservation and Ecology in the UK. At that time, a fellow Colombian colleague and friend introduced me to the small Caribbean island, a place she knew intimately after 11 years of community-based work. My research at the time focused on conservation directions by investigating youths' sense of place and their perspectives on social and environmental change. An action-research project of only two months, I couldn't help but feel that I parachuted in and was not able to meaningfully give back to the community through the research. I wrestled with notions of privilege, justice, ethics, and conservation<sup>2</sup> for whom and to what ends?

When the opportunity arose during my doctoral studies to continue research with this community, I was compelled to act on my global sense of place and feelings of responsibility, accountability, and commitment to shared learning and partnership building as a researcher—in short, my own entanglement. Toward these ends, I began a collaborative process with community consultants to propose a participatory and action-oriented study. The aim was to scale up my Masters research to further support Isla Grande's current efforts toward conservation, sustainability, and self-determination. Despite PhD candidature responsibilities (e.g., time and travel, discussed in more detail in this dissertation), to every extent possible I attempted to create the space to build relationships, trust, and participation, to overcome language barriers, respect cultural differences, and support community goals and priorities through a research partnership.

Such efforts afforded reflection on our collective role in acknowledging and

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<sup>1</sup> I understand sustainability as how we envision the future—not in a projected or predicted sense, but in the way of anticipation—shaped by diverse sensitivities to place that afford opportunity to respond to an evolving world through an appreciation of regeneration through difference (Ingold, 2016).

<sup>2</sup> I understand conservation not as “preserving” or “maintaining,” but of anticipative and collaborative processes of adaptation that aim to support diversity of place relationships. Such efforts support holistic and dynamic processes of becoming within social-ecological systems.

strengthening diverse place relationships to promote effective responses to pervasive place issues. My connection with the site community drew on this reflection by considering our shared responsibility and accountability to reconcile, renew, and regenerate our collective imaginaries . . . for, in, and with place. Stemming from this potential, I would like to share this research story with you, and invite you to imagine your own connection with what is perhaps a distant place by miles, but one not so far removed from your relationships with the places you call “home.”

I would like to begin this story by recognizing the places that gave meaning and grounding to my doctoral journey, my (re)imagination, and my becoming: To unceded Mi’kmaq territory, where I call home; to Treaty 6 territory and homeland of the Métis, where I pursued my studies; and to the ancestral territories of Afro-Colombian descendants, where this story unfolds.

## La Madre Tierra

María Elcina Valencia Córdoba<sup>3</sup>

Así es mi tierra de grandeza inenarrable  
De linderos naturales, de verjas imaginarias  
De delfines salvadores, de ballenas  
jorobadas  
De “malsanidad” perpetua que es riqueza  
planetaria  
Territorios donde crecen las culturas  
milenarios  
Legado de mis hijos, balcón de mi fortuna  
Madre que preñas con golpes de azadones  
Fémica que pares con los ritmos  
de la luna.  
Hoy me está creciendo un coraje ineluctable  
De defender mi tierra de invasores bárbaros  
De intrusos hurafios que matan la esperanza  
De paisanos tiranos que se venden  
a destajo;  
Pero entre contradicciones sigo sembrándote  
flores  
Magnificando la fuerza que heredé de mis  
abuelos  
Mientras tu suelo se tiñe de rojo, de  
alquitranes y cizañas  
y en tu cielos rugen remolinos de veneno  
quiero devolverte el verde de montes  
enajenados  
y encontrar de nuevo el verbo que se funde  
con el alma  
Porque eres “Madre” la razón de nuestras  
luchas  
Porque eres “vida” para el mundo que  
te mata

## The Mother Earth

María Elcina Valencia Córdoba

So is my land of unspeakable greatness  
Of natural boundaries, of imaginary gates  
From dolphin saviours, to humpback  
whales  
From perpetual "malaise" which is planetary  
wealth  
Territories where ancient cultures  
grow  
Legacy of my children, balcony of my fortune  
Mother you preach with blows of hoes  
Women who give birth with the rhythms of  
the moon.  
Today I am growing an ineluctable courage  
Defending my land from barbarian invaders  
From sullen intruders that kill hope  
Of countrymen tyrants who sell themselves in  
piecework;  
But between contradictions I still plant you  
flowers  
Magnifying the strength I inherited from my  
grandparents  
While your soil is stained in red,  
tar, and evil  
And in your skies roar swirls of poison  
I want to give you back the green of alienated  
hills  
And find again the verb that merges with the  
soul  
Because you are "Mother" the reason for our  
struggles  
Because you are "life" to the world that  
kills you

---

<sup>3</sup>Afro Colombian poet, singer, and  
writer. Reprinted with permission by author.

## Chapter 1: Introduction—Place in Research

### 1.1 Research Concept: Biocultural Place Entanglement, Diversity, and Heritage

This dissertation examines the significance of *place* in research processes that aim to support efforts toward sustainable development. This focus is taken up in the island community of Isla Grande, Colombia, where ongoing efforts aim to strengthen the diversity and integrity of ancestral place relationships in the context of a National Park and Marine Protected Area. Based on this context, this research engages critical place inquiry, or investigation into significant place relationships held by Island youth with their ancestral territories (Tuck & McKenzie, 2015a). Specifically, it considers youth perspectives on the interdependent and evolving nature of place relationships in connection with well-being and sustainability. To do so, it emphasizes methodological concepts and practices that are informed by place through a participatory and action-oriented approach. This approach serves to engage place explicitly and politically in youth investigation of ancestral territory places. Importantly, youth perspectives are mobilized in sustainable development agendas of their community—agendas that aim to respond to critical place issues.

Critical place issues are conceptualized in this dissertation as threats to biological and cultural diversity and thus the integrity of interdependent place relations that give rise to well-being and sustainability. These threats arise from, or are perpetuated by dominant economic and political assumptions, decisions, governance, and practices that promote separation between “nature” (more-than-human, non-human, inhuman) and “culture” (human).<sup>4</sup> This separation encourages dualistic and static ways of being in place as opposed to a plurality of place relationships that recognize many ways of becoming with the world (Anderson, 2012; Terralingua, 2014). Critical place issues are associated with, for example, models of infinite economic growth and resultant disparities in opportunities, wealth, and power; ongoing legacies of settler colonialism, oppression, diaspora and marginalization; population and consumption pressures that surpass the Earth’s carrying capacities; top-down governance, privatization, and

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<sup>4</sup> These concepts are variably defined in the literature and in practical usage. For purposes of this dissertation, “nature” is described as more-than-human, non-human, and inhuman, and “culture” as human, to facilitate critical thinking related to how this arbitrary distinction is untenable given their multidimensional confluence.

commodification of natural resources; disregard for territorial rights, land grabbing, and extractive industries; systemic and environmental racism; and climate change injustice. Despite their differential origins and natures, critical place issues assume and promote place as a homogeneous background for human experiences, and degrade the inextricable biocultural links that shape these experiences.

Efforts to reclaim, reinvent, restore, reconcile, regenerate, and re-imagine relationships with place and each other emerge through social movements (Lotz-Sisitka, Wals, Kronid, & McGarry, 2015; Oslender, 2016). Recent examples include the movements of Idle No More in Canada and Standing Rock in Dakota, USA, where communities united to address critical place issues related to colonization, identity, and place relationships. In Latin America, similar movements have asserted the significance of place to communal lives through discourses of “alternatives to development” and “development alternatives” (Escobar, 2011; Gudynas, 2011). These discourses attempt to subvert dominant prescriptions of progress in modern development paradigms by considering how biocultural relationships can support regenerative practices toward sustainable development and well-being (Escobar, 2011; Gudynas, 2011; Oslender, 2016; Piedrahita & Mosquera, 2012). Escobar (2014) suggests that alternative discourses gain traction through social movements when place relationships are acknowledged through both thinking and feeling, with heart and mind—or *sentipensamiento*. This receptivity affords space for diverse ways of becoming in the world. In this way, *sentipensamiento* promotes collective responses to critical place issues based on both dissonance and commonality, to encourage “doing better things differently” (Lotz-Sisitka et al., 2015, p. 73).

Responding to critical place issues thus requires deliberate attention to how we relate with the world around us. Particularly, learning and action are required to collapse the nature/culture dualisms established through critical place issues. This research takes up this focus by asserting that the “/” in “nature/culture” does not denote a division, nor can it be crossed (Ingold, 2000), for it “simply does not exist” (Jones, 2009, p. 22). This promotes understanding of place entanglement, or how biological and cultural relationships shape “the texture of the world” (Ingold, 2008, p. 1807), from which we are inseparable both as co-constituent and composite (Alaimo, 2012). This view conceptualizes places as fluid and rhizomatic, or constantly shifting through evolving relationships between humans and the more-than-human world (Deleuze & Guattari, 1987; Ingold, 2008). Place entanglement thus promotes

consideration of the forces, processes, and movements that continually shape responsive and affective relations between humans and culture—relations that mediate critical place issues.<sup>5</sup>

More specifically, place entanglement emphasizes how the processes of place fold nature and culture together into a meshwork of intricate and fluid relations (Ingold, 2015). Rather than a network that includes discrete actors bound by extensions of similarity, a meshwork instead emphasizes how materials in the world are the result of emergent lines that move through, around, and with diverse actors—weaving social, economic, political, cultural, technological, and cosmological realities (Haraway, 2008; Ingold, 2015). These lines of movement bring attention to the material world and the reciprocal agency that shapes nature-culture relations. Agency, in this sense, infers the inter-active and intra-active, the affective and affected dynamics that are constantly unfolding among human and more-than-human materials (Alaimo, 2012; Barad, 2007). From this perspective of entanglement, narratives of place are reimagined. Rather than focusing on the intersections of pre-existing and disparate natural and cultural objects, the emphasis shifts to consider fluid interpretations of place through ever-evolving inhabitant encounters, practices, and actions with the world (Ingold, 2011). Places are ascribed with significance through sensitivities, emotions, values, and beliefs that are entwined with such diverse experiences.

Place entanglement in this research is conceptualized through a biocultural framework that describes biological and cultural interdependence over time and space (Davidson-Hunt et al., 2012; Maffi & Woodley, 2010; Posey 1999). Co-designed by the United Nations Educational, Scientific, and Cultural Organization (UNESCO) in association with the Convention on Biological Diversity Secretariat (UNESCO-sCBD), the biocultural framework considers human entanglement with biodiversity from the perspective of “biocultural diversity,” and “collective biocultural heritage.” Based on transdisciplinary thinking and practice particular to the conservation social sciences<sup>6</sup> (Bennett et al., 2016), these concepts capture the multitude of

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<sup>5</sup> This dissertation considers how youth understand and experience this dynamic. I recognize that this emphasis does not illuminate entanglement through the reciprocal, “first-person” lens of non-humans. Parallel considerations would lead to a more comprehensive view of the inter- and intra-actions that are engaged in shaping place relations.

<sup>6</sup> With the addition of critical heritage studies, not mentioned in this reference.

relationships that exist and are possible between humans and the more-than-human world. With their focus on interdependent and evolving place relationships, they offer a “domain of knowledge and action to address critical place issues for sustainability” (Terralingua, 2014, p. 4).

To introduce the biocultural framework further, it is important to first posit the conventional definition of biodiversity to show how it has often denied place entanglement, and thus why this dissertation advocates for a more inclusive understanding. In response to growing ecological destruction, the Convention on Biological Diversity (1992) coined “biodiversity” to protect “the variability among living organisms from all sources including inter alia, terrestrial, marine, and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems” (p. 3). Although holistic in theory, the uptake of biodiversity targets has often supported, and been supported by dominant, value-laden, and myopic agendas (Escobar, 1998). Such agendas have globally influenced conservation and development strategies and practices through, for example, a focus on protection, boundaries, and preservation; top-down management and prescriptive strategies; scientific knowledge; economic valuation and ecosystem services (Escobar, 1998). Resultantly, such foci have too often discounted diverse place relationships by separating nature from culture. This dissertation considers growing efforts to change this discourse by (re)emphasizing the importance of diverse place-based connections among biodiversity, culture, land, and territory and integrating these connections in conservation and development planning (CBD, 2008; Escobar, 1998; Mathez-Stiefel, Boillat, & Rist, 2007).

With a focus on place entanglement, this dissertation considers biodiversity not as a stand-alone entity, but rather in the context of “biocultural diversity,” or the interdependence of nature and culture in all of their manifestations—from genetic to species to landscape to ecosystem levels (Cocks, 2006; see also United Nations [UN], 1992). Over the past two decades, qualitative and quantitative research have influenced conservation and sustainable development policy (and its enactment) related to the “inextricable links” cited among biological, cultural, linguistic, and ontological diversity (Cocks, 2006; Mathez-Stiefel, Boillat, & Rist, 2007; Posey, 1999; Pretty et al., 2009). This converge of diversity has been largely ascribed to biogeographical “hotspots,” or areas of overlapping concentration (Loh & Harmon, 2005; Maffi, 2016; see also Pretty et al., 2009). Expanding on this correlation, seven primary areas of interdependence between biological and cultural diversity have been described:

language and linguistic diversity; material culture; local, traditional, and Indigenous knowledge, technology, improvisation, and innovation; modes of subsistence; social and economic relations; belief systems; and values (UNESCO, 2008). These areas signify the many lines of movement that serve to weave cultural entanglements with biodiversity. The evolution of these interdependent relations within particular places is described through the complementary concept of “collective biocultural heritage” (Davidson-Hunt et al., 2012; Gavin et al., 2015; Swiderska & Argumedo, 2006).

Collective biocultural heritage considers how our interdependence with biodiversity is valued over time and generations in relation to particular cultures, communities, societies, and places. It draws attention to how knowledge, values, and practices are inseparable from biodiversity, and how interdependent relationships persist and fluctuate depending on diverse place-based realities (Davidson-Hunt et al., 2012; Escobar, 1998; UNESCO, 2008). Collaborative efforts among Indigenous communities, international agencies, academic researchers, and community partners were instrumental in developing the following conceptual definition of collective biocultural heritage:

Knowledge, innovations, and practices of Indigenous and local communities which are collectively held and inextricably linked to traditional resources and territories, local economies, and the diversity of genes, varieties, species and ecosystems, cultural and spiritual values, and customary laws shaped within the socio-ecological context of communities. (Swiderska, 2006, p. 3)

Collective biocultural heritage thereby promotes understanding of the ways evolving place relationships are shaped through past, present, and future encounters.

This dissertation shares research that focused on youths’ understandings and experiences of collective biocultural heritage in connection with well-being and sustainability. It specifically describes how a methodological orientation of critical place inquiry engaged entangled place concepts and guided the research investigation. Through its explicit and political emphasis on place, critical place inquiry encourages thinking of *how* research processes unfold with place. As such, it aims to be a form of action to address critical place issues that threaten interdependent relations (Tuck & McKenzie, 2015a). To attend to place relations in processes of inquiry, this research was informed by the ancestral contexts of Isla Grande, Colombia. This ensured alignment with community priorities to strengthen the diversity and integrity of place relations. I

drew on the contributions of community-based researchers and collaborated with community consultants, advisors, and participants to shape a participatory and action-oriented approach to critical place inquiry through a Youth Participatory Action Research (YPAR) design.

A YPAR design was chosen for its emphasis on praxis-inspired commitments that involve decolonizing “expert” knowledge to assist local empowerment, transparency, collaboration, and shared decision-making (Fals-Borda, 2006). With these values in mind, I engaged Island youth as co-researchers to investigate the significance of place to their lives in relation to collective biocultural heritage; and how this significance connects with their understandings of sustainability and well-being. To investigate these themes, I introduced methods of photovoice and participatory mapping to engage six community youth in inquiry through their own entanglement with place (Anderson, Adey, & Bevan, 2010). Place was deliberately in the foreground of research processes, guided by the following central question and sub-questions:

1. How do youth understand and experience ancestral place relationships of land and sea?
  - a. How do youth understand biocultural heritage in connection with well-being and sustainability?
  - b. How do youth envision their role in community efforts to address critical place issues?
  - c. How can a critical place inquiry orientation, guided by participatory and action-oriented approaches, support youth voice in community efforts toward sustainable development and self-determination?

These questions aligned with the following primary objectives of the research:

1. To explore youth relationships with place through critical place inquiry by supporting their role as co-researchers through a Youth Participatory Action Research design;
2. To encourage youth-led inquiry *with place* related to their understandings and experiences of well-being and sustainability in ancestral territory places;
3. To assess and mobilize youth perspectives on place significance, based on areas of biocultural interdependence.

These objectives aimed to support youths’ capabilities to investigate and mobilize their biocultural heritage understandings and experiences of ancestral territory places. The remainder of this chapter begins by describing the ancestral contexts of Isla Grande that informed this

research, providing critical insight into how context inspired and aligned with the aforementioned objectives. Elaborating how biocultural heritage was contextualized in this research, the rationale behind this research, and how critical place inquiry was guided in practice through YPAR design and associated methods, follows in this introductory chapter.

Beyond this introduction, four additional chapters expand on the research processes. Chapter 2 details the methodology of research to emphasize the importance of attending to place throughout research processes. Chapter 3 shares the research findings related to well-being, sustainability, and biocultural heritage as well as youths' perspectives based on the aforementioned biocultural framework. Chapter 4 presents an online Story Map that disseminates the research purpose, findings, and implications. Chapter 5 concludes the dissertation with reflection on theoretical contributions, challenges and limitations, research validity, local and broad implications, and recommendations for future research.

## **1.2 Place Contexts: Situating a Critical Place Inquiry Orientation in Colombia**

This research was motivated by the need to examine and support biocultural interdependence in the face of critical place issues in Colombia. A country recognized for its “megadiversity” (CBD, n.d.), Colombia is ranked among the top biologically diverse and biocultural-rich areas in the world, but faces imminent threats to this abundance (Loh & Harmon, 2005; Terralingua, 2004). Increasingly, government-designated protected areas are designed to mitigate decline (CBD, 2011; Miranda, n.d.).

In Colombia and beyond, terrestrial and marine protected areas are increasingly acknowledged as nature-based solutions, essential to addressing critical place issues (International Union for Conservation of Nature [IUCN], 2016). They are established not only for conserving the biodiversity of nature, but also for human culture and well-being that are directly or indirectly dependent on it (CBD, 2008). Despite their many benefits, however, protected areas are not without challenges in efficacy in the face of conflicting politics and worldviews (Mora & Sale, 2011). Their ability to address diverse needs and interests in collaboration with communities living alongside them can be an issue (Borrini-Feyerabend et al., 2013). This is particularly the case when protected area boundaries are imposed (i.e., rather than community-conserved or co-managed) and when these boundaries deny inhabitants' lived experiences for the sake of protection. In such cases, government interests tend to infringe upon local resource-use, practices, belief systems, and values, thereby spurring acts of resistance

(Harmon, 2007). These acts of resistance may either exacerbate threats to diversity and integrity, or provide opportunity to transform place relationships in sustainable ways. This research concerns the latter, whereby ongoing community efforts toward sustainable development and self-determination in Isla Grande, Colombia, aim to re-imagine place relationships based on biocultural interdependence in the context of a marine protected area (MPA).

**1.2.1 Local protected area context.** A small island (roughly 2.277 km<sup>2</sup>) in the Caribbean Sea, Isla Grande lies within the buffer zone of one of Colombia's largest marine National Parks—the Corales del Rosario and San Bernardo National Natural Park the (CRSB-NNP).<sup>7</sup> A Marine Protected Area (MPA) known as Corales del Rosario, San Bernardo & Isla Fuerte MPA (CRSBIF MPA), further encompasses the Park<sup>8</sup> (see Figures 1.2.1 and 1.2.2). As a whole, the government-designated area is conceptualized to safeguard marine habitats, natural resources, cultural values, and sustainable resource use within the archipelago (Botero, 2005). In practice, however, pervasive and polarizing critical place issues related to balancing the rights of both nature and culture, prevail (Botero, 2005; Durán Bernal, 2009; Maldonado & Moreno-Sanchez, 2007; Ramirez, 2016). This is particularly relevant for Indigenous inhabitants whose place relationships long precede protected area designation, as well as later inhabitants living in and around the area such as Afro-Colombians and *mestizo* [mixed-race] peasant communities.

Predominant critical place issues in the region include boundary establishment, community marginalization, and disregard for territorial rights; limited institutional capacity and funding; decentralization; restricted or inefficient coordination; top-down approaches and disjointed policies; lack of management plans; neoliberal environmental protection and biodiversity conservation discourses; the commodification of nature and local communities for tourism, combined with private concessions; social capital impediments such as market pressures, and biotechnology industry interests; resource competition; corrupt management and

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<sup>7</sup> The CRSB-NNP is designated under protected area category II of the IUCN, “To protect natural biodiversity along with its underlying ecological structure and supporting environmental processes, and to promote education and recreation” (IUCN, 2012, p. 2).

<sup>8</sup> The CRSBIF MPA is designated under protected area category VI of the IUCN, “To protect natural ecosystems and use natural resources sustainably, when conservation and sustainable use can be mutually beneficial” (IUCN, 2012, p. 3).

unmonitored development; internal violence; as well as illegal activities such as fishing and drug-trafficking (Durán Bernal, 2007; Lopez-Angarita, Moreno-Sanchez, Maldonado, & Sanchez, 2014; Nemogá, 2014; Ramirez, 2016). The overarching challenge is constraint on fluid relationships with place, including expressions of collective biocultural heritage and endogenous development practices.<sup>9</sup> This constraint results from hierarchical structures of governance and nested ecologies of power and interest that value particular worldviews over others (Botero, 2005; Durán Bernal, 2009).

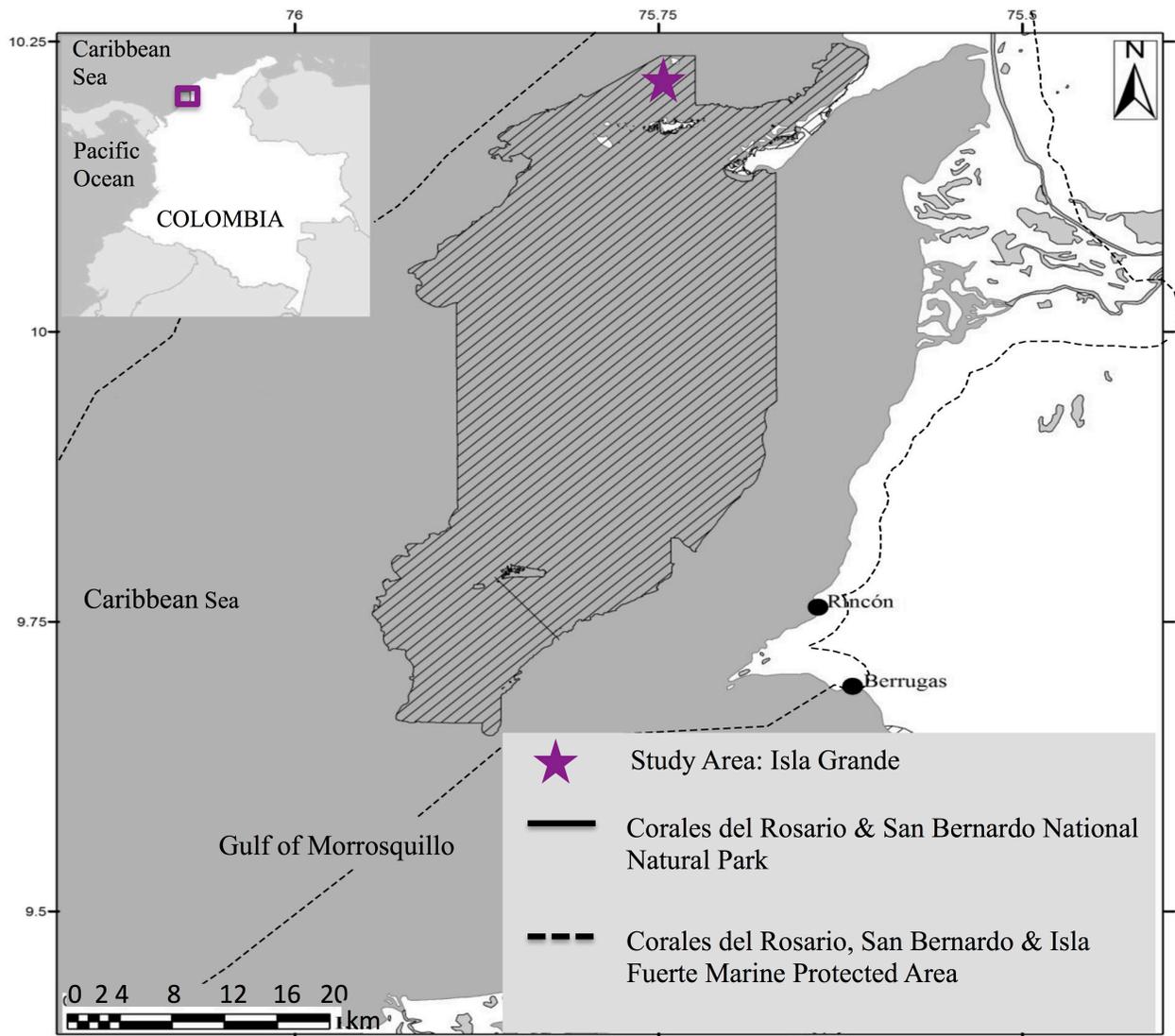
Since the Park's inception, national policies and laws have emerged to address the need for social participation and institutional collaboration (Botero, 2005; CBD, 2011; Durán Bernal, 2009; Ministry of Environment and Special Administrative Unit of National Natural Parks [MMA-UAESPNN], 2001; Ramirez, 2016). In some regions, such efforts have been influential, helping to improve multi-stakeholder relationships; begin processes of consultation and partnership building related to place dependence and significance; increase cultural sensitivity; and initiate environmental education and awareness programs (Durán Bernal, 2007; Ramirez, 2016).

Although these efforts are encouraging, place relationships of many local ethnic minority communities—predominantly Afro-descendent—continue to be under-represented (Durán Bernal, 2009). This lack of recognition has fuelled social movements among communities living in the region and beyond to defend biocultural place relationships and promote involvement in decisions that affect their lives (Escobar, 1998; 2014). Isla Grande, the largest Afro Colombian community within the Park's buffer zone and the research site of this dissertation, is one such community that has spearheaded transitional efforts to assert their biocultural heritage and rights in their ancestral territories.

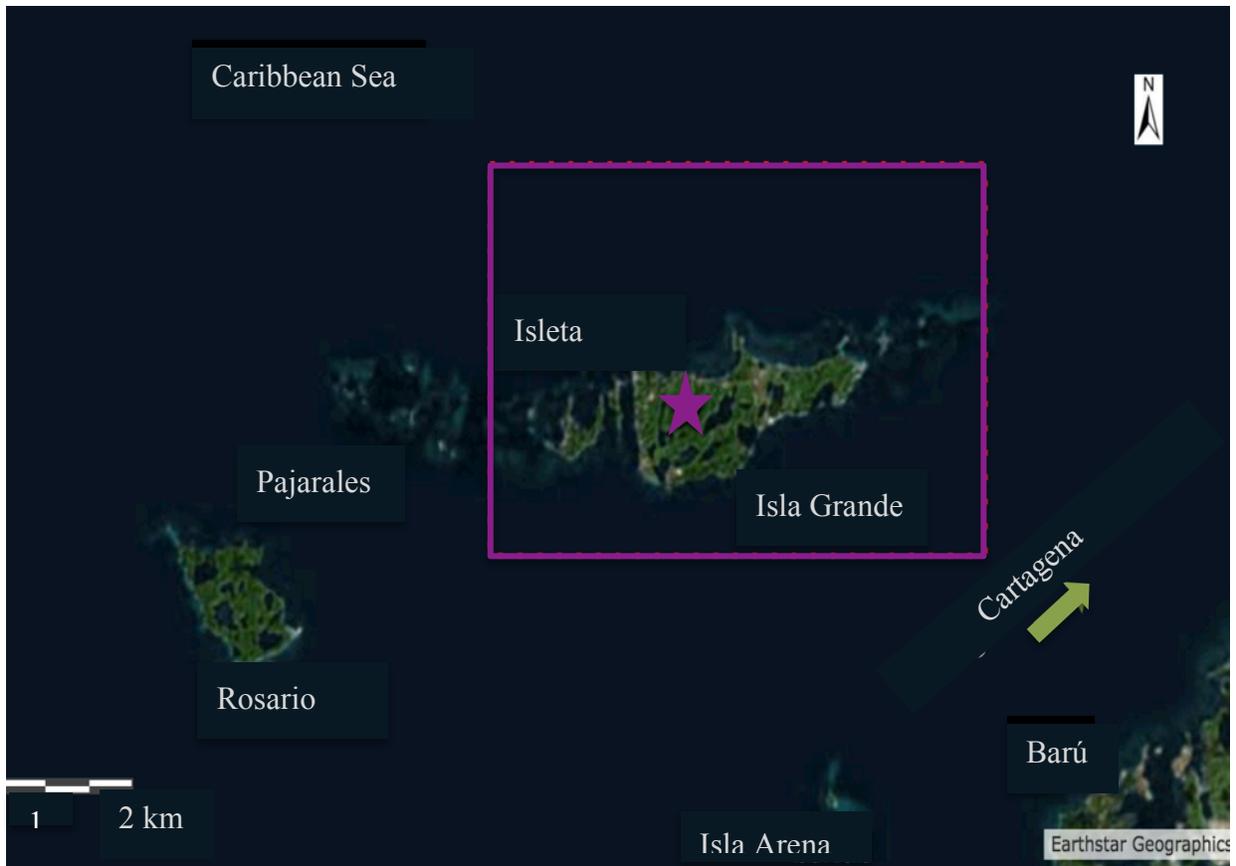
**1.2.2 Local community context: Isla Grande.** Isla Grande's current population of approximately 1000 people has continuously shaped, and been shaped by, its relations with the surrounding coral reef, mangrove seascapes, internal lagoon, and dry forest landscapes.

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<sup>9</sup> Endogenous development refers to: “a) self-diagnosis of issues by the community, b) long term commitment to solutions, c) integral and holistic approaches, and d) local knowledge leading to local answers” (IUCN, 2010, p. 19).



*Figure 1.2.1. Map of site community in context of National Park and Marine Protected Area. This map shows Isla Grande (top center). The solid line represents the Corales del Rosario and San Bernardo National Natural Park (CRSB-NNP) and the dashed line indicates the Marine Protected Area (MPA) known as the Corales del Rosario, San Bernardo & Isla Fuerte MPA (CRSBIF MPA). Reprinted from *Marine protected areas in Colombia: Advances in conservation and barriers for effective governance*, by L. F. Ramirez, 2016, *Ocean & Coastal Management*, 125, 49–62. Adapted with permission by author.*



*Figure 1.2.2.* Scaled map of site community: Isla Grande. Red star indicates the small town of Orika, Isla Grande. Surrounding area depicts proximate Rosario Islands Archipelago.

Consequently, over generations, relationships with place have evolved through the community’s knowledge, improvisations, innovations, and practices that are intimately linked with territory, biological diversity, cultural and spiritual values—or their collective biocultural heritage (Davidson-Hunt et al., 2012). Place is thus a testament of the community’s history, present-day lives, and future.

Importantly, this does not suggest that biocultural relations have always been harmonious and sustainable in the Island community, or that diverse worldviews are inconsequential. On the contrary, the community’s heritage does not denote a model of static relations. Instead, their heritage involves an evolving process through which relationships with place reflect the ways tradition has married with modernity over time, for better or worse (Cocks, 2006). This acknowledges the myriad ways that people co-inhabit place with the more-than-human world.

Through this diversity, opportunities arise to (re)imagine what it means to live well and sustainably (Buizer, Elands, & Vierikko, 2016; Glăveanu & Sierra, 2015; Lotz-Sisitka et al., 2015; Wals & Heymann, 2004). In the Isla Grande community, dissonance arising from the protected area context and shifting cultural values have spurred efforts to re-articulate place significance, promote biocultural rights, and co-govern ancestral territories in ways that are determined by the community members themselves.

In 2001, the Isla Grande community members began efforts toward self-determination, and in 2006 they appealed to the legal precedence of a national law that supports a pluriethnic society through the political recognition of ethnic minorities (i.e., Political Constitution of 1991 and the Law 70/1993) (Durán Bernal, 2007; Escobar, 1998). Specifically, this Law protects culture and ancestral territory rights in conservation and sustainable development practices (Durán Bernal, 2007). Law 70 was instrumental in legitimizing the growing social movement to recognize Afro-Colombian identity and place relationships across Colombia.<sup>10</sup> In Isla Grande, efforts to uphold Law 70 were a means to challenge dualistic and bounded place constructs established through the CRSB-NNP designation, and thus to promote culturally- and experientially-driven knowledge, strategies, and priorities. Moreover, community efforts asserted biocultural interdependence and the diverse ways place is understood and experienced—even among Islanders themselves.

**1.2.3 Local community transitions and research alignment.** To date, following a 17-year movement to defend its territorial places, Isla Grande's efforts toward sustainable development and self-determination have resulted in a precedential landmark title of Collective Land Tenure that legally acknowledges rights (not ownership) over terrestrial Island places. Under this title, five fundamental community rights prevail: the right to ethnic and cultural identity, the right to territory, the right to autonomy, the right to participation, and the right to their own development. Importantly, this accomplishment holds government authorities and Isla Grande community members accountable for their active participation in sustainable

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<sup>10</sup> The Isla Grande community's efforts toward self-determination are part of a larger social movement in the country to defend Afro Colombian identity and place relationships (see Escobar, 2008, for a more extensive overview).

development agendas in their territories. Although only terrestrial lands are currently titled, recognizing marine and coastal ancestral territory is a future step to promote interdependent place relationships even further.

The social movement in Isla Grande continues to uphold accountability, support further processes of transformational learning, and actualize community rights that incorporate intergenerational perspectives in sustainable development agendas and processes. In particular, community efforts have resulted in a *Plan de Vida* [life plan<sup>11</sup>]*—*an emergent document that collates, projects, and mobilizes present and future place imaginaries toward sustainability, well-being, and significant biocultural relations (M. Zethelius & E. de la Rosa, personal communication, November 23, 2016; Plan de Vida, 2014). The *Plan*'s formulation and enactment demonstrate commitment to sustainable development and self-determination whereby the whole community has the right to respond to critical place issues in ways that respect their ancestral territory place relationships.

The relevance and effectiveness of such efforts can be further supported through research orientations that value the community's movement to defend place relationships (Tuck & McKenzie, 2015a). This research has thus been designed through community-consultation to align with community efforts to date and support place-based realities. The research focus is to meaningfully engage with place through critical and reflexive understandings of, and experiences with, collective biocultural heritage, sustainability, and well-being from the perspective of community youth.

### **1.3 Research Concept Elaboration: Biocultural Heritage and Research Site Context**

To avoid static and traditional connotations of collective biocultural heritage, the concept's interpretation, relevance, and applicability to the research site community, follows. "Collective biocultural heritage" is an assemblage of four separate, but aligning concepts: *collective*, *bio*, *cultural* and *heritage*. How I interpret their significance provides context for the holistic uptake in this dissertation. Starting from the middle, *bio* signifies formative and adaptive biological entities and processes that influence, and are influenced by culture (Frost, 2016). *Culture* in turn, refers to the patterns and growth of interdependence among humans and non-

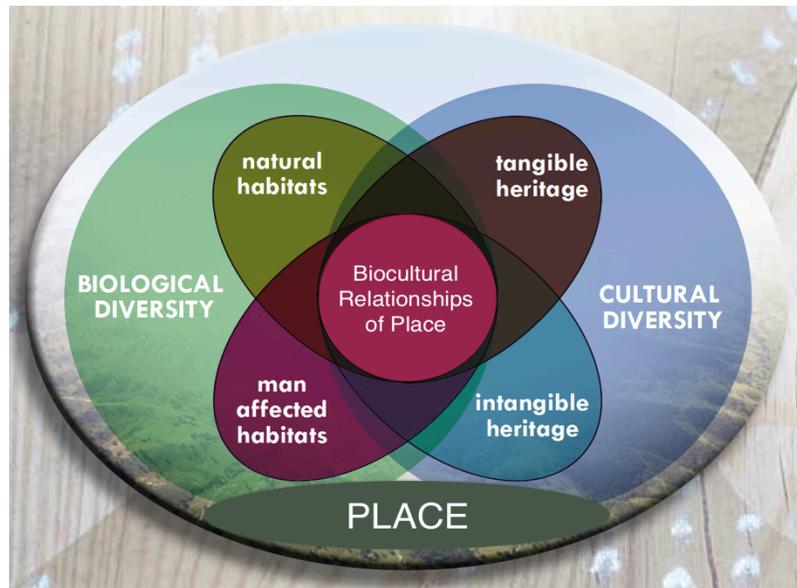
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<sup>11</sup> Also known as "ethno-development plans" in non-Indigenous contexts.

humans (e.g., biological, material, technological, political, economic). This interdependence shapes, and is shaped by past, present, and future relations within local and global contexts (Harvey, 2015; Ingold & Palsson, 2013). Culture thus embraces traditional, modern, and post-modern processes of becoming to holistically reflect evolving relationships, sensitivities, solidarities, and responsibilities (Cocks, 2006; Coombe & Weiss, 2015). In this way, culture is an expression of the knowledge and experiences of co-inhabitants in connection with place.

From this perspective, I understand *collective* to be the interdependence among humans and non-humans that creates a plurality of ways to become with place. This understanding extends consideration of collective well-being and what it means to live sustainably in fluid relationships with the more-than-human world (Escobar, 2011). Collective understandings thus promote consideration of agency, or the affective and affected relationships that are experienced by humans and non-humans, to create or deny a “world where many worlds fit” (Escobar, 2011, p. xxviii). Collective thus infers adaptive and transformative potential. When combined with the concept of *heritage*, we more fully embrace how transformation is possible through persistence and change. To elaborate, heritage is understood as a means of “passing down,” “taking up,” “going through,” and “being part of” (Harvey, 2013). It thus considers how interdependent relations retain or shift in relevance across generations, and what this fluidity means for the integrity and diversity of place relationships across time and space.

Through this perspective, I do not consider the assemblage of “collective biocultural heritage” as restricted to traditional, Indigenous, or local communities, but instead as extending to semi-urban, urban, regional, national, and broad societal contexts. Hence, I do not understand the term solely in reference to biogeographical “hotspots,” or to be static in time, but rather in terms of its reach across different co-inhabited environments (see Figure 1.3.1). Moreover, it is not limited to the “traditional” knowledge and values of older generations, but rather incorporates the shifting and evolving nature of knowledge and values across generations. Importantly, collective biocultural heritage does not prioritize the affective influences and rights of humans, but the reciprocal extensions to non-humans. In these ways, collective biocultural heritage describes lines of entanglement through which “becoming in life and place combine to bind time and beings into generations of continuities that work collaboratively to keep the past alive in the present and for the future” (Harrison, 2015, p. 27).



*Figure 1.3.1. Biocultural relationships of place: The interdependence of biological and cultural diversity that shape, and are shaped by collective biocultural heritage. Reprinted from *Linking biological and cultural diversity: UNESCO-sCBD Programme*, by UNESCO-sCBD, 2014. Adapted with permission by UNESCO.*

As a whole, collective biocultural heritage affords many entry points to understand how critical place issues (and associated dominant paradigms) influence interdependent relations with place. By drawing on its holistic conceptualization, community social movements can be guided to (re)imagine place. For example, the concept can help movements to articulate and represent evolving biocultural relationships, well-being and sustainability. Such articulation informs collective responses to critical place issues (Cocks, 2010; Harrison, 2015). In this research, a biocultural framework was selected for this guiding potential. Furthermore, the framework importantly aligns with current efforts in the site community, regional agendas, and national foci, providing rationale for its uptake.

#### **1.4 Rationale for Research**

The rationale for this research stems from both political and methodological standpoints. Politically speaking, the CRSB-NNP, surrounding MPA, and Isla Grande community face critical place issues that have led to discordant relations with place, as cited by Nemogá (2014):

“Recognition for the role of Indigenous and local communities in biodiversity conservation tends to be dissociated from the recognition of their rights over biodiversity and associated knowledge” (p. 104). Although the community’s efforts recently achieved due legal recognition, efforts continue to uphold the country’s signatory obligations, laws, and agreements pertaining to the rights and participation of local and ethnic communities in processes of development and the conservation of biological and cultural diversity (Botero, 2005; Durán Bernal, 2009; MMA-UAESPNN, 2001; Nemogá, 2016; Ramirez, 2016). This research contributes a means to support these efforts through a framework of collective biocultural heritage.

This research is aligned with a growing local and regional movement in Colombia to promote biocultural heritage in development processes (Territorial Development with Cultural Identity Program and Latin American Centre for Rural Development [DT-IC/RIMISP], 2016). This movement means recognizing diverse ways of becoming with place and supporting transformative potential articulated by communities towards sustainable development trajectories. This promotion is particularly salient given Colombia’s recent milestone of a bilateral peace agreement and opportunity to reconcile place relationships following nearly 70 years of political unrest (UN, 2016b). To support current transitions, the existing groundwork for biocultural approaches can benefit from further attention in research and practice from intergenerational perspectives (DT-IC/RIMISP, 2016). This focus is taken up in this research, with an emphasis on engaging youth understandings and experiences related to the significance of place to their lives.

By engaging youth, this research also supports international policies and agendas that prioritize their voices in sustainable development and conservation processes. For example, the CBD (2008) stresses that with half of the world’s population now under the age of 25, it is this generation’s perspectives of parks, refuges, and other protected areas that will define the future of these places. Furthermore, during the IUCN World Conservation Congress in 2014, of the eight Congress themes, one was specifically dedicated to “connect a new generation to nature and ensure new leadership and engagement of young people in support of intergenerational partnerships for parks, people, and planet” (IUCN, 2014, para. 1).

Through the political alignment of this research, a concomitant need arises in terms of methodological approach, namely that: “Conceptual and methodological aspects of how to study

the interactions between biological and cultural diversity as well as the concrete ways of applying the myriad expressions and outcomes of such [relations] need further elucidation” (UNESCO, 2008, p. 10). Compounding this need, recent critique of social science studies suggests that research focused on place often fails to recognize place in methodological design and practice (Tuck & McKenzie, 2015a). Thus, ironically (and fortuitously), this latter critique paves a way forward to address the former. By promoting a methodological approach that attends to place both explicitly and politically in design and practice, diverse biocultural relations can be acknowledged and supported. My research focuses on this potential through consideration of biocultural entanglement in concept and practice.

### **1.5 Research Approach and Design: Youth Participatory Action Research**

In efforts to attend meaningfully to place, critical place inquiry orientations may correspond with methodological approaches that are participatory, action-oriented, youth-focused, and community-minded (Tuck & McKenzie, 2015a). These objectives aligned with local contexts, discerned through consultation related to the community’s sustainable development goals and priorities. Objectives were prioritized in this research through a Youth Participatory Action Research (YPAR) design, with an ongoing community consultation focus.

Although YPAR designs may vary in terms of shape and form, at their core they attempt to undertake research with youth to address concerns of injustice that impact their lives (Torre, Fine, Stoudt, & Fox, 2012). Considering its efficacy to respond to critical place issues relevant to the lives of youth, and their co-participation in the research process, YPAR can encourage youth leadership, capabilities, and voice in community settings. Through cyclical processes of dialogue and action, greater awareness is placed on how youth engage with place to promote empowerment toward change (Fals-Borda, 2006). The challenge, as noted by Fals-Borda (2006), is to engage YPAR in a way that supports community efforts toward sustainable development and self-determination, by “understanding and valuing the complexities of societies, as regards to their oral links, particular characteristics, present situation and spontaneous nature” (p. 357). By meaningfully considering how place is explicitly and politically engaged through a YPAR design, and specifically how youth co-researchers understand and experience collective biocultural heritage, this research attends to this “creative challenge” of methodology (Fals-Borda, 2006, p. 357).

In this research, six youth in Isla Grande were engaged in YPAR as co-researchers to investigate their understandings and experiences of ancestral place relationships of land and sea. Designed as an adult-youth partnership, the YPAR research design was highly flexible to shift power dynamics between youth and myself as facilitator/lead-researcher, and to invite collaboration throughout the process. Thus, youth co-researchers had opportunity to determine their degree of participation, the research schedule, timeline, and meeting spaces. Beyond this, they were also encouraged to shape the research to their interests, including the aims, guiding questions, method application, initial analysis, and community-based dissemination efforts. My intention was to promote research *with* youth instead of *on* youth—a critical distinction in YPAR processes (Torre & Fine, 2006). Youth participation was defined in the following way to align with youth co-researcher promotions: “Young adults partaking in and influencing processes, decisions, and activities in the community and in research on the community” (Watter, Fanous, & Berliner, 2012, p. 187). Engaging participation involved an iterative learning and action process whereby youth co-researchers traced their own lines of movement through walking, biking, swimming, and free diving in their ancestral territories of land and sea.

YPAR design was complemented by training youth in emplaced methods of photovoice and participatory mapping to capture place significance to their lives. Emplacement refers to how methods promoted the “dual context of research in that it is both the place we [co]-inhabit, and the place we investigate” (Pink, 2008, p. 3). YPAR and emplaced methods in this research aimed to illuminate primary research questions, namely: (a) how youth co-researchers understand biocultural heritage in connection with well-being and sustainability, (b) how they envision their role in community efforts to address critical place issues, and (c) how the selected research orientation and approach can support their voice in community efforts toward sustainable development and self-determination.

### **1.6 Research Advisory Team, Co-Researcher Recruitment, and Research Sessions**

The participatory and action-oriented methodological approach, YPAR design, methods selection, and associated ethical considerations were pre-conceptualized in a research proposal necessitated by PhD candidature responsibilities. Importantly, it was drafted through pre-field collaboration with a community consultant in May 2014, ten months prior to field research. The consultant acted as a “cultural facilitator” throughout initial and ongoing research process. In

this role she was a gatekeeper, assisting virtual and in-person communication and trust-building processes between the community and myself. She further contextualized community-planning processes to ensure the research proposal, objectives, approach, and design aligned with the site community's sustainable development efforts and priorities. Through early collaboration with the consultant, consent for the aligning research proposal was given by a Communitarian Council representative prior to field research (see Appendix E).

During field research I also worked closely with a Spanish-speaking, Colombian translator. Beyond language exchange, she also acted as a second “cultural facilitator,” encouraging local community member and youth acceptance of, and participation in the research. She further facilitated ongoing communication between Council and advisory members, participants, and myself.<sup>12</sup> The translator was selected for her personal connection with the community, interest in working with youth co-researchers, and knowledge of the *Plan de Vida*. Our first in-person meeting with the community involved sharing the research proposal with the Communitarian Council to explain its alignment and invite feedback and re-articulations.

Following the Council's input, continued contextualization of methodological approach and design evolved throughout research phases. Contextualization was particularly aided through the formation of a local research advisory team with one of each of the following representatives: youth, parent, elder, schoolteacher, Council representative, and community consultant. A first meeting solidified their role: Namely, to ensure contextually appropriate research approach and provide team support during the research. Periodic research advisory team meetings provided invaluable insight on participant invitations to research, selection processes, attendance, engagement, method contextualization, and research honorarium.

**1.6.1 Participant recruitment.** Based on research advisory team consultation, an open call for youth co-researchers was initiated through advertisement on community message boards. Moreover, the research advisory team recommended written applications to participate to ensure equal opportunity for Island youth (see Appendix F). Applications were left in each message board location, with reference made to a drop off location and deadline for submission.

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<sup>12</sup> In the occasional absence of the primary translator, two additional Spanish-speaking, Colombian translators were recruited for their familiarity with the research.

Additionally, the advisory team suggested door-to-door invitations to all family residences with youth from 18–24 years of age.<sup>13</sup> This recommendation was based on the need to generate enthusiasm for the opportunity through personal invitations, to hand deliver application forms, and to inform family members of the opportunity. Acting on this recommendation, the research translator and myself visited all residences on the Island with youth aged 18–24. The research advisory team reviewed submitted applications.

Eighteen applicants were invited to attend an introductory meeting of the research intent. Letters outlining research information and consent forms were issued (see Appendices G, H, and I) and a second meeting was scheduled three days later to confirm interest. Thirteen youth attended the second meeting, however eight withdrew within two weeks of commencing. The remaining five (three self-identified males and two females) were founding members of the co-researcher team, dedicating their participation over the research study’s four-month duration. They called themselves “*Nuevas Voces*” [New Voices].

The youth team exhibited diverse skills, knowledge, and experience. Of the male youth, one worked part time with National Parks; a second was a fisherman, part-time eco-guide, and co-owner of an eco-camping enterprise; and a third worked regularly in the hospitality industry. Of the female youth, one was a mother, an occasional hospitality employee, and property caretaker; and a second was a part-time student and occasional hospitality employee. Two additional youth co-researchers (both self-identified males) participated for shorter periods of time. One was a hospitality staff member who attended initial meetings but was unable to participate to study completion. The second joined following initial sessions, motivated by

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<sup>13</sup> UNESCO (2017) suggests “youth” is “best understood as a period of transition from the dependence of childhood to adulthood’s independence and awareness of our interdependence as members of a community” (para 1). This fluidity captures entanglement with place across time. However, to facilitate participant selection in this study, youth transitions were defined based on the following UN fora assertions: The United Nations World Programme of Action for Youth (UN WPAY, 2010) defines youth as the age cohort 15–24, while the UN Convention on the Rights of the Child describes a child to be under the age of 18 (UN, 2016a). An age cohort of 18–24 defines *youth* in this dissertation.

personal interest. Although older than the study's age bracket, the 27-year-old eco-guide was welcomed by founding co-researchers, becoming an official sixth youth member of *Nuevas Voces*.

**1.6.2 Research timeline and sessions.** Two research phases were initially planned over a four month period: (a) March–July 2015 to initiate the participatory approach, relationship building, community consultation, participant invitations, and, (depending on youths' interests), collaborative development and implementation of data collection; and (b) November–December 2015 to afford time for follow up consultation and support for youth action arising through the research. Two emergent phases arose in April and November 2016 involving a further opportunity to support youth action and opportunity for follow up on data analysis.

During the first planned research phase (April–July 2016), research sessions were proposed over eight weeks, deemed reasonable by youth co-researchers in terms of time and commitment. The youth chose two, two-hour sessions per week, for eight weeks: one session dedicated to experiential activities and training with independent time between sessions for data collection; and a second session dedicated to reflexive group dialogue on collected data and the research process. Following two weeks, the team amended this schedule to one four-hour session per week that facilitated complementary content (i.e., experiential activities, primary methods training, application, and reflection) and a shared meal. In total, 15 sessions were completed.

## **1.7 Research Methods**

I used emplaced research methods for their potential to foster cyclical processes of critical inquiry, reflexive dialogue, and action related to critical place issues significant to youth co-researchers. Facilitated methods included a series of introductory experiential activities alongside two primary methods. The purpose of the introductory activities was to frame research sessions and build youth co-researchers' capabilities to investigate places significant to their lives. The primary methods involved photovoice and participatory mapping, both aimed to elaborate inquiry on main research themes of well-being, sustainability, and biocultural heritage (see Appendix A). Given the participatory nature of this research, how these methods were introduced, proposed, and accepted by youth co-researchers will now be briefly elaborated.

During the introductory meeting with all interested youth applicants, primary research

methods and main research themes were described to give youth time to reflect on their interest, their suggestions, and the consent process. Following the formation of the youth co-researcher team, *Nuevas Voces*, further discussions invited youth feedback on the proposed research activities, methods, themes, and timeline. Youth co-researchers had opportunity to share their reasons for participating, consider how the proposed research aligned with their interests, and offer re-articulations to the research proposal. All youth expressed interest in the research and were particularly keen to learn photography skills and the mapping application. Furthermore, youth expressed relevance of the research themes to their lives from the perspective of community planning and professional development. In a later section on research design, I describe youths' ongoing input on methodological process. In what follows I discuss the selected introductory experiential activities and primary methods in more detail.

**1.7.1 Informal experiential activities.** Informal experiential activities were interspersed throughout research sessions to provide creative opportunities for youth engagement in research. Activities were designed to support research design, theme orientations, and primary methods training. I designed the informal experiential activities based on my former experience in youth facilitation, engagement, and social justice education. I also drew on the work of visual methodology researchers such as Rose (2016) and Pink (2008), as well as sustainability-related learning resources provided by Gaia Education (2012), UNICEF (n.d.), and UNESCO (2010). Introductory activities involved research slideshows, mind-maps of community places, photo collages of well-being, card sorting of community right and wants, definitions of sustainability, mural drawings of biocultural diversity, training in photovoice methods through scavenger hunts, opinion polls on youth participation in community efforts, and connecting place relations across the research. As a whole, these activities served to

- engage youth co-researcher opinions on participatory design;
- build their capabilities as co-researchers by focusing on critical thinking, inquiry, and reflection skills;
- provide training on primary methods of photovoice and participatory mapping skills, equipment, and techniques;
- orient youth perspectives on main research themes; and
- propose and select research questions targeted through photovoice and mapping

methods.

Each research session began with an overview whereby experiential activities were described. In each case, youth were given opportunity to provide input and choose to participate.

**1.7.2 Photovoice.** Photovoice was proposed as a method to engage youths' interest to investigate place through a camera's lens. Three primary goals underpin a photovoice approach: (a) to enable individuals and groups to document and reflect on their personal experiences, knowledge and perspectives concerning a given research theme; to work with this knowledge to explore opportunities to improve their lives; to shift the research power to participants; (b) to encourage participants to act to address identified challenges; (c) to share meaningful, visual representations of community voices with decision- and policy-makers to create a supportive environment for change (Wang, 2006). Photovoice has been particularly useful in revealing ecological, social, economic, and political realities (Bennett & Dearden, 2013; Kerstetter & Bricker, 2009; McRuer, 2012). It is commonly used to identify and critique community challenges and strengths to promote social action and explore possibilities for change (Wang & Burris, 1997).

In this research, youth engaged in photovoice beginning with initial training in the use of Panasonic underwater cameras, photography tips and skills, as well as the importance of obtaining third party consent, should they take photos of others outside of the co-researcher team (see Appendix B). They were then presented with four questions of inquiry and asked for their input and interest. They chose to investigate the following guiding questions:

1. What does well-being [i.e., *buen vivir*] mean to you in relation to your ancestral territory places?
2. What does sustainability mean to you in relation to your ancestral territory places?
3. What does culture mean to you in relation to your ancestral territory places?
4. What are your significant place relationships with/of the sea?

Each question guided a research session. Questions 1–3 involved youth co-researcher pairs walking or biking through their ancestral territory places, taking photos to represent their perspectives. Question 4 involved the whole co-researcher team swimming and free diving in marine ancestral territory places to capture photos of place relations. Each session involved a cyclical process of photography followed by group dialogue to discern image significance (see

Appendix C), particularly in reference to co-researchers' biocultural relationships.<sup>14</sup>

**1.7.3 Participatory mapping.** Participatory mapping was proposed as a means to depict place relationships by digitally recording youths' local knowledge in the form of maps, photographs, audio recording, video, murals, and text (Caquard et al., 2009; Krygier, 2002; Shiffer, 2002). Although processes of participatory mapping are variable, the following four commitments are promoted: (a) the involvement and collaboration of local peoples, (b) the co-determination of goals and motives, (c) the production of maps that represent local people's spatial knowledge, and (d) the role of participants as co-researchers. Related to biocultural heritage and place-based relationships, participatory mapping has been used to reflect bioregional and landscape values for conservation (Brown & Weber, 2012); local environmental governance and community-based conservation (Gilmore & Young, 2012); as well as cultural and biological dynamics of National Park and buffer zone resources (Palomo, Martín-López, Potschin, Haines-Young, & Montes, 2013).

In this research, participatory mapping involved the use of ASUS transformer tablets equipped with an application selected to complement photovoice methods, be used offline, and provide a customizable interface and legend.<sup>15</sup> The latter ensured youth co-researchers could amend the predetermined mapping categories if they felt categories did not reflect their relationships with their Island places (see Figure 1.7.3.1). Following community consultation and opportunity for youth co-researchers' input, finalized categories included: ecosystems, biodiversity, culture, sustainable development, and innovation (see Appendix D). These categories loosely aligned with areas of biocultural interdependence described through the UNESCO-sCBD (2014) framework, and aimed to support group dialogue related to well-being, sustainability, and collective biocultural heritage.

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<sup>14</sup> A guiding question did not specifically target "biocultural relationships." As a laden term not universally understood across contexts, cultures, and generations (Adams, 2004; UNESCO, 2008), the intention was to explore biocultural relationships through probing questions during group reflection sessions.

<sup>15</sup> Developed by Arizona State University researchers and sponsored by the US National Science Foundation and National Institute of Health.



*Figure 1.7.3.1.* Participatory mapping tablet application. An example of the mapping interface and legend categories (i.e., mangroves, dry forest, corals, lagoons).

## 1.8 Research Ethics

YPAR methodology is rooted in ethical commitments on behalf of the researcher, including the need to practice an ethics of care and precautionary principles throughout research processes (Manzo & Brightbill, 2007). Cahill, Sultana, and Pain (2007) have written at length about the ethics, practices, and institutional considerations of participatory research. They cite that, “The epistemological approach of participatory research has profound implications for rethinking our ethical commitments, and raises a series of critical questions” (p. 305). This research aimed to attend to this critical consciousness in concept, orientation, approach, practice, and dissemination. Practicing an ethics of care, this research ensured free, prior, and informed consent on behalf of the Communitarian Council and youth co-researchers. The University of Saskatchewan Behavioural Research Ethics Board granted approval and ethical guidelines of the Social Sciences and Humanities Research Council of Canada were strictly followed.

## 1.9 Organization of Dissertation

How critical place inquiry was guided through a participatory and action-oriented approach to understand biocultural relationships of place will be shared in this, “dissertation by manuscript” format. This format adheres to the parameters set by the College of Graduate and Postdoctoral Studies (CGPS) at the University of Saskatchewan. The following amendment to the traditional format was proposed and accepted by CGPS: an online composition substitutes

one written manuscript. Thus, this dissertation consists of the following five components: an introduction (Chapter 1) and a discussion (Chapter 5) which bookend two publishable manuscripts (Chapters 2 and 3) alongside an online Story Map (Chapter 4). For each chapter, I led the conceptualization, academic data analysis, and manuscript writing processes.

Chapter 2 describes the ways the study's concept, orientation, approach, design, and practice aimed to attend explicitly and politically to place in processes of inquiry. Written for an academic and practitioner audience, it particularly discusses critical place inquiry as a means to emphasize entangled place relationships—or the links between biological and cultural diversity in connection with well-being and sustainability. It further illustrates how six youth were engaged as co-researchers in critical place inquiry through a YPAR design and employed methods of photovoice and participatory mapping. The challenges and limitations to the research approach are presented in terms of the place-bound and place-making influences of research.

Chapter 3 shares the research findings based on inductive analysis to identify youths' perspectives on well-being, sustainability, and biocultural relationships. It further introduces a framework of biocultural interdependence developed by UNESCO-sCBD that will synthesize findings to describe their place relationships with depth and richness. The significance of their perspectives related to the evolving nature of collective biocultural heritage is discussed.

Chapter 4 complements the written components of this dissertation. An interactive composition shares the research journey through a Story Map platform designed by the Environmental Systems Research Institute (Esri). The story unfolds through the visual and textual presentation of youth-collected data. Designed in English and Spanish, the composition begins with an abstract to overview the Story's purpose. The place contexts of Isla Grande are next introduced followed by how the research processes aligned with community priorities. The main research themes of well-being, sustainability, and collective biocultural heritage are presented next. It further reflects on youths' perspectives of community change, their role in community efforts, and the community action project they initiated to address a critical place issue of concern to their lives. The Story sums up by citing local and protected area implications.

Chapter 5 concludes this dissertation by sharing reflections on contributions to the

literature; challenges and limitations related to research design and validity; research implications for site community policy and practice; as well as broader significance and implications for protected areas. It draws the dissertation to a close in the way of a new beginning, with recommendations for future research.

## **PLACE MARKER**

The next chapter explores the methodological enactment of this dissertation and its attempt to attend to place through research concept, orientation, approach, design, and practice. Critical place inquiry is discussed as the guiding orientation to investigate the significance of place to youths' lives. How research inquiry was invited and informed by contexts specific to the site community of Isla Grande, Colombia are described. This context aligns research objectives with community efforts toward sustainable development and self-determination. This chapter describes how the research study's participatory and action-oriented approach to inquiry was selected to investigate community-relevant themes of sustainability, well-being, and biocultural relationships of place. This leads to elaboration of the research design focus of YPAR and emplaced methods of photovoice and participatory mapping. It further describes how this design attempted to engage research themes by empowering participants to investigate the significance of place to their own lives, by being entangled with place. Limitations and considerations that evolved through methodological practice are shared and the importance of attending to both place-bound and place-making research influences is discussed.

## **Chapter 2: The Difference Biocultural “Place” Makes to Community Learning for Sustainable Development: A Study of Critical Place Inquiry and Youth Participatory Action Research in a Marine Protected Area of Colombia<sup>16</sup>**

### **2.1 Introduction: The Importance of Place to Methodology**

This chapter shares a participatory and action-oriented research approach that supported community efforts toward sustainable development in Colombia. In particular, it emphasizes the need to focus explicitly on *place* in research methodology to empower youth in learning and action toward sustainability. This involves attending to the significance of place to youth’s lives through methodological conceptualization, orientation, approach, design, and practice. Although seemingly intuitive, place is too often overlooked in methodological processes, thereby perpetuating the issues that the research seeks to address (Tuck & McKenzie, 2015b). How place was engaged in the foreground of this study is elaborated herein. With this focus, we<sup>17</sup> offer insight for how research can further inform efforts toward sustainable development in response to critical place issues.

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<sup>16</sup> McRuer, J., & Zethelius, M. (Forthcoming). The difference biocultural “place” makes to community efforts toward sustainable development: A study of critical place inquiry and youth participatory action research (YPAR) in a Marine Protected Area of Colombia. *Special Issue on Education for Sustainable Development in the International Review of Education–Journal of Lifelong Learning*.

<sup>17</sup> To reflect participatory processes throughout the research, this chapter was co-authored by myself (Canadian lead-researcher) and Margarita Zethelius (Colombian community consultant). As primary author, I contributed significant written effort related to article focus, broad theoretical context, site relevance, research orientation, practice, and process. As second author, the community consultant offered contextual details on community efforts toward sustainable development and youth lives in Isla Grande, Colombia. Furthermore, community leader and native Islander, Ever de la Rosa, verified community context details.

Critical place issues are understood as threats to the diversity and integrity of biocultural place relations—those that give rise to collective well-being and sustainability. These issues often arise and prevail through static and dualistic constructs of place as nature *or* culture, asserted by dominant economic and political paradigms (Terralingua, 2014; Tuck & McKenzie, 2015a). Critical place issues may include infinite economic growth models and resultant disparities; population, consumption, and carrying capacity pressures; legacies of settler colonialism, oppression, and diaspora; top-down resource management, privatization, and commodification; climate change and growing environmental injustice. Responding to these issues through research requires methodologies that attend to the significance of place to communal lives, both explicitly and politically (Tuck & McKenzie, 2015b).

Attending to place in methodological processes acknowledges the many relations that influence research inquiry, as well as the ways that research may influence place relations (Booth, 2015). This dynamic is conceptualized in this study through “place entanglement,” or the evolving natural and cultural relationships that contribute to diverse experiences of the world (Ingold, 2008; Whatmore, 2007). Research focused on entanglement thus considers the “biocultural” interdependence of place including the relations that exist among humans, non-humans, economies, policies, technologies, ideas, improvisations, innovations, research, and more (Haraway, 2008; Ingold, 2008; Whatmore, 2007). This research emphasizes the significance of such relations to youths’ lives by drawing on their understandings and experiences of well-being and sustainability. In so doing, place is brought to the foreground of this study to inform sustainable development trajectories based on youth voice (Tuck & McKenzie, 2015a).

The research shared in this chapter attended to interdependent place relationships through three central questions: (a) how do youth understand and experience ancestral territory places of land and sea, (b) how do youth envision their role in community efforts to address critical place issues, and (c) how can a critical place inquiry orientation, guided by participatory and action-oriented approaches, support youth voice in community efforts toward sustainable development and self-determination. With these questions in mind, the overarching research objective was to support community-based research *with place*, to inform efforts to address critical place issues. This chapter describes the methodological processes that targeted the aforementioned questions

and objectives to illuminate how place matters to research. In so doing, it also shares community-based opportunities that aligned to reinforce place significance, and discusses lessons learned to support ongoing efforts to attend to place.

In the remainder of this chapter, we begin by considering how a place entanglement focus was supported through a methodological orientation of critical place inquiry. We next describe the community contexts of Isla Grande, Colombia that informed critical place inquiry in practice.<sup>18</sup> Based on this context, we align and introduce the main research themes of well-being, sustainability, and biocultural relations. We further justify our priority of engaging youth perspectives of these themes to understand the significance of place to their lives. The guiding participatory and action-oriented methodological approach is next discussed for its focus on community consultation and youth inclusion in research and community processes. Specifically, we describe how this approach was facilitated through Youth Participatory Action Research (YPAR) and primary methods of photovoice and participatory mapping. Lastly, we consider the lessons learned and implications of attending to place in methodological practice.

## **2.2 Research Orientation: Critical Place Inquiry**

To attend to place in research, this study drew on critical place inquiry to orient methodological processes. As a guiding focus, critical place inquiry, “takes up critical questions and develops corresponding methodological approaches that are informed by the embeddedness of social life in and with places . . . to be a form of action in responding to critical place issues” (Tuck & McKenzie, 2015a, p. 75). By extension, critical place inquiry concerns how entangled biocultural relationships are experienced with place. Thus, such inquiry orients research processes toward explicit reflections of our relations with the world, thereby informing how our relations may create, perpetuate, and respond to critical place issues. It offers opportunity to investigate the ways that biocultural relations shape (and are shaped by) our understandings and

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<sup>18</sup> Site community selection: The community consultant has worked for 15 years on sustainable development initiatives in Isla Grande. As lead-researcher, I was invited to do research in the community in 2012 during my MSc research in Conservation and Rural Development. This current study expands former research and supports consultancy.

experiences of place; how our relationships with place shift over time to affect collective well-being and sustainability; what corresponding drivers strengthen or threaten our relationships; what resultant consequences ensue; and what methodological efforts are needed to support sustainability agendas to account for diverse ways of becoming.

Critical place inquiry may be associated with a variety of methodologies. What is particularly important is *how* methodologies are informed by and meaningful for, the places they aim to support. Moreover, this contextualization extends to how methods are tailored to particular research sites. Careful method selection promotes consideration of what data are collected, the relevance of data to participant lives, and the applicability of data beyond the research scope. We will next describe how critical place inquiry unfolded in this research by emphasising the regional and local contexts of Isla Grande, Colombia that informed (a) inquiry uptake and direction, (b) main research themes, and (c) participatory and action-oriented methodological approach, design, and methods.

### **2.3 Site Context: Inviting and Informing Critical Place Inquiry**

The research site of Isla Grande is situated in the Caribbean Sea alongside one of the largest marine protected areas in Colombia: The Corales del Rosario and San Bernardo National Natural Park (CRSB-NNP) and the Corales del Rosario, San Bernardo & Isla Fuerte Marine Protected Area (CRSBIF MPA). Although protected areas are globally significant to protect biodiversity and associated human culture (Convention on Biological Diversity [CBD], 2008), they are not without their challenges to support entangled and diverse place relations (Durán Bernal, 2007; Jones & De Santo, 2016; Ramirez, 2016). In the case of the CRSB-NNP, ethnic minority communities living within and alongside this protected region (i.e., Indigenous, Afro-Colombian, and peasant communities) face many critical place issues related to balancing multi-actor interests, rights, and practices. As a result, a 17-year social movement by the Isla Grande community has aimed toward self-determination of Afro-Colombian ancestral territories of land and sea.

Through a history of colonization, slavery, and marginalization, the Afro-Colombian people of Isla Grande have shaped, and been shaped by, ancestral territory places. Particularly, interdependent relationships have evolved to intimately link biodiversity of the region with community knowledge, improvisations, innovations, practices, capabilities, and values (CBD,

2009; Davidson-Hunt et al., 2012). Respect for these entangled place relations has motivated the community's movement to (re)imagine ways of reconciling, renewing, and (re)generating place relationships and capabilities to address critical place issues. Efforts have included participatory planning; non-formal education such as eco-guide entrepreneurial ventures environmental interpretation training, and cultural revival activities (Fiori, 2005; Fiori et al., 2001; Zethelius, 2013); as well as local, organizational, and legal council collaboration to shape a *Plan de Vida*, or life plan. An emergent document arising through collective learning processes, this *Plan* outlines ancestral territory rights and commitments toward sustainable development over a ten-year period (i.e., 2014–2024). The *Plan de Vida* informed this research by drawing on and elaborating three main themes: (a) well-being, (b) sustainability, and (c) biocultural relations. Research alignment with these themes will now be briefly described.

**2.3.1 Research themes: Buen vivir, sustainability, and biocultural heritage.** The first research theme of well-being was based on *buen vivir*,<sup>19</sup> a Latin American concept that encourages contemplation of “the good life.” As both a political worldview and a developing academic concept, *buen vivir* describes contributions toward, and processes of development that are grounded in entangled place relationships (Escobar, 2011; Gudynas, 2011; Radcliffe, 2012; Walsh, 2010). In this way, *buen vivir* encourages alternative forms of development or alternatives *to* development that reflect diverse contexts and ways of becoming with place (Escobar, 2008; Gudynas, 2011). In other words, *buen vivir* is a means to unsettle dominant economic and political paradigms by emphasizing diversity, not homogeneity, with place relationships. Recognizing the regenerative potential of *buen vivir*, the concept has recently been incorporated into the Constitutions of Bolivia and Ecuador to promote well-being for both humans and non-humans, and the ethical-moral principles of quality of life for all (Gudynas, 2011). These precedential incorporations have established political and legal recognition for the inherent and interconnected rights of both humans and nature. As such, nature is recognized as a living entity with fundamental rights, rather than a resource to be owned, manipulated, and

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<sup>19</sup> The developing *Plan* currently lacks a well-defined reference to the concept of well-being. Through community consultation, a research focus on *buen vivir* was a valued contribution.

extracted for human consumption and capital gain. However, to understand how a *buen vivir* worldview may be taken up in practice, it is important to acknowledge that the concept has “many different interpretations depending on cultural, historical, and ecological settings” (Gudynas, 2011, p. 441). The challenge is thus to investigate how well-being is differentially understood and how collective actions support or suppress diverse ways of becoming.

The second research theme of sustainability was chosen for its alignment with *buen vivir*. Particularly, sustainability was conceptualized based on the *Plan de Vida*'s priority of four primary dimensions of human experience with place—ecological, social, economic, and worldview (e.g., culture and spirituality) (Gaia Education, 2012; Global Ecovillage Network [GEN], 2014; Zethelius, 2014) (see Figure 2.3.1). Expanding on these dimensions, the *Plan* also derives conceptual underpinnings from (a) the United Nation's (UN) (1987) sustainable development definition: “Development which meets the needs of the present without compromising the ability of future generations to meet their own needs” (p. 41); and (b) concepts promoted by Gaia Education and GEN<sup>20</sup> such as “whole systems learning,” “webs of relationships,” and “local participatory processes” (Gaia Education, 2012; GEN, 2014). These characterizations were used to guide research inquiry related to how sustainability contributes to *buen vivir*.

The third theme of biocultural relations was chosen for its central importance to the community's social movement, and its connection with *buen vivir* and sustainability. In particular, a biocultural framework was applied in this research to consider “biocultural diversity” and “collective biocultural heritage” of place (United Nations Educational, Scientific, and Cultural Organization [UNESCO], 2008). To elaborate, biocultural diversity provides an index of place relations among “biological diversity at all levels and cultural diversity in all its

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<sup>20</sup> Gaia Education provides holistic education programs and tools for sustainable development and is a partner in UNESCO's Global Action Programme on Education for Sustainable Development; the Global Ecovillage Network is an international alliance developing strategies for sustainable development through intentional communities, or ecovillages. Both Gaia and GEN are recognized as contributing partners to the UN Sustainability Development Goals. Moreover, they have been influential in Isla Grande's *Plan de Vida* development.

manifestations” (Cocks & Wiersum, 2014, p. 727). The relevance of this index to specific places is captured in the complimentary concept of collective biocultural heritage:

The knowledge, innovations, and practices of Indigenous and local communities which are collectively held and inextricably linked to traditional resources and territories, local economies, and the diversity of genes, varieties, species and ecosystems, cultural and spiritual values, and customary laws shaped within the socio-ecological context of communities. (Swiderska, 2006, p.3)



Figure 2.3.1. Sustainability dimensions guiding the site community. This image depicts dimensions of human experience—ecological, social, economic, and worldview—that guide Isla Grande’s *Plan de Vida*. Adapted from “Ecovillage design education: A four-week comprehensive course in the fundamentals of sustainability design curriculum” by Gaia Education, 2012, GESE—Global Ecovillage Educators for a Sustainable Earth, 5. Reprinted with permission by GAIA.

This research particularly focused on collective biocultural heritage. Although this concept is not specifically outlined in the *Plan de Vida*, it closely aligns with community goals and regional movements in Colombia to promote biocultural frameworks for sustainable development (Territorial Development with Cultural Identity Program and Latin American Centre for Rural Development [DT-IC/RMISP], 2016).

These three main themes—*buen vivir*, sustainability, and collective biocultural heritage—guided critical place inquiry in this research, ensuring contextualization, suitability, and relevance to the site community. Importantly, the community's *Plan de Vida* recognizes that these themes are dynamic and may be differentially understood and experienced. Community priorities thus include intergenerational contributions to inform and enact sustainable development agendas. This importantly involves youth engagement to ensure community efforts are relevant to their lives (Zethelius, 2014). This research supported this priority by affording Island youth opportunity to investigate main research themes through a participatory and action-oriented approach. Before addressing the research design in more detail, it is important to describe what it means to be a youth in Isla Grande today to acknowledge who is involved in research and whose voice is heard (Torre, 2014).

**2.3.2 Research participants: Context and selection.** According to a 2009 census report, of approximately 629 Isla Grande residents, 10% were young people between the ages of 14 and 17 and 15% were young people between the ages of 18 and 26<sup>21</sup> (Fundación Surtigas, 2009). Most youth<sup>22</sup> living in Isla Grande (no census data available for this age range) have completed primary-level formal education; however secondary-level dropout rates are high. Among youth who graduate, few continue into post-secondary studies despite opportunity. By their late teenage years most youth have entered into the workforce and started families. Young

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<sup>21</sup> Current (undocumented) population estimate: 1000 residents (Personal communication, Ever de la Rosa, July 2016).

<sup>22</sup> The United Nations World Programme of Action for Youth (UN WPAY, 2010) defines youth as 15–24 years of age, while the UN Convention on the Rights of the Child describes a child to be under the age of 18 (UN, 2016). An age cohort of 18–24 defines *youth* in this manuscript.

men work as fishermen, property caretakers, hospitality staff or eco-guides, artisans, boat helpers, or laypersons transporting goods to Island *tiendas* [small stores]. In general, they are *rebusque*, meaning they do anything for which they can be paid. Conversely, young women typically work as hospitality and cleaning staff, artisans, or in childcare. It is estimated that by their mid-twenties at least 60% of youth have had several relationships yielding multiple children, with women taking on primary care responsibilities (A. Simanca, personal communication, 2015).

Isla Grande's *Plan de Vida* prioritizes youth professional development and inclusion in community efforts: "We want the population in the Islands to have access to relevant and contextual training opportunities, to improve the quality of life, to generate personal development, and create welfare of the population and the territory" (Plan de Vida, 2014). During *Plan* formulation in 2014, approximately 60 young people (aged 15–20) participated. Resultant goals pertaining to youth roles in ongoing efforts include

- involvement in sustainability and well-being planning;
- strengthening collective biocultural heritage understandings;
- creating intergenerational learning opportunities; and
- enhancing technological learning and skill development (E. de la Rosa, personal communication, March 2016; M. Zethelius, personal communication, July 2014).

In this research, youth interested in furthering *Plan* goals in practice were invited to participate. Six youth (2 self-identified females and 4 self-identified males) volunteered as co-researchers across the study's duration. Female co-researchers included: a single mother also working as an occasional hospitality employee and property caretaker; and a part-time student also working shifts as hotel cleaning staff. Male co-researchers included: a part time employee with National Parks who was also a DJ music mixer; a co-owner of an eco-camping enterprise, fisherman, and part-time eco-guide; a full-time hotel culinary staff member; and a full-time eco-guide.

Consent to engage youth in investigation of their ancestral territory places was granted by the Communitarian Council (i.e., Isla Grande's governing body). A local research advisory team was formed to support methodological processes. This advisory team was comprised of one of each of the following representatives: youth, parent, elder, schoolteacher, Communitarian

Council representative, and community consultant. The team initially provided insight into invitations for youth participation as co-researchers in this study. The remainder of this paper describes how youth were engaged in a participatory and action-oriented approach to inquiry.

#### **2.4 Methodological Approach and Youth Participatory Action Research Design**

A participatory and action-oriented methodological approach engaged youth as co-researchers in this study. A focus on youth participation aimed to support their perspectives on well-being, sustainability, and biocultural heritage while a focus on action encouraged learning and practice to address relevant critical place issues to their lives (Torre, 2014). A Youth Participatory Action Research (YPAR) design was selected to complement these goals.

Although designs vary, YPAR processes value youth perspectives in community settings and ultimately encourage co-research to address impacts to their lives (Torre & Fine, 2006). YPAR designs may be driven by youth themselves, by adults, or through youth-adult partnerships (Kim, 2016; Newing et al., 2011). Ultimately, the goal is to ensure research happens *with* instead of *on* participants, through a praxis-oriented approach that decolonizes “expert” knowledge to empower local experiences (Fals-Borda, 2006; Torre, 2014). With a focus on youth empowerment, YPAR summons questions such as whose knowledge counts and whose voice is heard? Who benefits? Who determines the value of research? How can research invoke social change that reflects the interests of youth? Through a YPAR design, research can respond to these questions by building strategic relationships; valuing diverse expertise; collaborating on research design; creating space for participatory data collection and analysis; and committing to ongoing, action-oriented, and contextually appropriate forms of dissemination to promote social change and critical consciousness (Kindon, Pain & Kesby 2005).

YPAR designs tend to incorporate a range of methods to engage youth in sharing their perspectives (Kim, 2016). Methods may be qualitative (e.g., interviews, focus groups, participant observation) or quantitative (e.g., surveys, questionnaires). Commonly, visual techniques such as mind maps, photography, videography, and mapping are used to generate youth interest, shift power dynamics, overcome language barriers, and disseminate data in captivating ways to engage policymakers or the public (Kim, 2016). This research selected methodology and methods that could additionally attend to place and community sustainable development priorities.

Through a youth-adult partnership, this research trained six youth as co-researchers to investigate the significance of place to their lives. Youth participation was defined as young adults “partaking in and influencing processes, decisions, and activities in the community and in research on the community” (Watter, Fanous, & Berliner, 2012, p. 187). Youth co-researchers had opportunity to determine their degree of participation, the research schedule, timeline, and meeting spaces. Beyond this, youth were also invited to shape the research to their interests including the objectives, guiding questions, method selection, initial analysis, and community-based dissemination efforts. Moreover, research was performed with places chosen by youth, highlighting how *place matters* to methodology (Anderson, Adey, & Bevan, 2010). This supported “polylogic” research processes whereby conventional configurations of method as dialogue (e.g., between researcher and researched) shifted to value the indivisibility of place from methodology (Anderson et al., 2010, p. 590). The intention was to afford investigation of the lines of movement that fold biological, cultural, political, economic, technological, and cosmic place relations of significance to youth co-researchers.

## **2.5 Methods of Inquiry**

This research commenced with two planned research phases: (a) data collection efforts, and (b) youth action arising through the research. We will begin by discussing the first phase, followed by the latter (see section on “Emergent learning and action through inquiry” below). During the first phase, 18 research sessions took place between April and July 2016. The lead-researcher facilitated sessions with the help of a Spanish-speaking, Colombian translator, selected for her familiarity with the community and support for the study’s objectives. Research sessions involved a combination of methods including:

1. Introductory experiential activities designed by the lead-researcher such as photo collages, mind maps, mural drawings, card sorting, opinion polls, and connecting place relations (see Appendix A for details). These activities were woven into research sessions to support research design, orientations to main research themes, and training in primary methods equipment and techniques; and
2. Primary methods of photovoice and participatory mapping to engage youth-led investigation of place, through their movement in place. These methods will be elaborated next based on the literature and their practice in this study.

**2.5.1 Photovoice method overview.** As a participatory-action method, photovoice employs photography to represent perspectives and worldviews. Research participants become co-researchers as cameras are used to capture visual data on research theme(s). Data serve as prompts to support critical, reflexive group dialogue and guide practical action to address shared concerns (Wang & Burris, 1997). Photovoice is often typified as having three primary goals: (a) encouraging critical reflection on experiences, perspectives, and knowledge concerning a given research theme, shifting research power to participants; (b) valuing and applying shared knowledge to address identified concerns; and (c) sharing visual representations with decision-makers to create supportive environments for change (Wang, 2006; Wang & Burris, 1997).

**2.5.1.1 Photovoice in practice.** In this research, photovoice was employed to capture youths' perspectives on place. The method was facilitated through one-on-one training with co-researchers to develop photography skills using Panasonic Lumix underwater cameras. Training was supplemented with two experiential activities: (a) a photography tips slideshow and photography ethics discussion, and (b) a photo scavenger hunt to practice camera skills. To guide photovoice application, youth co-researchers reviewed potential inquiry questions and gave input to target their interests. The co-researcher team selected the following guiding questions:

1. What does *buen vivir* mean to you in relation to your ancestral territory places?
2. What does sustainability mean to you in relation to your ancestral territory places?
3. What does culture mean to you in relation to your ancestral territory places?
4. What are your significant place relationships with the sea?

Each of the above questions informed a photovoice research session.<sup>23</sup> In particular, co-researcher pairs traced their relationships with place following lines of movement as they walked or biked through their terrestrial ancestral territory to capture images of perspectives related to questions 1–3. For the remaining question, the whole co-researcher team participated in swimming and free diving in their marine ancestral territory to capture photos of place relations.

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<sup>23</sup> “Biocultural relationships” were not explicitly targeted in guiding questions. As a laden term not universally understood across contexts, cultures, and generations (Adams, 2004; UNESCO, 2008), biocultural relationships were instead probed during group reflection sessions.

During reflexive group dialogue, youth co-researchers shared photos via computer slideshow, using their discretion to skip, pause, and discuss. All youth had opportunity to reflect on contributions to *buen vivir*, dimensions of sustainability, biocultural relationships, and the research process. When necessary, reflection was guided through a SHOWeD approach: What do you *See* in this photo? What is really *Happening* in this photo? How does it relate to *Our* lives? *Why* does this situation, concern, or strength exist? What can we *Do* about it? (Wang, 2006). These questions further served to ensure the lead-researcher's interpretations were accurate. Following exploration of four guiding photovoice questions, youth co-researchers were trained in participatory mapping methods.

**2.5.2 Participatory mapping method overview.** Participatory mapping involves collaborative processes of map-making to denote community values (Soini, 2001). Although designs may vary, four commitments prevail: (a) involvement and collaboration of local people, (b) co-determination of goals and motives, (c) production of maps depicting local people's spatial knowledge, and (d) participants as co-researchers (Herlihy & Knapp, 2003). In some cases, participatory mapping promotes qualitative analysis of local knowledge through a variety of data collection methods (e.g., photographs, audio recordings, video, animations, text, and sketches). Data are then woven into a final spatial imagery product using a suite of practices known as Geographic Information Systems (GIS) (Caquard et al., 2009; Shiffer, 2002). This form of participatory mapping (i.e., qualitative GIS) uniquely considers how "geographic phenomena, their relationships, and their meanings are produced and negotiated at many different moments" during methodological processes (Elwood & Cope, 2009, p. 2).

**2.5.2.1 Participatory mapping in practice.** Participatory mapping was facilitated through a tablet-based mapping application<sup>24</sup> that supported offline use, had a zooming interface to adjust map scale, and a touch screen to afford representation of customizable mapping categories. Working in pairs, youth co-researchers were trained to use ASUS Transformer T100 tablets and the mapping interface. Predetermined mapping categories and legend (see Appendix D) were introduced to encourage critical thinking of place entanglement in relation to ecosystems,

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<sup>24</sup> Developed by Arizona State University researchers, sponsored by the US National Science Foundation and National Institute of Health.

biodiversity, culture, sustainable development, improvisations, and innovation. In practice, legend categories were used as guides for inquiry, and youth co-researchers had opportunity to change the categories or create sub-categories to reflect their place relations. Youth co-researcher pairs walked and/or biked to map significant relations in their ancestral territories and took photos, videos, audio recordings, and notes to depict their choices. Reflexive group dialogue followed to illuminate connections with *buen vivir*, sustainability, biocultural relations, and the research process.

**2.5.3 Emergent learning and action through inquiry.** Learning and satisfaction in PAR designs require frequent opportunities for action—a core component of this research (Zeller-Berkman, 2007). Opportunities were planned for the second phase of research between November and December 2015, but also organically arose during the first research phase and later following completion of field-research. Three notable activities will now be shared: a photography exposition, a sustainability education field trip, and a community action initiative.

A photo exposition was held during the first phase of research based on youths' expressions of interest and consultation with the research advisory team. The intention of the exposition was to strengthen and demonstrate youth co-researcher commitment to the research and share their photovoice images with the community. Youth co-researchers selected photos representing their most significant place relationships and wrote associated captions (NB: By default, this process informed preliminary, informal data analysis). Photo printing, framing, team t-shirt creation, and team name selection—"Nuevas Voces" [New Voices]—followed. Aligning with an Island cultural festival, *El Día de San Juan* [The Day of St. John], the youth exhibited and shared their photos with community members.

In phase two of the research, youth co-researchers had opportunity to disseminate their research during a three-day sustainability education field trip to two neighbouring coastal communities: Cotocá and Cispatá. These communities were selected for their relevance to Isla Grande's sustainable development processes as well as the interests of co-researchers. Both communities were invested in strengthening place relationships through ecotourism and non-formal education efforts. In each community, the youth formally presented their research and related their perspectives to regional contexts.

The field trip inspired youth co-researchers to take action in their own community. Action was motivated by a shared concern related to the declining ecosystem health of their ancestral territory marine places. Emphasizing the need to conserve these places to promote *buen vivir*, sustainability, and biocultural relationships, the co-researcher team planned a two-day mangrove clean-up and further enlisted other community youth to participate. Organically, their efforts aligned with community initiatives including

- priorities of lagoon ecosystem conservation outlined in the *Plan de Vida*;
- efforts toward mangrove recovery and environmental co-governance by the CRSB-NPP; and
- the work of a local underwater photographer capturing the importance of mangrove restoration.

These initiatives resulted in a public photo exposition in the mainland city of Cartagena during an unplanned third research phase in April 2016. Taking advantage of the opportunity to share their research with decision-makers, a representative of the youth co-researcher exhibited their photovoice images to promote awareness of the places significant to their lives.

## **2.6 Methodological Challenges, Limitations, and Considerations**

Notable methodological considerations pertained to the following three areas described below: timing, translation, and mapping.

**2.6.1 Timing.** An ongoing challenge of this research concerned differential values of time among the co-researcher team. For the lead-researcher and research translator, influences of Western culture have led to valuing time as a commitment—both in organizing daily schedules and respecting those of others. This is salient when this research was considered our “work.” Conversely, youth co-researchers valued time in a more relaxed fashion (e.g., “Island time”), particularly when research was during their “free time” (i.e., not work- or school-related). Youth volunteered their free time for research practices, but understandably, this often took a lower priority in their schedule.

Our different perspectives on time continually affected session schedules. Session commencements were erratic, despite schedule reminders by co-researcher team members via in-person house visits and phone calls. Although reminders typically incited youths’ enthusiasm and (presumably) commitment, in practice inconsistent timing and attendance were demonstrated

on a team level. Through research advisory team consultation, session activities were either amended for smaller group sizes and/or repeated at either a scheduled or makeup session. A disjointed research process resulted, and many experiential sessions were not carried out as initially planned. Ironically, this was “par for the PAR course,” as the flexible research design afforded youth co-researchers the opportunity to direct their own involvement and participation throughout the process and the methodological approach acknowledged place-based realities.

**2.6.2 Translation.** Bilingual translation during research sessions affected fluid facilitation styles. The stop/start nature of translation interrupted session rhythm and potentially the joint attention of youth co-researchers (although the stop/start nature was not explicitly identified as a problem by youth). Additionally, transcultural research presented challenges of language nuance, both in session interaction and dissemination, requiring an adaptive learning process for all involved to navigate between worldviews, languages, and logics (e.g., ways of expression, styles of communication). In Spanish, this challenge is called *diálogos de saberes* [knowing dialogue or dialogicality], whereby diverse cultures communicate knowledge differently. Fostering appreciation for these differences through collective learning processes is imperative (Nascimento Souto, 2015). Every attempt was made to communicate effectively and appreciate different perspectives.

**2.6.3 Mapping.** Participatory mapping engaged and represented entangled place understandings through technological learning. It is recognized, however, that the tablet-based mapping application using GIS satellite imagery stems from a European worldview of space and cartography (Chapin, Lamb, & Threlkeld, 2005). The use of this method can potentially “represent a fundamental compromise of cultural autonomy” (McClellan, 2013, p. 97) and pose a challenge in cross-cultural representation working “against participation and empowerment” (Carver, 2001, p. 7)—two core values of this research.

The research design, analysis, and dissemination accounted for these considerations. For example, digital navigation in the mapping application aligned with community youth goals. Although technologically novel to youth co-researchers, they easily located place landmarks on the mapping interface, demonstrating familiarity with spatial locations of their ancestral territory places. Moreover, technical and political mapping aspects were considered, including the end use of spatial imagery maps that can exclude communities through power dynamics and

accessibility (Chapin et al., 2005). Consequently, the study's mapping tool was selected for its ability to use offline technology in the research site where Wi-Fi connections are advancing, but not consistently available. Moreover, the end use of the map content is representation through an online Story Map platform by the Environmental Systems Research Institute (Esri) to reach community and networked audiences.<sup>25</sup>

## 2.7 Discussion

This chapter emphasised how research methodology can attend to place both explicitly and politically to support community efforts toward sustainable development. In particular, it offered practical insight on how CPI can illuminate perspectives on well-being, sustainability, and biocultural heritage through “holistic, interdisciplinary . . . participatory and collaborative research approaches [and methods]” (UNESCO, 2008, p. 26). This discussion shares emergent reflections in an attempt to be “honest and self-critical about what was planned and what actually happened, rather than promoting a model . . . that ‘works’ every time” (Pain & Francis, 2003, p. 53). Learning relates to two overarching foci: (a) the conceptual leanings and practice of research—or the “place-making” aspects of research; and (b) how local contexts and priorities aligned with or against the research orientation, approach, and design—or the “place-bound”<sup>26</sup> nature of research.

Initial place-making reflections concern how methods of inquiry can impart particular place concepts through practice. To exemplify, photovoice and participatory mapping were valued by the community for their ability to engage technological learning through place inquiry (M. Zethelius, personal communication, June 2014; Plan de Vida, 2014). Moreover, youth co-researchers expressed interest in these methods, as technology is an emerging part of their everyday lives. This was illustrated by one youth's passing comment, “At one time you used to sail on a small boat. Nowadays you sail on the Internet” (Jeison). This raises questions of how

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<sup>25</sup> Story Map URL: <http://arcg.is/2bitUzX> (English); <http://arcg.is/2dUGW0Z> (Spanish)

<sup>26</sup> “Bound” recognizes that existing place contexts and realities may influence research approaches. It does not suggest that place is fixed and static, but maintains assertions of fluidity and porosity as relations shift over time. It merely acknowledges that these relations impact moments of research, and require flexible research designs.

technology is valued in biocultural place relations, as well as the associated alignment of research methodologies that aim to attend meaningfully to place.

To elaborate, two contrasting perspectives from the literature are notable: The first cautions the role of technology for its ability to disconnect users from nature (Louv, 2008), potentially downplaying the role of technology in biocultural heritage of place. The second emphasizes the need to promote technology and material aspects of place for their indivisibility from biocultural relations (Haraway, 2008). This dissonance warrants consideration of how technological research methods may support or impose particular place understandings. This consideration is particularly relevant given the shifting nature of biocultural heritage across generations. Associated questions include how youth culture and heritage might differ from their grandparents, parents, and their own children, and what implications this has for *buen vivir* and sustainability planning? Furthermore, how do shifting place relations and diverse understandings have an impact on methodological designs? Ultimately, how might attendance to place in research be in fact place-making in the ways it upholds or dismisses particular worldviews through its processes?

Turning to the latter point of discussion, research may also be “place-bound,” or influenced by site-specific circumstances. Rather than dismissing place as fluid, porous, and ever-evolving, place-bound draws attention to situated circumstances surrounding the moments of research that can promote or stymie objectives. To give an example through this research, the adult-youth partnership facilitated through YPAR design aimed to afford youth opportunity to shape the research direction to their realities and interests. On the whole, the six youth co-researchers contributed valuable input on the research design, schedule, meeting spaces, and guiding research questions. They also offered deep reflections on main research themes and cited how their learning benefitted through the team focus and emplaced methods. Moreover, both the youth co-researchers and research advisory team expressed value for the study design in creating space for youth to share their opinions and experience new ways of participating in community projects. Alongside these affirmations, however, it is notable that youths’ leadership in decision-making proved challenging and shared ownership was not achieved. The research advisory team attributed this lack of ownership to site-specific circumstances involving the formative experiences of youth in Island places.

The advisory team supported their perception by portraying Island youth at large as highly dependent on others to initiate and direct involvement in community affairs. This dependency was largely ascribed to teacher-directed formal education experiences that are not particularly youth-focused, nor contextualized to reflect place-based realities and interests. One advisory team member described youth as “always waiting for someone to tell them what to do; they are not used to this [participatory design], they don’t take initiatives.” Some have suggested that this may also be indicative of a “collectivist” culture, whereby all members of a community rely on each other to take decisions and guide action (Hart, 2008).

This research attempted to understand these circumstances through group reflection. When asked what motivates youth in the community at large to attend and participate in community projects, co-researchers’ answers varied. However, they stressed the Communitarian Council’s responsibility to find meaningful ways to consult young people’s opinions because, “that’s what makes us a community” (Dani). This supports the research advisory team’s assertion that youth depend on others to engage their attendance and participation. Reflecting on the YPAR process of this research, youth co-researchers further emphasized that their interest in attending/participating in community efforts would be higher if it was similarly adapted to engage their interests: “I like the idea that [planning] projects are . . . adapted to our needs. We are young and capable to give new ideas that can improve the Island” (Jeison). They further stressed the importance of promoting inclusion and democratic processes to afford the opportunity for “everyone to give their point of view,” “to learn, to know, to give opinions” and “to have knowledge of what is happening with our Island.”

Youth co-researchers also suggested that to date, participation in community efforts was hindered by poor youth attendance at community meetings. Cited reasons included not knowing about meeting times, conflicting schedules, and competing commitments with work, family, and daily life that took precedence over research and community affairs. They suggested that in future, participation may be aided by boosting attendance through regularly scheduled meetings on particular days of the month, targeted invitations, meetings paired with community sports events which are always well attended; and the provision of formal and non-formal education opportunities to encourage community ownership in ongoing efforts.

A final reflection on the place-bound circumstances that affect research concerns the methodological process itself. In this study, YPAR attempted to be adaptive to the needs and interests of youth, but perhaps their lack of ownership was representative of their daily place relationships that were not captured through design process. This idea suggests that integral place relationships to their everyday lives—through work, family, social, and leisure aspects—are not necessarily illuminated when doing research in their “free time.” Hence, further reflection is needed on how research approach and design can attend to significant place relations “beyond the research.” A broader research focus may be facilitated through specific objectives for youth to map their daily routines to capture place relationships. It may also encourage intergenerational perspectives should youth document their daily activities involving family, friends, and co-workers. Moreover, it may involve visual research that captures youth mobility and routes (Pink, 2008), and what place relationships are involved in their wayfaring (Ingold, 2011). Future efforts to discern biocultural relationships that promote well-being and sustainability might build on the research presented here, by meeting youth where they are, with place, and looking more deeply into the ways they engage with the more-than-human world.

In summary, place-making and place-bound reflections suggest that methodological processes are just as entangled as the places for which they aim to attend. What we consider paramount is how research unfolds with place as a result of place, and how this influences ongoing efforts toward sustainable development. With this focus, this study offered a means to engage in a participatory and action-oriented research approach on place, *with place*, to inform future research and community efforts to address critical place issues. We recognize that responding to critical place issues is complex, but feel this research made an important contribution by bringing place into the foreground of research processes to promote learning and action for sustainability. Despite research challenges, we find encouragement in knowing that “the road to ‘doing research differently’ has to begin somewhere” (Kesby et al., 2013, p. 145). We hope that the methodological approach described here is a place from which to continue.

## PLACE MARKER

In the previous chapter, the importance of grounding research processes in place was discussed. Specifically, a participatory and action-oriented approach to critical place inquiry was presented as a means to engage youths' investigation of place. The next chapter describes how collected data were analyzed before sharing youths' perspectives on interdependent and evolving place relationships. Specifically, chapter 3 begins by reviewing the research intent, approach, design, and methods. It then describes the approach to analysis that discerned youth co-researcher perspectives through two inductive phases: (a) broad orientations toward main research themes of *buen vivir*, sustainability, and biocultural heritage; and (b) elaboration of these themes through the UNESCO-sCBD biocultural framework. The latter considers youth co-researcher perspectives based on seven areas of biological and cultural interdependence: language and linguistic diversity, material culture, knowledge, improvisation, and innovation, modes of subsistence, social and economic relations, beliefs, and values. Based on this analysis, the research findings are shared in the second half of this chapter. Every attempt was made to mirror youths' words through translation and weave them together to capture the rhythm and cadence of their critical place inquiries across the research process.

## Chapter 3: Biocultural Interdependence with Place: Youths' Perspectives on Well-being, Sustainability, and Collective Biocultural Heritage in Ancestral Territories of Colombia<sup>27</sup>

### 3.1 Introduction

Our biocultural relationships with place “can be a locus for active ‘becoming’ or ‘re-imagining’” (Lee, 2007, p. 88). This encourages investigation of how place is understood and experienced in interdependent ways, and the influence this has on sustainable development trajectories. This chapter shares the findings of research that engaged this focus by promoting place in concept and practice not as bound and fixed, but as a porous meshwork of interdependent relationships. In particular, place is understood as both shaping, and shaped by, entangled and ever-evolving links between humans and the more-than-human world (Maffi & Woodley, 2010). Such links are expressed and performed through language; material culture; local knowledge, technology, improvisation,<sup>28</sup> and innovation; modes of subsistence; social and economic relations; belief systems; and values—or in short, diverse ways of becoming with place (UNESCO, 2008). Emphasizing these relations through this research aimed to illuminate collective biocultural heritage, or how interdependence is experienced over time and generations in connection with particular place contexts. This focus provides insight into the significance of place relationships to communal lives and what this means for promotions of well-being and sustainability (Davidson-Hunt et al., 2012; Swiderska, 2009).

The motivation to attend to place in research stems from a pressing need to address critical place issues that threaten the diversity and integrity of place relations—relations that promote well-being and sustainability (Maffi & Woodley, 2010; UNESCO, 2008). These issues are associated with dominant economic and political paradigms that pit humans against nature,

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<sup>27</sup> McRuer, J. (Forthcoming). Biocultural interdependence with place: Youths' perspectives on well-being, sustainability, and collective biocultural heritage in ancestral territories of Colombia. *Landscape Magazine—Through a different lens: The art and science of biocultural diversity*, Terralingua.

<sup>28</sup> I have expanded this category to include *improvisation* to reflect not just the novelty of innovation, but the creativity that is involved in the process.

encourage homogeneous place relations, and inhibit diverse ways of becoming with place (Escobar, 2014). It has been suggested that responding to these issues requires research processes that emphasize place relations (Tuck & McKenzie, 2015a). Particularly salient are research processes that “take up critical questions and corresponding methodological approaches to understand the significance of place to communal lives both explicitly and politically” (Tuck & McKenzie, 2015a, p. 2). This approach, known as critical place inquiry, was taken up in this research to respond to critical place issues facing an island community of Colombia’s Caribbean sea, and the surrounding protected area.

Critical place inquiry in this research was guided by a participatory and action-oriented methodological approach through Youth Participatory Action Research (YPAR) and associated methods of photovoice and participatory mapping. This YPAR design intended to support youth<sup>29</sup> as co-researchers to investigate the significance of place to their lives. Importantly, this approach was informed by, and supportive of, efforts in the research site community of Isla Grande, Colombia, to address critical place issues. Such issues particularly relate to protected area governance and threats to ancestral territory rights. Following a 17-year movement to defend their home places, the community has developed a *Plan de Vida*, or emergent document that promotes sustainable development agendas and processes of self-determination.

This research aligned with the youth-specific goals outlined in the *Plan de Vida*, informed through consultation with a site-based community consultant, the governing body of Isla Grande (i.e., the Communitarian Council), and a local research advisory team. Targeted goals included: (a) involving youth in sustainability and well-being planning, (b) strengthening collective biocultural heritage understandings, (c) creating intergenerational learning opportunities, and (d) enhancing technological learning and skill development (E. de la Rosa, personal communication, March 2016; M. Zethelius, personal communication, July 2014).

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<sup>29</sup> The United Nations World Programme of Action for Youth (UN WPAY, 2010) defines youth as the age cohort 15–24, while the UN Convention on the Rights of the Child describes a child to be under the age of 18 (UN, 2016a). An age cohort of 18–24 defines *youth* in this dissertation.

Furthermore, this research focused on three community-based themes arising from the *Plan de Vida*: well-being, sustainability, and biocultural heritage.

The purpose of this research was two-fold: (a) to contribute youths' perspectives on main themes to community efforts; and (b) to provide practical insight based on a biocultural framework. This first half of this chapter describes the research approach and design that engaged Island youth to investigate main research themes, as well as the processes of analysis that gathered their perspectives on place. The second half of this chapter shares the research findings discerned through a biocultural framework to promote youths' voices on what it means to live well and sustainably in their ancestral territory places.

### **3.2 Participatory Research Approach and Design**

To attend to place across research process, a pre-field research proposal was drafted based on community consultation between June 2014 and March 2015. This proposal outlined methodological approach, design, methods, main research themes, and ethical considerations. This premeditation was necessitated by PhD candidature responsibilities and the participatory values of the intended research. The research proposal aligned with the aforementioned *Plan de Vida* goals, but was importantly semi-structured to ensure continued community input throughout the process based on Communitarian Council, research advisory team, and co-researcher interests.

Field research began in March 2015 with the following logistics: (a) in-person introductions and consent to research by the Communitarian Council; (b) organizing study details with a Spanish-speaking, Colombian translator; (c) forming a local research advisory team to offer support throughout research processes; and (d) inviting community youth to participate in the research. Following an application and review process informed by the research adversity team, six community youth chose to participate: two self-identified females (Heides and Katya), and four self-identified males (Dani, Ezequiel, Jeison, and Manuel). These youth were trained as co-researchers to engage in investigation of ancestral community places relevant to their lives. They called themselves *Nuevas Voces* [New Voices]. Youth co-researchers participated in two planned research phases:

1. Research sessions between April and July 2015 to facilitate research training and data collection (18 in total, averaging 3 hours/session) (NB: A community photo

- exposition organically arose during this time frame); and
2. Research dissemination efforts through a sustainability education field trip and youth community action initiative between November and December 2015.

Youth co-researchers had ongoing opportunities to shape the research design to their interests including their degree of participation, the schedule of research sessions, study timeline, and meeting spaces in the community. Moreover, youth were invited to give input on the research objectives, guiding questions, methods application, initial analysis, and community-based dissemination efforts. Despite these efforts, however, it should be noted that consistent youth attendance and ownership of the research proved challenging. Local perceptions attributed this challenge to place circumstances such as how the formal education system encourages youth dependency on others to take decisions, as well as youths' commitments and responsibilities beyond the research study (see chapter 2). Notwithstanding, discussions with the research advisory team and youth co-researchers to address these challenges resulted in continued support for the YPAR approach. Reasons for this encouragement included its value in exposing youth co-researchers to new ways of participating in community projects.

### **3.3 Data Collection Methods**

To investigate main research themes, data collection took place in phase one of the research through introductory experiential activities and two primary methods of photovoice and participatory mapping. Each of these will now be briefly introduced (for detailed session information see Appendix A).

**3.3.1 Introductory experiential activities.** A series of introductory experiential activities was designed by the lead-researcher to support co-researchers' research capabilities. These activities were interwoven throughout research sessions to encourage youth input on research design, develop orientations to main research themes, and provide primary methods training. The following activities provided opportunity for data collection on main research themes based on group dialogue transcripts: (a) mind maps to envision ancestral territory places now and in the future; (b) photo collages using magazine cut outs to elicit understandings of *buen vivir* and photography techniques; (c) card sorting to depict rights and wants, encouraging youth to choose the most important aspects for sustainability and well-being in their community; (d) descriptions of sustainability aligning with the community's *Plan de Vida* through which

youth highlighted the most important aspects to their lives; (e) mural drawings of biological diversity and heritage based on ancestral territory places; (f) opinion polls through gradients of “agree to disagree,” youth were asked to physically locate themselves in relation to a series of questions on main research themes; and (g) cards depicting all place relations discussed throughout the study, prompting the team to discuss biocultural connections (see Appendix J).

**3.3.2 Photovoice.** In addition to introductory experiential activities, youth were trained in a primary method of photovoice to investigate ancestral territory places. Using cameras, youth co-researchers walked, biked, swam, and dove to capture their understandings and experiences of land and sea. Each photovoice session was guided by one of the following questions: (a) what does well-being [i.e., *buen vivir*] mean to you in relation to your ancestral territory places? (b) what does sustainability mean to you in relation to your ancestral territory places? (c) what does culture mean to you in relation to your ancestral territory places? and (d) what are your significant place relationships with the sea? Following image capture, reflexive group dialogue elicited youths’ perspectives on well-being, sustainability, and biocultural relations. Photovoice images were further used to share youth voice in community photography expositions and in slideshow presentations during sustainable education field trips to neighbouring communities.

**3.3.3 Participatory mapping.** A second primary method of participatory mapping trained youth to use tablets equipped with an interactive mapping application. The map interface depicted a spatial view of their ancestral territories with a map legend consisting of the following primary categories: ecosystems, biodiversity, culture, sustainable development, and innovation (see Appendix D). While walking and biking around the Island, youth were asked to demarcate places significant to their lives in relation to legend categories. The resultant maps were used as prompts to facilitate group dialogue in relation to well-being, sustainability, and biocultural relations.

All data collected across research sessions were used in the processes of research analysis next discussed. Data included group dialogue transcripts from experiential activities, photovoice, and mapping inquiries. Furthermore, transcripts generated from research advisory team meetings and community dissemination activities (i.e., community photo exposition and sustainability education field trip) were analyzed to further enlighten youth understandings and experiences of place. The processes of analysis are next presented, followed by the main

findings in the remainder of this chapter.

### **3.4 Data Analysis Processes**

Analyzing youths' perspectives on place occurred through: (a) informal analysis through reflexive group dialogue based on photovoice and participatory mapping data, the research process, and photo exposition preparation activities; and (b) formal academic analysis by the lead-researcher based on all collected data. Elaborating on the former, informal analysis arose during reflexive group dialogue following photovoice and participatory mapping data collection, as youth chose which photos to share and elaborate. Additionally, analysis organically arose during a planning session in preparation for a community exposition of youths' photovoice data. This process involved youth selecting photos most significant to their lives and writing captions to express their place connections. Importantly, group dialogue also afforded me the opportunity to share my interpretations of youths' discussions to ensure my translated understandings were accurate. Additionally, as the research translator transcribed audio recordings from research sessions, I reviewed these outputs to ensure bilingual comprehension and to note my interpretations and questions arising from the data that could be posed in subsequent sessions. These opportunities served as an informal means of analysis that led to affirmations, clarifications, richer descriptions (and subsequent inquiry) by co-researchers, as they considered more deeply their perspectives on biocultural relationships (Cahill, 2007).

Turning to formal data analysis, this process involved three inductive stages whereby all collected data were thematically coded using NVivo 10 software (Newing, 2011; Saldana, 2009). The first stage broadly collated data based on emergent patterns and primary foci. All data transcripts were reviewed, annotated, and labelled with broad categories and sub-categories. These themes were attributed line-by-line to reflect youth co-researcher references to place, sustainability (political, social, cultural, environmental aspects, challenges and solutions), the significance of non-humans, place-based change, well-being, rights, Island context, community planning, youth roles, future imaginaries, descriptive quotes and definitions, as well as comments on the research process. The second stage of analysis reviewed these broad categories to further reflect on their meaning in relation to the main research themes of well-being, sustainability, and biocultural relations. Subsequently, a third analysis phase re-coded all data again based on areas of biological and cultural interdependence using a framework designed by UNESCO-sCBD

(2014). How the main research themes were contextualized based on *Plan de Vida* promotions and the biocultural framework, will next be provided. This will be followed by sharing research findings based on these themes in the second half of this manuscript.

**3.4.1 Formal analysis themes.** The main research themes were conceptualized as follows, based on alignment with Isla Grande’s participatory planning efforts:

1. Well-being was not well-defined in the site community’s *Plan de Vida*. Through consultation, it was taken up in this research as “*buen vivir*”—a Latin American concept pertaining to “the good life.” This concept has been associated with the rights of both human and non-humans (i.e., Ecuador) and the ethical-moral principles of quality of life for all (i.e., Bolivia) (Gudynas, 2011).
2. Sustainability referred to sustainable development goals in the site community related to dimensions of experience (i.e., social, ecological, economic, and worldview). These dimensions aim to promote intergenerational well-being, whole systems learning, webs of relationships, and local participatory processes (see Appendix J).
3. Biocultural relations described interconnections between cultural practices and biodiversity in ancestral territory places, a concept supported by the *Plan de Vida*.

To further elaborate on place relationships, a biocultural framework was selected for its emphasis on areas of interdependence between biological and cultural diversity (UNESCO-sCBD, 2014), and thus its fit with this dissertation’s objectives (see Figure 3.4.1.1 and Appendix K). Youths’ data were analyzed using the framework’s seven areas of interdependence: (a) language and linguistic diversity; (b) local, traditional, and Indigenous knowledge, technology, improvisation,<sup>30</sup> and innovation; (c) material culture; (d) modes of subsistence; and (e) social and economic relations; and (f) beliefs.<sup>31</sup> These categories necessarily overlap, as they depict fluid place relationships, leaving room for interpretation.

Considering interpretations, I found that the framework’s language use and conceptual

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<sup>30</sup> I have expanded this category to include *improvisation* to reflect not just the novelty of innovation, but the creativity that is involved in the process.

<sup>31</sup> The seventh framework category pertaining to *values* was overarching and will not be specifically addressed here. Reference will be made in the discussion of this chapter.

underpinnings required expanded interpretations in terms of entanglement. To give three examples from the perspective of language use in the framework: a) language is said to be “transmitted” rather than engaged through experience through interdependent relationships; b) language is lauded as the “vehicle” for knowledge, and linguistic diversity as the means of knowledge development, potentially prioritizing representation rather than ways of knowing through experience and material-discursive practices; and c) “traditional knowledge” may infer a “body of knowledge that is static, already packaged, and available to pass on from one generation to the next independently of people’s involvement in the land from which that knowledge grows” (Ingold, 2014). Beyond language use, the framework may be conceptually interpreted as lacking reciprocity in terms of more-than-human agency. Although emphasizing human and nature interactions, the framework may be considered too heavily focused on the human use of biodiversity, and not on the affective and responsive relations of biodiversity. It thus has the potential to be construed as separating nature from culture despite its intentions to promote their confluence.

I recognized these potential limitations in my analysis. With limitations in mind, I chose to use the framework as a guide to areas of interdependence, as I focused on youths’ perspectives related to the affective and responsive relations of both humans and non-humans. My intention was to further the framework’s applicability as I elaborated main research questions through rich interpretations of youths’ relationships with place. For purposes of this dissertation, youths’ data were coded based on their explicit reference to framework category descriptions. This was followed by re-reading data transcripts for direct and indirect reference to framework categories related to non-human agency.

### **3.5 Research Findings**

The findings of analysis will next be discussed beginning with youths’ broad orientations to *buen vivir*, sustainability, and biocultural heritage. Elaborating these themes based on youths’ aligning perspectives with the biocultural framework will follow. Keeping with the values of YPAR—namely that research unfolds *with* and not *on* participants (Torre, 2014)—the voice of these findings belongs to the youth co-researchers who embarked on this research journey. The remainder of this chapter attempts to reflect their perspectives by mirroring their words through

LINKS BETWEEN BIOLOGICAL AND CULTURAL DIVERSITY	
Languages and linguistic diversity	Language is the key vehicle of knowledge. It captures, maintains, and conveys information of local territories, species, ecosystems, and landscapes. Through the richness of linguistic diversity, knowledge is developed and passed from generation to generation.
Material culture	People engage with biodiversity through specific objects, which can be created from or represent biodiversity. These objects provide valuable information on the diverse use of biodiversity and the associated economic, social, and cultural practices, and values.
Local, traditional and Indigenous knowledge, technology, improvisation, and innovation	Local communities and Indigenous peoples possess sophisticated sets of knowledge, know-how, technologies, skills, and practices related to local biodiversity. In response to the changing environment, such knowledge is often combined with innovation resulting from the interaction between local biodiversity, practices, customary laws, and cultural and spiritual values.
Modes of subsistence	From agriculture to fisheries, forestry, or pastoralism, people depend on biodiversity to meet their basic needs and earn an income. Local knowledge, management and governance practices relating to the sustainable use of biodiversity result from complex interactions between economic and cultural forces that drive communities' interactions with their local environment.
Social and economic relations	Cultural identity, social structures and economic relations are strongly linked to local biodiversity and the relationships communities have with the surrounding land, sea, rivers, mountains, forests, lakes, animals, and plants.
Belief systems	The diversity of the world's belief systems, mythologies, worldviews, and cosmologies affects the ways people develop their identity and spirituality in relation to the natural world.
Values	Cultural values of biodiversity encompass aesthetic, spiritual, recreational, educational, inspirational values. They define peoples' relations to biodiversity and are defined by culturally grounded and often intergenerational value and belief systems.

*Figure 3.4.1.1.* Areas of biocultural interdependence. Adapted from “Linking biological and cultural diversity” by UNESCO-sCBD, 2014. Reprinted with permission by UNESCO.

translation and weaving them together to capture the rhythm and cadence of their critical place inquiries across the research process.<sup>32</sup>

**3.5.1 Youth co-researcher orientations to *buen vivir*.** For youth co-researchers, *buen vivir* is a way of life that encompasses respect, comfort, conservation, unity, adaptation, friendship, solidarity, and acceptance. They further felt that communities require the following needs and rights to promote *buen vivir* in practice: “the chance to share opinions and participate in taking decisions,” “education,” “healthy ecosystems,” “good conditions for health and fair payment,” “medical assistance,” “the opportunity to practice their own culture language and spirituality,” “recreational parks,” and “fair treatment and non-discrimination.” They suggested these attributes are fostered by autonomy to shape communal directions—“For us, that's *buen vivir*” (Dani).

*Buen vivir* was considered a community right to self-determination, participation, and external support, including “the basic things that are needed . . . that come from us as a community or the government. For me these are rights, and all beings deserve them” (Jeison). Describing their role in securing rights, they suggested: “We have the right to be respected inside our community and to participate in it—that is part of non-discrimination” (Manuel). Another youth suggested ethical and moral alignment: “In a community, *buen vivir* is not what you want for yourself—not just what *I* want, but more what *we* want” (Dani). When asked if this extended to non-humans, all youth co-researchers answered “yes,” without hesitation.

Youth co-researchers further discussed the interconnections between nature and culture in shaping their community well-being: “If there is no nature, there is no Island, there is no us, and there is nothing” (Dani). They further asserted that humans directly impact, and are impacted by, the rights of nature: “Of course [there are rights] for the ecosystems and the lack of those rights happens when we don't respect the ecosystems' *buen vivir* and at that point we have to adapt to a different ecosystem” (Sebastian). They continued to discuss their role in creating a healthy ecosystem where they co-existed with nature: “I think we all have the right to have a decent

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<sup>32</sup> The voices of youth co-researchers presented in this manuscript have been translated into English. The choice was made to retain quotation marks to signify the speakers' contributions to research narrative. All youth gave consent to use their given names.

home, but then you can have the best house in the world but the ecosystem where you are is not healthy. . . . Nature is part of all and for me *buen vivir* is to be surrounded by a healthy environment” (Sebastian) (see Figure 3.5.1.1).



*Figure 3.5.1.1.* Photovoice image depicting *buen vivir* and its inclusion of both human and non-human rights (Photo credit: Heides Molina).

Healthy ecosystems also prompted discussions of whether humans have the right to control nature in their community. In general, youth co-researchers discussed the right of self-determination to manage resources and the human responsibility to protect nature, whether as resource users or resource guardians: “We should have control over nature on the Island but with responsibility; not because we have the control do we have the right to predate everything” (Sebastian). Thus, from the perspectives of youth co-researchers, *buen vivir* involves the entanglements of nature and culture that shape healthy places, including rights, interests, decisions, and actions that affect this relationship. This sentiment is carried forward in reference to perspectives on sustainability.

**3.5.2 Youth co-researchers orientations to sustainability.** When first asked to describe the concept of sustainability, youth co-researchers struggled to find a definition. However, through an example of artisan fishing, they suggested that it involves “using our resources in a responsible way.” One youth suggested, “For me sustainable development is to teach another person to take care” (Ezequiel) (see Figure 3.5.2.1). Their learning related to the



*Figure 3.5.2.1.* Photovoice image of an Island tourism footpath through the dry forest, representing the need to conserve Island resources through sustainable use and practices (Photo credit: Jeison Ceballos).

sustainability of ancestral territory places evolved through contemplation of global sustainability concepts from which they valued the following assertions: “capacity, productivity, human rights, immediate future, will, respect, generations”; “commitment, economy, well-being, social”; “reasonable, distribution, development.”

One youth elaborated on their choices:

For us, sustainability means production, capacity, culture, and coordination. We define it with these words because in the first place, *culture*: Having in mind all the methods our ancestors used that we continue to use today like artisan fishing and handcrafts; using what we have and using tools from the environment to develop our environment.

*Production* includes culture: We produce certain things through cultural uses, through our customs. *Capacity* means we have the capacity to share, to maintain our environment and our community in a good shape. *Coordination* is to be sustainable as you have to [use resources] always at the same level (or better). (Sebastian)

To further situate co-generated understandings of well-being and sustainability, youth co-researchers were encouraged to consider their relations with place through collective biocultural heritage.

**3.5.3 Youth co-researcher orientations to biocultural heritage.** Initially considering collective biocultural heritage in their ancestral territory places, youth co-researchers were unable to provide a description in either oral or written form. However, when presented with a mural activity to draw significant aspects of nature and culture in their home places, they were able to richly describe interconnected relationships (see Figure 3.4.3.1). In this activity, they

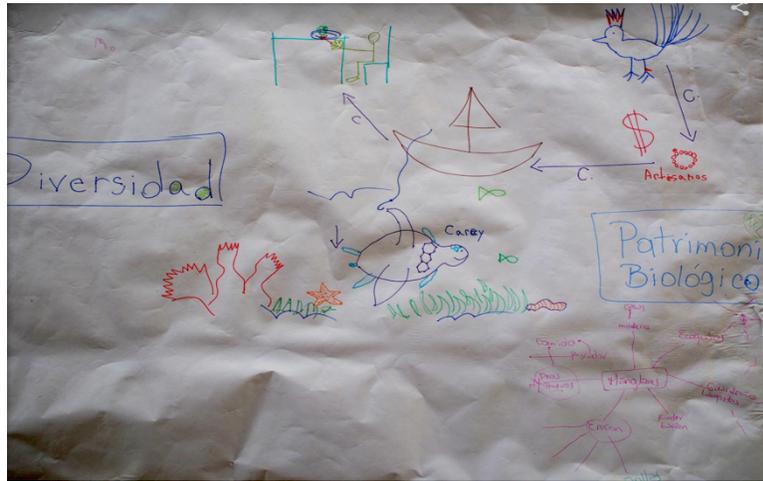


Figure 3.5.3.1. Biocultural heritage mural drawn by youth co-researchers, depicting the significance of entangled relationships with ancestral territories of land and sea.

began by considering a biological or cultural aspect of their community places that contributed to their *buen vivir*. Co-researchers drew coconut palms, mangroves, turtles, fishing boats, and corals, prompting further mapping to expand on their entanglement. Upon completion, the murals depicted nuanced understandings of collective biocultural heritage of Island places over time, discerned through associated transcribed discussions. In these discussions, co-researchers spoke of how Island culture was inseparable from biodiversity. Furthermore, drawings sparked conversations of sustainability—particularly economic sustainability—and its dependence on maintaining biocultural relations that promote environmental and cultural sustainability. Across the mural drawings, youth co-researchers’ particularly contextualized their collective biocultural heritage as a “lived experience”:

For me this [collective biocultural heritage] has to do with everything in the community and how we depend on the environment. Our biocultural heritage is like the fishermen

and all the people that live because of the tourism, and [traditions like] the *champeta* [local dance], and *Paito* [an elder who plays traditional African music]. . . . That’s our culture . . . the cocks, the noise, all of this is part of a concept that many people live but maybe don’t understand the word. (Dani)

This quote further elaborates on the challenge co-researchers had in defining the concept of “biocultural.” For youth co-researchers, Islanders at large understand the term through daily life patterns, rather than through dissociated and decontextualized notions.

Youth continued to discuss *buen vivir*, sustainability, and biocultural relations through primary research methods of photovoice and participatory mapping that afforded cyclical sessions of inquiry and action. Analysis of their collected data through the UNESCO-sCBD biocultural framework will now be shared to illuminate their understandings of interdependence.

**3.5.4 Language and linguistic diversity.** The entanglement of language and local knowledge of place is well documented related to biodiversity. This includes the ways environmental knowledge is closely connected to local names, oral traditions, and practices see also Figure 3.5.4.1). The erasure of language leads to degradation in biodiversity, and vice versa

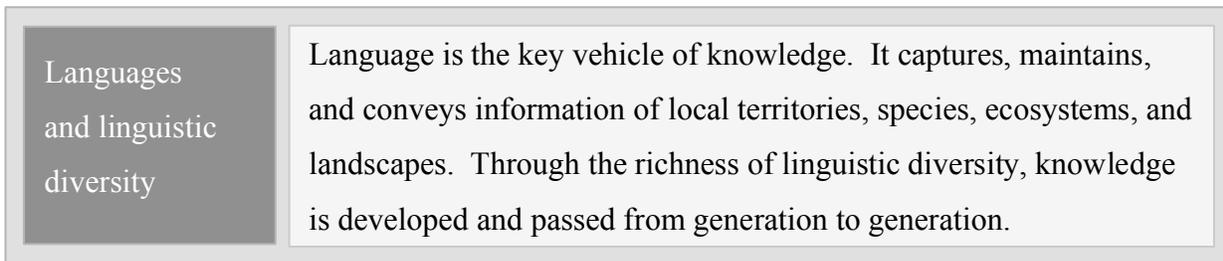


Figure 3.5.4.1. Biocultural interdependence: Language and linguistic diversity (UNESCO-sCBD, 2014).

(Maffi & Woodley, 2010). In this study, the interdependence of biological and cultural diversity expressed through language and knowledge was captured through youths’ mother tongue, Spanish. Their perspectives included frequent reference to regional idioms and expressions. Inquiry and reflection sessions summoned youths’ ecological and cultural knowledge of ancestral place diversity related to “species, ecosystems, landscapes, as well as their functioning and connection to local practices, livelihoods and well-being” (Appendix K.1.1). Traditional

fishing, for example, evoked a quick-fire listing of species such as, “*barracuda, róbalo, pargo, mojarra, sierra, pez leon, pez cofre, cirujano, angel reina* . . .” [barracuda, sea bass, snapper, mojarra, mackerel, lionfish, trunk fish, surgeon fish, angel fish . . .]; while discussions of food security summoned accounts of traditional harvests: “We grow fruits like *la patilla, el melón, el mango, la papaya, y la naranja* [watermelon, melon, mango, papaya, and orange] . . . also *el limón, el anon, la guayaba, la maracuyá, el coco, el platino, la yucca, el maize, and la batata* which is like a red potato but purple and large” [lime, sugar apple, guava, passion fruit, coconut, cooking banana, yucca, corn, and sweet potato]. The youth also discussed the diversity of native trees and shrubs such as, “*la mata ratón, el quebracho, el caucho* . . . *la majagua, y la bonga*” [quickstick, locustwood, rubber tree, sea hibiscus, and bongo]. Keeping with Spanish language nuance, all of the words shared by youth were gendered, implying ‘male’ and ‘female’ orientations to the natural world (and beyond). One exception was “el mar” [the sea], which, when used in a poetic and spiritual rather than an objective sense, was labelled “*la mar*” [the sea] with a female connotation.

Youth expressed interest in intergenerational sharing to maintain local knowledge. This is salient when considering that intergenerational knowledge is presently engaged through Spanish language exchange, however there is increasing interest particularly among young people, to learn English. This interest stems largely from changing opportunities for subsistence through a growing tourism industry. Resultantly, questions arise as to how efforts toward economic sustainability and associated language shifts will affect cultural integrity, local knowledge, and biodiversity in ancestral territories.

**3.5.5 Local, traditional, and Indigenous knowledge, technology, improvisation, and innovation.** Youth frequently attributed their knowledge and practices to “direct interaction with the local environment . . . as it underpins daily life” (Appendix K.1.2 and Figure 3.5.5.1). For example, youth co-researchers credited learning from their elders related to cultural heritage and subsistence practices: “Elders know many things, for example how to use the plants, how to grow good things in a simple way . . . how to make the harvest like Pampe [given name of a community elder], and how to get fruits after a rainy season” (see Figure 3.5.5.2). They further accounted intimate experiences with biodiversity and the more-than-human world:

Local, traditional  
and Indigenous  
knowledge,  
technology,  
improvisation, and  
innovation

Local communities and Indigenous peoples possess sophisticated sets of knowledge, know-how, technologies, skills, and practices related to local biodiversity. In response to the changing environment, such knowledge is often combined with innovation resulting from the interaction between local biodiversity, practices, customary laws, and cultural and spiritual values.

Figure 3.5.5.1. Biocultural interdependence: Knowledge and practice (UNESCO-sCBD, 2014).

Other things that adults can teach us, for example, *Maximo* as a fisherman or *Reyes* with his tales about the moon; [these] people fish depending on the moon's mood, and they know the places or the times to go and fish because they say if the moon goes out the lobsters are gonna be in a particular place. So everyone knows the place and the days of the year where to go and fish with the moon, the breeze, and the winds<sup>33</sup> (Jeison).

Valuing local knowledge and opportunities for shared learning were further emphasized in relation to collective *buen vivir* and sustainability across generations:

[Together we] can learn so many things about what we have here, because all things start and end someday and it can happen that these ways of learning can change the impact we make on the Island. I mean you can't avoid an ending but you can have the key to leave something lasting. (Sebastian)

Knowledge and practices related to the marine ecosystem was a predominant theme. Youth spoke at length of their interdependence with the Island's coral reef, mangrove ecosystem, and internal lagoons. They particularly referenced growing up appreciating the Enchanted Lagoon's biodiversity, and the significance of sharing it to support tourism: "There is something magical that happens in the night when there is a huge concentration of plankton. When there is no moonlight you get into the water and it sparkles because it has micro-organisms in it" (Jeison) (see Figure 3.5.5.3). Another youth continued to describe the Lagoon as a "nursery, a birth-place

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<sup>33</sup> Fishing practices change according to breeze (northerly) and wind (southerly).



*Figure 3.5.5.2.* Youth valued local knowledge of biodiversity and agriculture (Photo credit: Jeison Ceballos)

to the small fish [that] get reproduced on the side of the mangroves” (Ezequiel). Through an exchange of voices, the Lagoon was valued as a “refuge for birds, plants, snakes, iguanas, boas, and small crabs.”

Changes in the ecosystem health of the Lagoon were further discussed in relation to “local-level decision-making about the use, management, and conservation of both cultural and biological diversity” (Appendix K.2.1). Local changes and unsustainable development were



*Figure 3.5.5.3.* Photovoice images depicting marine ecosystem significance to ancestral place relations in Isla Grande, Colombia (Photo credit: Heides Molina).

lamented for the effects on Island culture and present day practices: “We connect the [Lagoon’s] ecology with our cultural heritage as well as economic [sustainability]” (Katya). Local changes were noted in terms of species decline both in population and size, invasive species such as lionfish, coral degradation, stronger wave action, sea level rise, eroding shorelines, effluent runoff, and deforestation. Attributed pressures included top-down governance, economic challenges, growing tourism, waste management, external threats, and climate change. Youth desire innovative practices that can “adapt to local environment and cope with its changes by [drawing on] a complex set of observations, experiences, practices and knowledge in close overlap with local social and cultural evolution” (Appendix K.2.2).

Frequently, however, youth discussed adaptation as both sustainable and unsustainable, and not always reliant on local knowledge and observation, but driven by economic hardship. For example, youth mentioned the sustainable and innovative practice of harpoon hunting to control invasive lionfish species; however, this was countered by discussing the unsustainable practice of dynamite fishing used to pacify immediate subsistence needs (see Figure 3.5.5.4). Another example was the importance of sharing their culture through sustainable tourism practices on the Island by canoeing and night swimming in the Lagoon; but with a growing tourism market, current adaptations include motorized boat traffic and accommodations for higher visitor numbers resulting in unsustainable practices and use of their resources.



*Figure 3.5.5.4.* Photovoice image of a lionfish in the coral reef of Isla Grande representing changes in ocean health and the need for innovative solutions (Photo credit: Manuel Maldonado).

Aside from marine resources, the youth highlighted knowledge related to terrestrial natural resource use involving, “technologies and techniques that are socially acceptable, and intimately linked to sustainable utilization and management of local natural resources” (Appendix K.2.2). For example, they shared photos related to resource access and seasonal variation in reference to the “lack of potable water and electricity” in their home places (Ezequiel). In these discussions, they emphasized resource dependence, management, and governance related to sustainable resource use, as well as local improvisations and innovations:

During the winter seasons all the rainwater goes over the roofs straight to the underground tanks and we deposit tons of water for consumption after the winter season is over and the summer begins. . . . When the water is gone, we also have a cistern ship that we hire that comes from Cartagena to leave us a water supply in the community.” (Jeison)

A second youth considered this management practice more sustainable than traditional practices whereby, “A long time ago people brought water but in a *chalupa* [small canoe] that brought tanks of 2000 liters that they held [by hand]; today there is the bongo and it is not like this [as labour-intensive]” (Ezequiel).

Youth co-researchers also elaborated on electricity use on the Island in reference to accessibility and innovative local resource use: “[As for] the power, only the people who have generators or solar panels have it, and the others have to use candle lights” (Ezequiel). One youth contrasted the sustainability of these changing practices, and considered herself fortunate to have solar panels: “Using the sun, we don’t contaminate because we don’t have a generator and that produces smoke and pollution” (Katya). Improvisation and innovation in this case, were valued for sustainable resource use, aligning with youths’ values of environmental stewardship.

**3.5.6 Material culture.** Youth co-researchers discussed material culture in reference to community “engage[ment] with biodiversity through specific objects, which [are] created from biodiversity components, or represent[ive] of biodiversity” (Appendix K.3.1; see also Figure 3.5.6.1). Through photos of entrepreneurial ventures such as handicraft creation and selling, youth described coconut shells used to make kitchen bowls and necklaces of hand-carved turtles, seahorses, and fish. They also considered material culture in relation to the sustainability of

**Material  
culture**

People engage with biodiversity through specific objects, which can be created from or represent biodiversity. These objects provide valuable information on the diverse use of biodiversity and the associated economic, social, and cultural practices and values.

*Figure 3.5.6.1.* Biocultural interdependence: Material culture (UNESCO-sCBD, 2014).

community places (see Figure 3.5.6.2). When discussing objects crafted by local artisans such as purses and belts made from the tabs of tin cans, and handbags woven from plastic bags, youth co-researchers attributed economic, social, and environmental sustainability value:

Some of the materials that people use in the handcrafts . . . are [made from] our natural resources and some of them are also made using recycled items like plastic bags. This practice helps on the economic side and the environmental side because there is no need to buy, and there will no longer be garbage on the ground. (Jeison)



*Figure 3.5.6.2.* Photovoice image of local resource use in material culture of Isla Grande, Colombia (Photo credit: Heides Molina).

In a related conversation, one youth also lamented the material culture of neighbouring communities for the unsustainable use of biodiversity in the creation of material objects. He gave examples of fishing turtles for meat as well as for their shells in the creation of jewellery.

When asked whether this was a biocultural practice in the Isla Grande community, one youth avowed, “Oh no, just spurs for cock fights” (Dani), thereby suggesting turtle shell use as an accepted cultural tradition in his home places (see Figure 3.5.6.3). This justification suggests the varying ways that biocultural relationships are valued and alludes to the potential for conflicts and politics over resource use and practice.



*Figure 3.5.6.3.* Cultural traditions of cock fighting in Isla Grande, Colombia (Photo credit: Jeison Ceballos).

Youth further discussed the biocultural significance of dry forest resources in material culture, such as the native *nispero* tree:

I've seen *nispero* trees in the middle of the island. . . . To get the fruit to mature faster they take the leaves and put them in a sack together on top and close it to quicken the growing process. . . . The termites also make their nests here and . . . people also take the juice that comes from the shell to make glue. (Ezequiel)

They also talked about the cultural practice of using the *nispero* glue to catch small songbirds to keep in cages that hang outside some houses: “The kids take the milk [glue] and put it onto sticks and after that they burn the sticks to get the birds to stick to it” (Katya). Another photo captured the common cultural practice of using forest biodiversity for protection from bugs: “That is a branch of *mata ratón* [quickstick] because there are a lot of mosquitos here. We use branches as repellent so this is something that represents our culture” (Ezequiel). They additionally discussed crafting forest products into traditional wooden games played by Island children such

as “*trompo*” [a wooden spinning toy] (Ezequiel).

Forest biodiversity was also depicted to represent changing cultural practices of home building: “This is a cultural use—a roof with thatch—and before it was made with coconut palms [from the Island] but now they bring them from far away” (Katya). Another youth explained, “They now use bitter palm” (Ezequiel). They also captured images of coal ovens representing how material culture was created from the Island’s dry forest biodiversity. The use of coal ovens was described as a declining cultural practice to repurpose fallen tree species. Trees were charred in ovens to make coal, before being sold for cooking fuel and fertilizer for crops. It was a practice described by youth as important for biological, cultural, and economic sustainability (see Figure 3.5.6.4).



*Figure 3.5.6.4.* Photovoice image of coal ovens representing changing biodiversity use and tradition in Isla Grande, Colombia (Photo credit: Jeison Ceballos).

Lastly, youth co researchers discussed using local forest biodiversity to craft traditional instruments often played during community festivals:

To me there is only one instrument in the whole Island that I like. I find it very attractive and also unique—it is the *marimbula* [a traditional African instrument] from *Pampe* [the given name of a community elder]. It is not only good for its sound but also because it is a very unique instrument and is made here [on the Island] with natural and simple materials. (Jeison)

His comment sparked another related to the need to carry forward material culture to maintain connection with place and each other: “My grandfather is a musician of *la gaita* [an Indigenous flute of the Colombian Caribbean]. He has lived on the Island for 45 or 47 years. . . . If he dies that [*la gaita*] is done because the only one who plays it on the Island is him” (Dani). This comment reflects youth co-researchers’ concern that material practices using biodiversity are largely “being lost in the community” on account of generational shifts and practical relevance in a modernizing world. However, co-researchers discussed their interest in maintaining material traditions for purposes of cultural integrity, despite the lack of practical usefulness in their present-day lives, for example: “I would like to learn how to make a [coal] oven not because I want to live off of it, but to maintain the tradition.” Such sentiments suggest shifting collective biocultural heritage across generations, and the importance of considering “sources of inspiration [to] offer new perspectives for innovative, sustainable use of biodiversity” (Appendix K.3.1).

**3.5.7 Modes of subsistence.** A primary focus on subsistence during group reflections pertained to the “vital economic, social and cultural ties to the land and the sea . . . and complex interactions between economic and cultural forces that drive communities’ interactions with their local environment” (Appendix K.4.1; see also Figure 3.5.7.1). The youth emphasized tourism

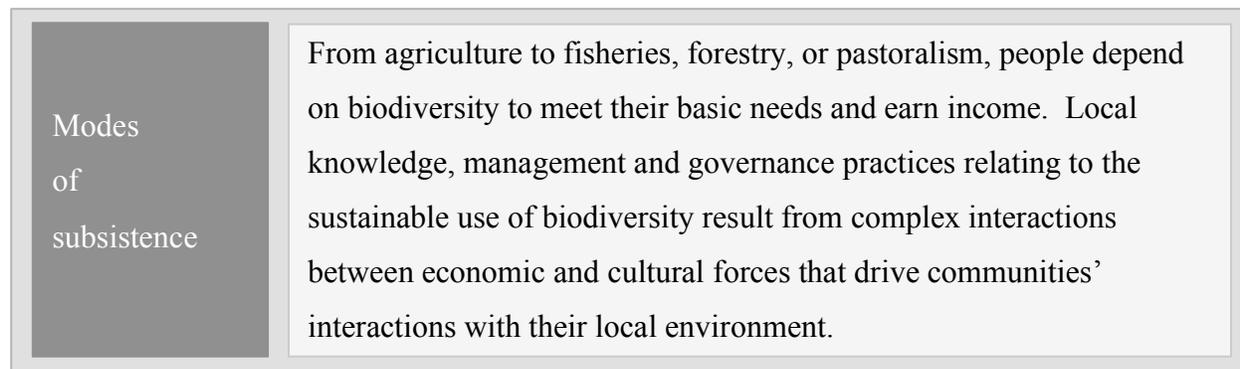


Figure 3.5.7.1. Biocultural interdependence: Modes of subsistence (UNESCO-sCBD, 2014).

and fishing practices for their contribution to economic security and cultural value: “Fishing represents sustainable [economic] development . . . and also our culture because we have been doing the same since a long time ago” (Katya and Ezequiel). When discussing the value of fishing lobster, for example, one youth exclaimed that it represented Island life and *buen vivir*: “The lobster . . . is transcendental. It has always been here, and the Island without the lobster

would be nothing” (Ezequiel). This spoke to how their identity is deeply rooted in biodiversity and led to conversations of changing cultural relations with the sea (see Figure 3.5.7.2).



*Figure 3.5.7.2.* Photovoice image of changing fishing practices and modes of subsistence in Isla Grande, Colombia (Photo credit: Katya Torres).

Youth co-researchers expressed concern that current fishing practices were negatively impacting environmental and economic sustainability and stressed the need for “management practices and techniques as means of sustaining livelihoods while maintaining local biodiversity and cultural heritage” (Appendix K.4.2). They cited over-consumption and tourism demand as growing critical place issues: “We are consuming a lot of lobster . . . and the number is decreasing” (Manuel). They also listed other over-fished species including “grouper, snails, octopus, and anything that makes money” and associated this with a resultant “unbalance in all of the marine chain” (Ezequiel and Dani). They further discussed the stress to place relationships as a result of unsustainable subsistence practices driven by critical place issues such as protected area zoning, tourism demand, an increasing population, lack of education, challenges in co-governance and enforcement, and market pressures. For example, they spoke of dynamite fishing and *trasmallos* or *boliches* [big nets] used to capture large quantities of undifferentiated catch species and size, practices they recognized caused additional damage to corals and sea floor, further impacting negatively on species diversity and human livelihoods.

All co-researchers stressed the need to change harmful fishing practices and to diversify

to ensure *buen vivir* and sustainability in the community:

I think . . . something that reflects it [*buen vivir*] very much is the ocean. We know here on the island we don't have a place, like an enterprise for the community, apart from the ocean, which is the biggest [option]. But not all of us are fishermen so there are micro enterprises [related to the ocean tourism] for the people who not only work with visitors, but also those who make things like bags to see if they can sell them. (Jeison)

Another youth continued to commend community efforts in their Island places toward diversification of subsistence practices:

Well to complement that, let's say to survive here we have to develop many skills and this is reflected in all that our community has been learning. I don't know if we can continue to say we just live through the fishing. Yes, we fish, but we have also developed many other [economic] skills. (Sebastian)

To supplement modes of subsistence on the Island using diversified skills, the youth suggested mangrove nurseries, fish farming, plant nurseries for gardens, raising chickens for eggs, and partnering with local hotels to sell Island products such as coconut candies and artisan handicrafts (see Figure 3.5.7.3).



*Figure 3.5.7.3.* Co-researchers emphasized biodiversity for traditional and diversifying practices, as in this example of mangrove restoration, in Cotocá, Colombia (Photo credit: Juan Vega).

### **3.5.8 Social and economic relations.** Cultural identity, social structure, and economic

relations were discussed by youth in connection with the ways the “management of natural resources requires collective and collaborative action which is carried out by a number of actors and stakeholders each holding a specific role and related responsibility” (Appendix K.5.2; see also Figure 3.5.8.1). Pertaining to the regional and local political leadership governing the

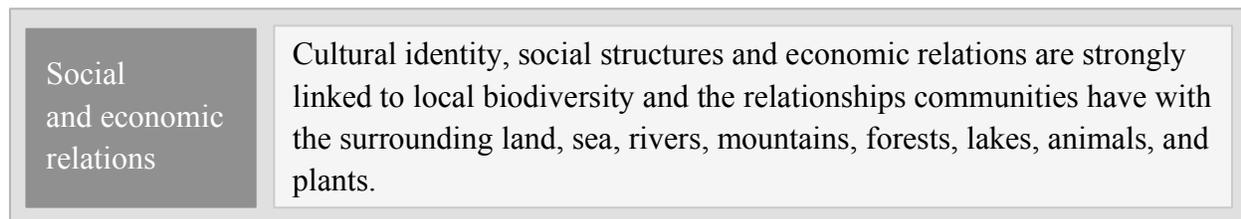


Figure 3.5.8.1. Biocultural interdependence: Social and ecological relations (UNESCO-sCBD, 2014).

Island, youth co-researchers spoke of collective and collaborative action made possible through their Communitarian Council in regard to the management of their territories:

The most important thing to know about our politics on the Island is that although we are governed by the mayor of Cartagena, we have a Communitarian Council, and we are titled as an ethnic community. We have a leader who is the president of the Communitarian Council but being a Council means all the community participates and takes decisions about our policies and we get reunited like we are here [in this study]. We take decisions about our territory. . . . (Jeison) (see Figure 3.5.8.2)

The importance of transparency in leadership was mentioned several times by youth, stressing the desire to be informed of, and included in decisions that affect their lives. Related to decisions and management of natural resources, youth lamented the challenges of sustainable use and practice, but the importance of collaboration to maintain cultural identity in their marine territories. For example, they struggled to imagine a way to balance economic subsistence based on marine catch, with the interdependence and rights of nature. They did, however, recognize the positive governance role that National Parks can play in safeguarding biodiversity:

There are many fishermen and they don't let them [marine species] be. I mean they hunt them, so because this area is restricted, nobody can go except *Parques* [National Parks]. All the species are preserved in that area, and it is the place where a large number of

species are living and safe. (Dani)

Despite this solution, youth recognized consequential challenges of separating nature from humans through such no-access/no-take spaces, particularly when community consultation is valued, Island culture is intertwined with their marine territories, and illegal fishing continues in other areas, many of which are proximate to their shores.



Figure 3.5.8.2. Island governance and political decision-making for Collective Land Tenure in Isla Grande, Colombia (Photo credit: Plan de Vida, 2014).

Growing tourism practices were directly connected with the sustainability of natural resources, and how they were managed (see Figure 3.5.8.3). Speaking to this significance to their biocultural heritage, youth emphasized, “Our Island is a touristic place. We live most of all through the tourism and we have to have these resources for us and for them” (Ezequiel). They particularly referenced tourism in relation to the need for “control over access to resources, sharing of benefits arising from their commercial use . . . and management of common property resources” (Appendix K.5.4). They emphasized the need to work toward responsible governance as a community to provide economic security as well as *buen vivir*:

By the contrary, if only we could face [economic] challenges as a united community while preserving the Island. It is just a case of having different alternatives. . . . This is the whole controversy: We need money, but we also need a way to conserve the Island . . . the economic is not above the [*buen vivir* of] community. (Jeison)

The pressures of achieving a balance between economic sustainability and *buen vivir* were discussed in terms of their everyday experiences of unsustainable tourism development and

resultant challenges. One youth explained this significance:

We live in a place where we depend on tourism directly or indirectly. For example, the fisher sells to the hotel, the hotel sells to the tourist. . . . We like to work for a while to earn what we earn, feeling that we don't damage the ecosystem. But the development the Island has been experiencing, well the tourism brings consequences like pollution and the boats cause erosion for the reefs because of their speed. It is a drastic change. (Jeison)

Other youth co-researchers built on this description to discuss the negative impact that the high number of tourists can have on biodiversity: the pressure on food security, insufficient tourist management, and education around corals, and the lack of sufficient waste management practices.



*Figure 3.5.8.3.* Photovoice image of a tourism initiative: “Ecocamping Bosque Encantado” [Enchanted Forest Ecocamping] showing the need for sustainable governance of Isla Grande’s natural resources and the promotion of sustainable tourism (Photo credit: Katya Torres).

When considering how tourism could be sustainable, youth believed that shared responsibility and education were keys to maintaining biocultural heritage. They particularly emphasized the role of eco-guides working on the Island: “There are guides who just take the people to Island places, take the money, but don't know about the corals' existence” (Manuel). Additionally, youth co-researchers emphasized the need to share the significance of their place relationships with visitors:

For us sustainable development is to be able to transmit the information we have about how to take care of our land and to share this with another person who comes as a visitor, no matter if it is a short visit . . . because they take the learning with them.” (Manuel and Jeison)

They suggested, however, that learning had to start within the community by building autonomy to direct economic practices in ways that do not degrade the relationships on which these practices are based.

**3.5.9 Belief systems.** Opportunities to maintain biocultural heritage were attributed to annual festival events, as a means to “not forget where we come from” (Dani). Particular reference was made to *el Día de la Afrocolombianidad* [National Afro-Colombian Day]. This much-anticipated festival denotes, “important cultural expressions that structure the lives of communities who practice them, reaffirm their identity as a group or a society and play a key role in their social, cultural and spiritual life” (Appendix K.6.1; see also Figure 3.5.9.1).

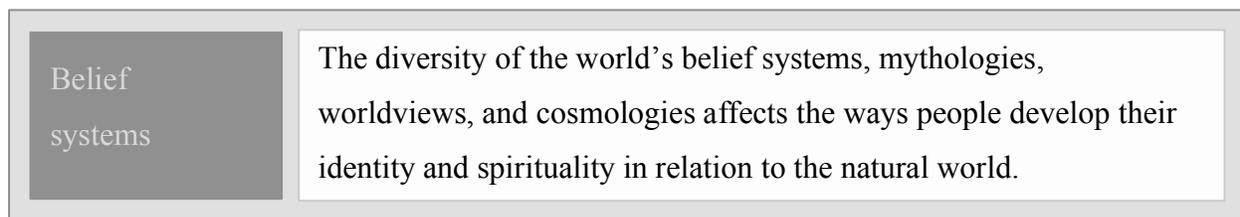


Figure 3.5.9.1. Biocultural interdependence: Belief systems (UNESCO-sCBD, 2014).

In describing its significance, one youth shared the following comment:

On that day [National Afro-Colombian Day] we were talking about our community, I mean everybody remembering that we are Afro-descendants . . . they were talking about slaves and slavery times. . . . [The Day] was all about getting people to understand that we are all people, we don't have to discriminate anyone . . . I realized that we are all humans, we are people, the colour is just the colour because the blood is red for everyone . . . if you throw a person's blood in a glass and mix it with another, both are the same; you can't say this one is mine. (Dani)

This astute recollection was not only moving, but also supportive of the *Plan de Vida* processes occurring in the community to promote autonomy and governance in ways that respect their biocultural relationships in this place (see Figure 3.5.9.2).

A second cultural festival was incorporated into this research on account of its significance to the youth and community. *El Día de San Juan* [The Day of St. John] marks the beginning of the monsoon season and recognizes, “collective or individual recollections com[ing] together in meaningful ways to celebrate the . . . land and water having special spiritual significance to peoples and communities ” (Appendix K.6.2). This day was chosen to share youths’ photovoice data because of the research alignment and community attendance.



*Figure 3.5.9.2.* Photovoice image representing Afro-Colombian identity and place relations in Isla Grande, Colombia (Photo credit: Dani Silgado).

Belief systems were further expressed through the significance of water to youths’ lives. Youth co-researchers frequently discussed the Enchanted Lagoon and its legacy in shaping community beliefs and tradition in relation to a “place of high biological and cultural value” (Appendix K.6.2). One youth asserted that swimming in the Lagoon promoted longevity: “The legend of the Enchanted Lagoon tells us that people who go into it never get old” (Ezequiel). Another youth discussed its significance behind a local taboo: “There was a married couple and the man drowned and was never seen again. His widow is constantly looking for him and you can hear her crying . . . that is why no one walks alone around there” (Katya). These expressions suggest the significance of marine territories to youths’ place relations for the “ways people develop their identity and spirituality in relation to the natural world” (Appendix K.6.3).

### **3.6 Discussion**

The findings discussed in this chapter stem from efforts to engage place relations in the foreground of research processes to attend to its significance to youths' lives (Anderson, Adey, & Bevin, 2010; Tuck & McKenzie, 2015a). Through this critical place inquiry orientation, youths' understandings and experiences of sustainability and well-being in connection with biocultural place relationships were encouraged. The UN (2014) has expressed value in these foci particular to island communities:

Biocultural heritage would be an important focus to achieve local sustainable development since it addresses how livelihoods are shaped around natural resources and how local culture is influenced by it . . . biocultural heritage recognizes the deep connections among people, culture, knowledge, and the natural environment, and can meaningfully advance inclusive social and economic development.

Toward these ends, this chapter offers insight into how the biocultural framework can collate youths' perspectives of place to support the inclusion of their voice in community efforts toward sustainable development and self-determination.

The research analysis presented in this chapter aims to create a dynamic picture of collective biocultural heritage by weaving together group dialogue as it unfolded with place across the research process. Often youths' perspectives deepened across consecutive research sessions as knowledge was conveyed and expanded by team members based on introductory experiential activities, photovoice images, and participatory maps. With a focus on well-being, sustainability, and biocultural heritage, group dialogue offered youth co-researchers opportunity to consider how place relations may create, perpetuate, or respond to particular critical place issues that threaten diversity ways of becoming. Dialogue also offered the lead-researcher opportunity to share translated understanding and interpretation to ensure accuracy.

Through their group discussions, it became apparent that youth co-researchers understand interdependence with place as a result of their personal experiences rather than through prescribed concepts. This was exemplified by one co-researcher's comment that, "[Biocultural heritage] is part of a concept that many people live but maybe don't understand the word" (Dani). Similarly, themes of sustainability and *buen vivir* were not readily defined, but rather described through stories of their ancestors as well as emergent through personal, present-day relations. This finding stresses the importance of engaging in research processes that attend

meaningfully to place context in concept, orientation, approach, design, and practice.

Across analysis, youth described biocultural heritage as an evolving process, affected by intergenerational values and relevance of cultural practices. Regardless of shifts, however, youth placed emphasis on the need to respect non-human rights alongside human rights to maintain well-being and sustainability across generations. This was particularly referenced in regard to taking responsibility while conserving, modifying, and generating biocultural relationships. Through these actions, youth co-researchers recognized a multitude of roles in upholding collective rights. For example, they discussed the role of government bodies such as National Parks to support the conservation of biodiversity when recognition was given to the biocultural relationships of communities. Locally, they recognized their community's role in modifying these same relationships to merge tradition with modernity and diversification. Personally, they emphasized their role in generating relations that supported their well-being alongside the sustainable development directions of their community through participation in community efforts toward sustainable development and self-determination. These assertions are revealing, as they indicate that the youth co-researchers envision working toward, and participating in, processes of collaboration and co-governance to encourage collective biocultural heritage in ways that promote well-being and sustainability.

How youth co-researchers value biocultural heritage is critical to their participation in collaborative processes. The UNESCO-sCBD biocultural framework was useful in discerning their perspectives based on areas of interdependence between culture and biodiversity. However, it is important to note that this framework requires expansion to more explicitly integrate language and concepts of entanglement and reciprocity between human culture and the more-than-human world, as earlier discussed. Furthermore, the framework as applied in this research, was “out of place” given that youth perspectives were attributed to framework categories through formal academic analysis by the lead-researcher. Thus, the power of interpretation was in the hands of the lead-researcher and not the participants' (Pain, 2004). The YPAR design used in this research encourages co-analysis processes. During research processes, informal analysis was facilitated with youth co-researchers, and later drawn on in academic analysis. However, the academic analysis was not participatory on account of lead-researcher visa restrictions in Colombia and PhD candidature timeframes. Moreover, youth invitations to participate in a post-

academic analysis to ensure accuracy received low youth turnout on account of conflicting youth schedules and festival events occurring in the Island. Despite these notable drawbacks for the underlying values of this research, the framework remained a useful means to capture youths' evolving place understandings across the dynamic research process. The framework categories helped to synthesize youths' collaborative accounts of place relations, lending clarity to the main research themes, and creating a meaningful way to share their voice with their community.

One framework category not formerly addressed in this chapter concerns how “cultural values of biodiversity encompass aesthetic, spiritual, recreational, educational, inspirational values” (UNESCO-sCBD, 2014). Formal academic analysis revealed youths' biodiversity values were interwoven across areas of interdependence—language, material culture, knowledge, improvisation, and innovation, social and economic relations, and beliefs. For example, youths' values were expressed through their interest in intergenerational knowledge, improvisations, and innovations that improve quality of life for all; changing resource patterns and the need for diversification; as well as the sustainability of material culture. They also stressed the central importance of promoting biocultural heritage in ways that support their economy and conserve their environment—emphasizing the pressing need to address this now for the well-being of both humans and non-humans. Values were most concisely expressed during group dialogue related to *buen vivir*. In these discussions, youth discussed the importance of becoming with places that afforded the existence of human and non-humans in healthy ecosystem relations. Youth-identified threats to these ecosystem relations were particularly revealing. For example, youth acknowledged how cultural relations either put pressures on the diversity and integrity of biodiversity relations through resource use and practice; or how cultural values promote taking care of biocultural relations and resultant reciprocity.

Youths' biocultural values are an important consideration for community planning toward sustainable development, as they inform the role youth can play in planning and action. This is particularly significant given the ways tradition and modernity coalesce across generations, influencing the integrity and diversity of interdependent relations. Such shifts emphasize how “cultural value systems are an important factor that drives people's interactions with biodiversity including its conservation strategies and sustainable use and management practices” (Appendix K.7.1). This point is salient when considering how youth construct,

imagine, and experience collective biocultural heritage of place, and what this means for sustainable development trajectories. Illuminating diverse perspectives on place can inspire the transformation of existing geographies to align with biocultural values. This emergent potential can importantly support community efforts to address critical place issues in ways that promote adaptive responses to evolving place relationships, centered on collective experiences of well-being and sustainability.

## PLACE MARKER

The previous chapter shared the research findings based on youth co-researchers' perspectives on biocultural place relationships in connection with well-being and sustainability. The next chapter attempts to mobilize youths' voices by synthesizing collected data (e.g., photos, maps, and transcripts from group dialogue) through an online composition. In particular, this chapter presents an online, interactive Story Map platform facilitated by the Environmental Systems Research Institute (Esri) to share the research journey of the co-researcher team. The Story begins with a brief introduction to the research before continuing with a series of tabbed pages (see Table 4.1 below). As a whole, the Story affords readers multiple points of entry to engage with the research to complement, support, and broaden the reach of this dissertation. It primarily aims to be useful for the research site community's continued sustainable development efforts, but also for academics, practitioners, policy makers, and the public who may care to learn from, and build upon this research. In this way, it aims to use the digital space to widely disseminate youth voice in a way that encourages seeing the world through their eyes, bringing their perspectives on place significance to the forefront. An original Spanish version of the site can be found here: <http://arcg.is/2dUGW0Z>; and a translated English version, here: <http://arcg.is/2bITUzX>.

Through this dissemination effort, this next chapter considers that:

Readers of research need to be moved to think and feel, and to be inspired in some way. It is our responsibility as researchers to provoke that kind of encounter. Research that is accessible, evocative, embodied, empathetic, and provocative more fully portrays the complexities of the human condition to broader audiences and takes important steps toward bridging academy and community. (Cole & Knowles, 2010, p. 130)

**Chapter 4: Online Story Map—A story of the places we call home: Buen vivir, sustainability, and biocultural heritage in Isla Grande, Colombia**

An online Story Map was created to share this research journey. It importantly presents youth co-researchers’ images, maps, and discussions related to their ancestral territory places of land and sea. It primarily aims to communicate youths’ voices in community efforts toward sustainable development and self-determination. The table below overviews the content included in the Story’s twelve tabbed pages.<sup>34,35</sup>

Table 4.1. Online Story Map outline: Website tabs and foci

#	Tab/Page	Focus	Details
1	Abstract	General overview	Story Map theme, context, and site navigation; University and SSHRC recognition, citations, and copyright
2	Place	The <i>place</i> of research	Place context: <i>Plan de Vida</i> alignment
3	Research	Orientation, approach, design, and practice	Critical place inquiry, YPAR, photovoice, participatory mapping, and research process
4	Team	Introducing <i>Nuevas Voces</i> [New Voices]	Co-researcher team and collaboration credits

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<sup>34</sup> McRuer, J. (2017). *A story of the places we call home: Buen vivir, sustainability, and biocultural heritage in Isla Grande, Colombia*. Esri Story Map platform. Retrieved from <http://arcg.is/2bITUzX>

<sup>35</sup> McRuer, J. (2017). *La historia de los lugares que llamamos hogar: Buen vivir, sostenibilidad, y patrimonio biocultural en Isla Grande, Colombia*. Esri Story Map platform. Retrieved from <http://arcg.is/2dUGW0>

5	Map	<i>Buen vivir</i> [well-being] and Sustainability	Youths' perspectives: Participatory mapping and photovoice
6	Biocultural Relations	Biocultural framework: Areas of interdependence	Youths' significant place relations
7	Place Change	Future imaginaries	Youths' thoughts on the future
8	Youth Roles	Youth participation and community efforts	Youths' insight on their role and participation in community efforts
9	Action	Action arising through the research	Photo expositions, field trips, and community initiative
10	Action Map	Youths' community action initiative	Responding to critical place issues in the Enchanted Lagoon
11	Isla Grande Implications	Biocultural framework uptake in community and youth participation	Educational reform; livelihood diversification; and youth participation in community efforts
12	Protected Area Implications	Offering suggestions for the promotion of biocultural relationships	Promoting international conventions and agendas to align with community self-determination and co-governance

## **PLACE MARKER**

The preceding chapter focused on a creative means of research dissemination. It aimed to share research processes and youth co-researcher perspectives on place through an online format to: (a) give back to the research site community, (b) reach a wide audience, and (c) be accessible to future community efforts toward sustainable development and self-determination. In these ways, it attempted to attend meaningfully to place across the research process. The remaining chapter concludes this dissertation by offering a synopsis of the research discussed herein. It particularly reflects on contributions to the literature, research challenges and limitations in terms of methodological design and participation, the accountability of reach to its objectives, implications for Isla Grande and protected areas more broadly, recommendations for future research, and concluding remarks.

## **Chapter 5: Conclusion—Integrating Biocultural Relations Across Research, Community Planning, and Protected Area Governance**

### **5.1 Synopsis**

This research attended to place, both explicitly and politically, as a means to promote community efforts toward sustainable development and self-determination. Through a participatory and action-oriented approach to critical place inquiry, the co-researcher team investigated the significance of biocultural place to the youths' lives, in connection with well-being and sustainability. Engaging place in conceptualization, orientation, approach, design, and practice, we were able to meet the following objectives in this dissertation: (a) to explore youth relationships with place through critical place inquiry by supporting their role as co-researchers using a YPAR approach; (b) to encourage youth-led inquiry on their understandings of sustainability and well-being in relation to place relationships significant to their lives; and (c) to assess and mobilize youths' perspectives on place significance, based on areas of biocultural interdependence.

Chapter 2 focused on methodological enactment and the ways the research concept, orientation, approach, design, and practice supported community contexts. The participatory and action-oriented approach to critical place inquiry inspired reflections on both the place-making and place-bound aspects of research. Place-making reflections considered how the concept of place might be differentially understood, with implications for research approach and design selection. Place-bound reflections considered how site circumstances influenced methodological practice particular to youths' shared-ownership and leadership in the study.

Chapter 3 presented research findings related to the ways youth co-researchers understand and experience biocultural heritage in connection with sustainability and well-being. It further presented a framework on areas of biocultural interdependence through which youth perspectives were analyzed. Analysis revealed that youth value integrity and diversity of place relations, but that the evolving nature of biocultural heritage affects their personal connections. They further discussed how shifts from tradition to modernity require personal accountability to promote diversity and collaboration to co-govern ancestral territories. Lastly they expressed their interest in contributing their voices to shape community efforts particularly when projects

are adapted to their needs.

Chapter 4 considered the importance of research dissemination that is tailored to community interests. Accordingly, the research was presented through an online Story Map platform facilitated by Esri to share the research journey through youth-collected data. This format was selected to communicate co-researcher perspectives with their local community, as well as its network of non-governmental organizations, government, academic, and legal councils that are involved in efforts of self-determination. The Story Map thus attempted to bridge the divide between linear academic theses and participatory, community-based research.

Overall, participatory and action-oriented approaches to critical place inquiry were particularly valuable for: (a) their flexibility to align with place-based realities to inform the research processes and promote youth capabilities as co-researchers, (b) the opportunity to encourage participant interest and inquiry, and (c) their ability to capture youth voice on significant place relationships through youth's own entanglement. Continued youth engagement efforts can benefit from a focus on leadership development and taking into account both place-making and place-bound contexts and influences. This focus would further elaborate how youth value ancestral territory places, how generational shifts in place understandings and experiences may promote or discourage place mobility, how youth are presently supported in leadership development, and what areas of development require greater focus. This orientation would afford ongoing opportunities to support youths' relationships with place and their partnership in sustainability planning.

The remainder of this discussion considers reflections arising through this research. It begins by discussing conceptual contributions to the literature, followed by research challenges and limitations in terms of research design and youth participation. It next elaborates on how this research was accountable to its objectives of place attendance and youth participation. The discussion continues with implications for the local site community and protected areas followed by recommendations for future research and concluding remarks.

## **5.2 Contributions to the Literature**

The conceptual complexity of this research required that I take a wide reach across the literature, learning through what I came to see as disciplinary entanglements among Conservation, Anthropology, Environmental Humanities, Sustainability Education, Cultural

Geography, Political Ecology, Citizen Science, and Action Research Methodologies; as well as national and international policy and agendas. This cross-fertilization presents, perhaps, both the overarching potential and limitation of this research: the upwell of hope as diverse voices respond to the “wicked” problems of sustainability (Lotz-Sisitka et al., 2015), and the need to further promote learning through both commonality and dissonance. It became increasingly clear to me throughout this research that further effort is needed to not only collapse dualistic disciplinary boundaries, but to importantly forge bridges. This research took a small, humble step to contribute to this shared direction by considering how a biocultural framework engages different areas of inquiry and expertise—not only among academics and practitioners, but also among the public at large.

The need for transdisciplinary learning is particularly notable related to the uptake of the biocultural framework in this research. Although the framework concept of “biocultural diversity” has been widely developed over recent decades, its marriage with “heritage” in the literature is rather blurry (Harmon, 2007). Furthermore, biocultural language across disciplines and fora is riddled in terminology and neologisms such as “biosocial,” “biophilia,” “natureculture,” “meshworks,” “assemblages,” “actor-networks,” “socio-ecological systems,” “webs of life,” “livingness,” “trans-corporeal,” and of course, “biocultural” (Alaimo, 2012; Barad, 2007; Bennett, 2010; Haraway, 2008; Ingold, 2008; Latour, 2010; Pretty et al., 2009; Whatmore, 2007). This diversity is exciting as it suggests that more scholars, researchers, and policy makers are “returning to” (Whatmore, 2006, p. 601), and taking up efforts to collapse nature/culture dualisms and advance related theoretical and practical scopes (Rose et al., 2012). However, as previously noted, the diversity of approaches can be challenging, as terminological dissociation can serve to estrange disciplines working toward the same ends (UNESCO, 2008).

A final contribution to the literature relates to efforts in this research to represent place entanglement through the framework of collective biocultural heritage. As conceived in this dissertation, this framework drew attention to the ways entanglements continually shift, shaping heritage across generations. As opposed to static relations in place, biocultural heritage acknowledges how both humans and non-humans affect and are affected by, interdependence with place. The UNESCO-sCBD framework was taken up to analyze youths’ significant place relationships, but also to further its applicability through reflections on language nuance and the

need for reciprocity in each of the framework's categories. To elaborate, this dissertation predominantly emphasized youths' relations with biodiversity (guided by the framework's human-centric slant). To develop the framework further, I have suggested that parallel attention be placed on the affective and responsive relations of the more-than-human world. Toward these ends, the framework's language may be altered to more explicitly support this focus, thereby acknowledging biodiversity not solely as a resource to be used by humans, but as a resource with inherent value and agency. How these considerations of fluidity may support well-being and sustainability is illustrated below from the research findings.

Youth co-researchers often discussed biocultural interdependence in relation to shifting subsistence practices and economic priorities with the advent of tourism in their community. They suggested that older generations may not consider tourism as part of their heritage, but from their own experience, it is central. Youth also described tourism as a double-edged sword: A market dependent on diversity of the non-human world to attract visitors on one hand, and a non-human world threatened by a growing tourism market, on the other. They further stressed the importance of healthy relationships with place to support sustainable tourism in their community. This consideration prompted reflection of how biodiversity has significantly shaped their biocultural heritage, but how their shifting heritage has not always supported sustainable actions that conserve biodiversity. This perspective promotes thinking of biocultural rights and the importance of first recognizing and respecting the agency of non-humans, in order to support sustainable community practices, improvisations, and innovations. With this consideration, unsustainable heritage experiences can be tempered by valuing biodiversity for its role in creating the conditions for sustainability.

### **5.3 Research Challenges and Limitations**

Two particular reflections on study challenges and limitations relate to research design and youth participation. Research design considers the alignment of academic and community responsibilities, as well as my personal commitments to "place" both in and beyond the research. Participation considers how participatory this research was in practice. Both reflections will now be further discussed.

**5.3.1 Design.** The methodological enactment of this research intended to engage transdisciplinary work in academia to support community-based research. This marriage was at

times challenging as I struggled to find ways to balance the two. This was particularly apparent when considering my PhD candidature responsibilities and the participatory values of the research approach. For example, during the research proposal and ethics application stages, the research methodology, methods, and themes were pre-conceptualized. As two other doctorate students recognized in their work, this responsibility can put the shared partnership values of PAR at risk (Burgess, 2006; Klocker, 2012). In attempt to avoid this trap, I wrote the research proposal based on local contexts informed through pre-field collaboration with a community consultant. This was integral to both the critical place inquiry orientation of this research, and the alignment of the research proposal with site community priorities and strategies. The proposal was then shared in the field to explain its alignment; invite feedback and re-articulations; and ensure free, prior, and informed consent of the Communitarian Council and the youth participants. This process was extremely valuable to situate the research proposal and focus. However, given the chosen participatory approach, the art of balancing academic and community responsibilities over place and time, was ongoing.

Despite the aforementioned efforts to merge academic responsibilities with community-based practicalities, particular phases of research design were unfortunately completed “out of place,” and were not able to sustain participatory values. For example, formal academic analysis was not completed with youth participants on account of PhD timelines and visa restrictions on the duration of my stay in Colombia. Furthermore, efforts to engage youth in an analysis session post-field research were met with low participation on account of youth schedules and festival events occurring in the Island. I attempted to address these challenges in four ways: (a) encouraging informal analysis through reflexive group dialogue on collected data and research process, and during photo exposition preparation activities, (b) proposing a co-authored dissertation manuscript with a community consultant, (c) returning to the field post-formal analysis in attempt to engage youth in reviewing the research findings,<sup>36</sup> and (d) returning to the field post-dissertation defense to take the research back to the community.

A last design consideration involves how my time in this research was divided across

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<sup>36</sup> Only one co-researcher was available during this time. The online Story Map was reviewed, eliciting positive feedback.

place, or my place mobility and my “lines of flight.” Over the study’s duration I travelled to the site community in Colombia, my home province of Nova Scotia, my university in Western Canada, and places between for conferences, writing retreats, and personal commitments. Reflections on being “with place” were often foremost in my mind. Specifically, I contemplated how youth co-researchers and community members perceived my absence from the site community. In a participatory research process, trusted relationships take time and energy to develop. Intermittent absence can burden this process and lead to questions of commitment, particularly when responsibilities in research are differentially understood, despite efforts to communicate. Furthermore, I considered my mobility in terms of my geographical disconnect from the places I call home, and how my academic focus in a distant place evoked questions of my relation to the site of research. As noted in the prologue of this dissertation, I found that by embracing a “global sense of place,” I found my footing. Through this perspective, I felt connected to my home places through the shared issues of sustainability and was inspired by emergent place reflections that were relevant across borders.

As a whole, the aforementioned design challenges and limitations created a feeling of being part of a binary (the irony of this notwithstanding); in which I was constantly straddling two worlds—one where linearity was of the essence to move through PhD stages, and the other where community place was of the essence to attend to how it shaped the research trajectory. The first world valued distillation, succinctness, and timeliness while the second was rooted in contextual complexity and “Island time.” Bridging these gaps was a process of managing expectations whether academic, community, or personal. Although I anticipated this entanglement, I was left without a feeling of bilateral closure—as the PhD milestones drew to a close and the community work continues. Perhaps it is best to appreciate this lack of resolution as a natural course of much PAR and social science research in general, and thus an invitation to continue learning and working toward recommendations for ongoing research.

**5.3.2 Participation.** Chapter 2 of this dissertation described challenges in this research in the way of youth ownership and attendance. Consequently, I have struggled with the idea that perhaps in practice, this study became more of an action-research focus with an emphasis on community consultation. However, I retain thinking of it as YPAR on account of two considerations: (a) the diversity of ways that participation can be demonstrated and supported

(Kesby et al., 2005), and (b) the idea that quality of youth engagement is more important to youth development than the frequency or quantity of participation (Checkoway, 1998).

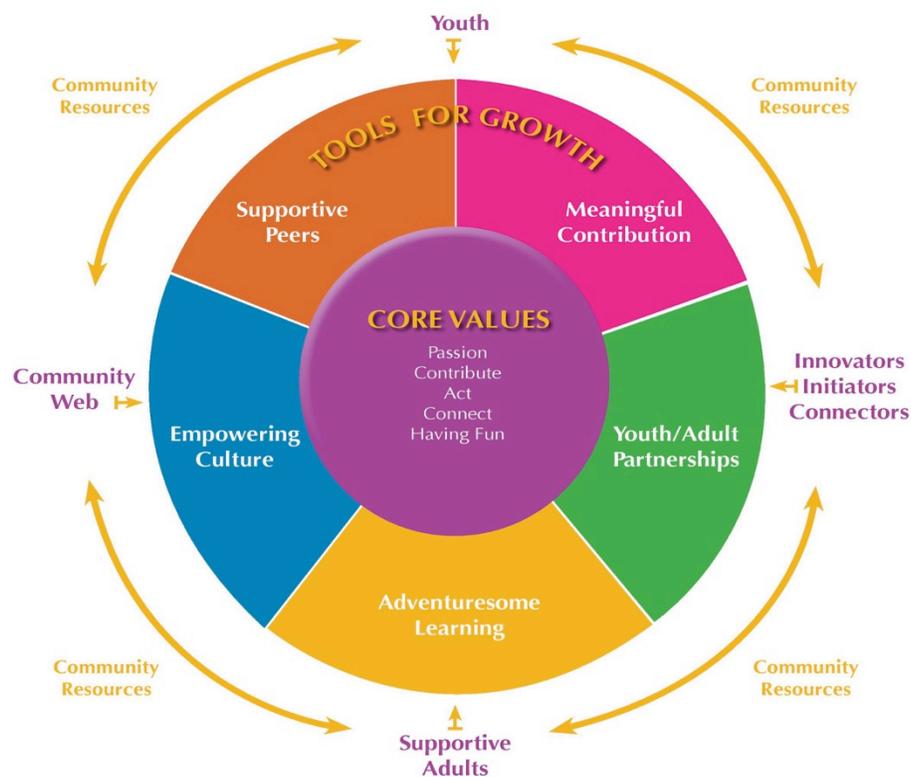
Speaking to the first consideration, degree of youth participation has been modelled by Hart (1995) in terms of the following range or forms of engagement: youth-initiated with shared decisions with adults, youth-initiated and directed, adult-initiated with shared decisions with youth, consulted and informed, assigned and informed. Participation models are evolving and may be differentially applied to support specific age cohorts, cultural heritage, and historical contexts (Hart, 2008). This range was helpful to initially contemplate the alignment of this research as it aimed toward collaboration through an adult-youth partnership to contribute to youths' development (a common YPAR approach) (Kim, 2016). Through this partnership, youth participation was defined as opportunity to “partake in and influence processes, decisions, and activities in [their] community and in research on [their] community” (Watter, Fanous, & Berliner, 2012, p. 187). This mirrored youth co-researchers' assertions that participation included the opportunity “to learn, to know, to give opinions” because “we are young and capable to give new ideas that can improve the Island” (Jeison).

To further evaluate how participation was supported in this research, I considered its alignment with a second framework of community youth development designed by HeartWood—a community-based youth organization in Nova Scotia, Canada (see Figure 5.3.2.1). I have drawn on this framework for its core dependence on youth perspectives of their own involvement; its focus on adult-youth partnerships toward mutual learning, teaching, and action; as well as my own familiarity through facilitation prior to this PhD.

The HeartWood (2011) framework emphasizes youth-defined core values to encourage their participation. The YPAR design of this research aligned with this focus through its priority on youths' interests, as demonstrated through the framework's tools for growth:

1. Meaningful contribution: Inviting youth to shape research directions relevant to their interests to target their place understandings and experience, and to take action to address critical place issues significant to their lives;
2. Youth-adult partnership: Emphasizing team effort, co-investigation, and reflexive group dialogue in research, to ensure co-researchers felt appreciated for their contributions, connected to others' opinions, and supported to try new skills;

3. Adventuresome learning: Shifting traditional researcher-participant relationships toward experiential activities and methods that engage the place of research through youths' eyes; and
4. Empowering culture: Connecting youth with opportunities to engage with their community places through method application; with other community members through photo expositions; and with their regional neighbours through a sustainability education fieldtrip. These action-oriented efforts encouraged youth co-researchers' continued participation in community efforts toward sustainable development and self-determination.



*Figure 5.3.2.1.* HeartWood framework for community youth development. Adapted from “HeartWood’s framework for community youth development: The circle of awesomeness” by HeartWood, 2011. Reprinted with permission by HeartWood.

Furthermore, this research involved community resources illustrated in the outer circle of the framework to support youth participation. For example, initiators/innovators/connectors (i.e.

the lead researcher and community consultant) were motivated to support youth engagement through research; supportive adults (i.e., the Communitarian Council, research advisory team, lead-researcher, and research translator) encouraged youth learning, capabilities, and roles; a community web (i.e., Isla Grande community, neighbouring communities of Cotocá and Cispatá, National Parks, and policy makers) encouraged youth voices through photo expositions and field trips; and importantly, youth co-researchers themselves committed their time to being a part of a team, to learn together, investigate together, and promote their voice in community efforts.

In terms of quality of engagement that further justified this research's YPAR design, the HeartWood framework emphasizes the following outcomes for youth: a sense of accomplishment, feeling needed, meeting a genuine need, appreciation from others, new personal relationships, mutual two-way learning, a belief that individuals can make a difference, an increased commitment to organization and community, new respect for others, opportunities for growth from simple acts, and an enriched community (HeartWood, 2011). In this research youth co-researchers attributed these qualities to this research. This attribution was exemplified through closing study evaluations, whereby youth co-researchers' expressed value for the ways the study was: adaptive to their needs and interests; a fun way of learning; a way to develop new friendships with other co-researchers, many of whom they did not typically spend time with; a means to learn from one another through reflexive group dialogue to think more critically about their ancestral community places; and as a means advocate their role in community efforts. Youth co-researchers further suggested that as a result of this research they would like to continue action-based projects in the community to address critical place issues. In the above ways, this framework enlightens how YPAR values were upheld in this research. Despite challenges in attendance and leadership, the study was successful in engaging youth with ancestral territory places in ways that were valued by the community and more importantly, the youth themselves.

#### **5.4 Research Validity**

Accountability for research objectives will next be discussed through relational and impact validity. Relational validity will highlight how research attended meaningfully to place; and impact validity will discuss how youths' voices were mobilized to support community efforts toward sustainable development.

**5.4.1 Relational validity.** *Relational validity* accounts for how a critical place inquiry orientation attends meaningfully to place and the resultant impact of this attendance. Relational validity particularly considers how processes of inquiry prioritize the “ways human life is connected to and dependent on other species and the land” (Tuck & McKenzie, 2015b, p. 4), and how these relationships are affected by dominant political and economic paradigms. In this research, inquiry considered the significance of place both explicitly and politically through a focus on biocultural relations in everyday interactions. Research accountability requires reflection on the value and influence of this focus to the site community and how it was taken up in research.

The conceptual framework of collective biocultural heritage used in this research was informed by its growing uptake in Colombian academic and organizational circles (Territorial Development with Cultural Identity Program and Latin American Centre for Rural Development [DT-IC/RIMISP], 2016). Furthermore, in the site community, the Communitarian Council supported this framework for its alignment with *Plan de Vida* priorities. However, the conceptual terminology was introduced to the Council members, the research advisory team, and youth co-researchers for the first time during field research. This novelty had the potential to either impose ideas or align with implicit understandings. The latter was the case in this research. Following its introduction, the biocultural framework was valued by the Council and the research advisory team for its ability to engage youth in community efforts. Youth co-researchers also valued the framework, particularly when clarity arose through group dialogue in terms of how it reflects their lived experiences. Predominantly, youth discussed their understanding of biocultural heritage in connection with their livelihoods in tourism as well as its role in diversification, improvisation, and innovation to promote place integrity. Integrity, in their eyes, requires promoting biocultural heritage as a blend of tradition and modernity, in ways that respect the rights of human and the more-than-human world.

Beyond conceptual value, further accountability requires consideration of the framework’s practical application and how methodological design attended to site community places (see chapter 2). This research attempted to support youth co-researcher engagement with ancestral places through YPAR—an approach inspired by the seminal work of Orlando Fals-Borda, a Colombian researcher and sociologist. His interest was to empower local communities

through research that decolonizes the knowledge of “experts.” Driven by the idea of praxis and cyclical processes of dialogue and action, this study built upon the work of Fals-Borda and others. The aim was to encourage youth collaboration toward change in ways that meaningfully addressed injustices impacting their lives.

YPAR facilitated technological learning and skill development among youth—a planning priority of the community (Plan de Vida, 2014). Importantly, this learning was of interest to co-researchers for its meaning to their lives. It further encouraged opportunity for youth to connect with place through walking, biking, swimming, and diving in their ancestral territories. This emplacement afforded youths’ reflections on their biocultural relations through experiencing these relations in processes of inquiry. Moreover, practical method application was participatory as opposed to assigned. This was an attempt to guide research based on the voices of those most invested with place in their everyday lives. By design, it was a means to counter critical place issues by subverting top-down and displaced decision-making inherent in dominant paradigms. In these ways, this research attempted to collapse dualisms through practice to encourage learning in and with place, as opposed to separate from place. This reflection accounts for the importance of methodological choices and the ways place relations can be either suppressed in the background or positioned in the foreground of research processes and daily life.

**5.4.2 Impact validity.** The participatory values that shaped this research prompted attempts to share the research first and foremost with the site community. This emphasizes the importance of how research is strategically framed, communicated, and disseminated to ensure “impact validity” (Massey & Barreras, 2013, p. 615). This consideration motivated me to write an academic proposal to the College of Graduate and Postdoctoral Studies at the University of Saskatchewan for a manuscript dissertation inclusive of both written and online formats. My intention was to produce a scholarly output that was both academically rigorous and accessible to the research site community and the wider public. The online composition submitted as a part of this dissertation aimed to be accountable to youth co-researchers and align with community agendas by representing youths’ voices through their images, maps, and group dialogue insights.

The process of securing University approval for this format was lengthy, but efficacious. My gratitude goes out to my Committee and Departmental members whose support demonstrated that their values in education are rooted in social justice as much as they are with

place. Being afforded a creative means of dissemination addressed “the extent to which research has the potential to play a role in social and political change or is useful as a tool for advocacy or activism” (Massey & Barreras, 2013, p. 615). It also avoided the ethical challenge that often plagues academic research related to how results are used, by whom, and for what purpose.

### **5.5 Research Implications for Site Community Policy and Practice**

This research holds critical merit during a transitional time in Colombia related to post-conflict peace processes. The role of local efforts in nascent transformational processes has been advocated (UN, 2016b). According to Claudia Ranaboldo, Colombian Coordinator and Principal Investigator of the DT-IT/RIMISP, a focus on biocultural relationships promotes learning on how diverse place understandings can foster or hinder the self-determination of local communities (DT-IC/RIMISP, 2016). Having focused on this learning, the implications of this research for the site community of Isla Grande are two-fold. First, how a biocultural framework may be expanded beyond the research, and second how participatory processes with youth may inform community-planning efforts toward sustainable development and self-determination. These implications will now be elaborated in relation to education, livelihoods, and planning processes.

**5.5.1 Education.** Formal education in the Island might draw on this research to consider (a) youth participation and leadership; and (b) a means to reform decontextualized learning processes. Speaking to the first consideration, inconsistent youth participation in this research was suggested to be a result of adult-led formal education (see chapter 2). Former research conducted in the school setting supports this claim. In this former case, high youth attendance was attained (aged 15–18) because of a school emphasis on discipline, structure, and pressure toward responsibility emanating from teacher-supported invitations (McRuer, 2012). This emphasis is recognized, however, as a form of power and authority that did not necessarily support youth participation or their ability to direct their own engagement. This structure suggests the need for formative school experiences that can promote youths’ potential for participation through leadership opportunities, as opposed to forced compliance. A focus on participatory and action-oriented curricular activities may be a means of furthering these objectives.

Turning to the second point of discussion, this research may inform ways to reform

decontextualized learning processes that currently impact the Island's school and those in the country at large (Mineducación, 2016). This consideration is timely given current calls by the Ministry of Education in Colombia to restructure educational institutions. The intention is to combat homogenization of school curricula by emphasizing local contexts, histories, languages, and cultures (i.e., environmental education and ethno-education programs) (Botero, 2005; Mineducación, 2016). Educational reform may be guided by a biocultural framework to discern youths' interests and what areas of biocultural interdependence are most significant to their lives; how well-being is envisioned in relation to the principles of *buen vivir* to more pointedly consider the rights of both humans and non-humans; and how a focus on heritage might promote opportunity for youth voice in sustainable development agendas. Efforts toward these ends have been initiated based on the research presented in this dissertation. In particular, a non-formal national program has been initiated in some communities to develop contextualized and participatory programs to engage young children. Preliminary framework application includes the development of a biocultural calendar to facilitate learning through connections with place. This focus can be further taken up in the Isla Grande community and broader contexts.

**5.5.2 Livelihoods: Diversification.** In terms of livelihoods, youths' particular references to tourism as a burgeoning primary source of income and a threat to the biocultural heritage of the community, is notable. A focus on the significance of biocultural relations to communal lives can help to ensure tourism practices are developed with the community, for the community. This is particularly important when external pressures value heritage as a commodity or service (e.g., for tourism), promoting growing "imposition of new forms of ownership, ... foreign direct investment, product differentiation, and otherwise capitaliz[ation] upon cultural resources for sustainable development" (Coombe & Weiss, 2015, p. 47; Silva, 2014). Critical attention must be paid to the role of autonomous development to ensure biocultural ethics, rights, and responsibilities (Rozzi, Pickett, Palmer, Armesto, & Callicott, 2013).

One means to support autonomous development includes recent advancements toward biocultural heritage innovations (BCHI) and design processes (Argumedo & Swiderska, 2006; Davidson-Hunt et al., 2012; Davidson-Hunt, Idrobo, & Campbell, 2013; International Institute for Environment and Development [IIED], 2013). Such processes support community-guided articulations of tradition and modernity through, "an intentional, collective and collaborative

process by which individuals with a diversity of knowledge and skill sets engage in a creative process of designing products and/or services” (Davidson-Hunt et al., 2012, p. 39). BCHIs thus arise through the creativity of improvisation, to assert, “territorial control, intellectual property rights, genetic resources, local knowledge, and conservation” (Escobar, 2011, p. 54).

It should be cautioned, however, that BCHIs are based on a human-centric approach with an emphasis on human capabilities (Davidson-Hunt et al., 2012; Sen, 2003). The relevance of this emphasis is to offer caution that they not promote relations with nature *for* humans, thus establishing divisive place understandings laced with power dynamics (Turnhout, Waterton, Neves, & Buizer, 2013). BCHIs can practice caution through associated education and research that explicitly prioritize both human and non-human agency and rights (Anderson & Bora, 2016). Considering how this implicates sustainability and well-being, such promotion encourages continued effort to build *buen vivir* principles in practice, through “greater creativity and innovation . . . that change the ways that people work with and value nature, instead of taking its services for granted” (Hayashi, Persic, & Patry, 2014, p. 1). In this way, BCHIs can promote the potential for abundance, whereby development is based on quality over quantity, ingenuity and local economies challenge models of capitalistic growth, and diverse cultural connections with biodiversity encourage renewed and regenerative relationships with place.

### **5.5.3 Community efforts toward sustainable development and self-determination.**

Lastly, speaking to how the biocultural framework used in this research can inform planning processes in the community at large, lessons can be drawn from participation. Although youth co-researchers valued opportunities for involvement in community efforts, to date their own participation has been inconsistent despite opportunities to do so. Inconsistent participation and lack of initiation to demonstrate and share their perspectives was attributed to a reliance on others to take decisions. This tendency suggests that facilitating non-formal education opportunities to engage youth in leadership skill-development and application can enhance community processes toward sustainability and well-being. Furthermore, older youth may need to be supported in non-formal education opportunities by supporting familial and economic responsibilities. Future efforts to engage older youth who are no longer in school may need added provision in the way of childcare services and monetary honorariums to provide incentives and reduce competing priorities. Finally, continued investment in the co-researcher team

members of this study is recommended by providing opportunities to enlist their research skills to support their continued professional development. Community projects related to sustainable development planning, education, ecotourism, and the creation of youth-specific places are examples of such opportunities for which youth co-researchers indicated their particular interest. This on-going participation would serve to strengthen youth's capabilities developed through this research experience. Moreover, it would support their interests to participate in action-oriented opportunities that aim to respond to critical place issues significant to their lives.

### **5.6 Research Implications and Significance for Policy and Practice in Protected Areas**

With a focus on place, the broad context related to this research concerns the ways protected area policies subscribe to either dualistic or fluid place concepts, and what this means for the biological and cultural entanglements under their influence:

Perhaps the greatest challenge of all is to change the way we think about protected areas. In the past they have been seen as islands of protection in an ocean of destruction. We need to learn to look on them as the building blocks of biodiversity in an ocean of sustainable human development, with their benefits extending far beyond their physical boundaries. (Steiner, 2003, p. 21)

This research promotes thinking of fluidity, whereby protected areas and the communities that depend directly or indirectly on them, are shaped through diverse worldviews, histories, practices, languages, materials, knowledge, improvisations, and innovations that connect with biodiversity. These entanglements evolve through former, current, and future experiences—or collective biocultural heritage.

Although often designed in response to critical place issues that threaten place integrity and diversity, protected areas can perpetuate the challenges for which they are aimed to address (Silva, 2014). This requires collective effort to shift discourses in ways that attend to the commonalities and dissonance that exist with place. Such reflection invites transformative and transgressive processes of unlearning and relearning, decomposing and recomposing, decolonization and reinhabitation, to encourage discourses that (re)imagine relationships with place toward collective well-being and sustainability (Greenwood, 2013; Lotz-Sisitka, et al., 2015). Moreover, reflection involves continuous contemplation of both affected and affective influences that shape place relationships. This reciprocity requires consideration of ever-

evolving and inter-dependent biocultural entanglements across time, space, and generations.

International agendas of sustainable development that aim to address critical place issues have summoned this call to deepen our awareness and our connectedness. Most recent commitments involve the UN's 2030 Agenda for Sustainable Development whereby 193 countries<sup>37</sup> agreed upon 17 Sustainability Development Goals (UN SDG) and 169 targets to “stimulate action over the next fifteen years in areas of critical importance for humanity and the planet” (UN, 2015, para. 2). Recent international commitments emphasize achieving these goals through education,<sup>38</sup> research, and policy. Such commitments extend to protected area contexts, particularly marine protected areas where the margins of land meet sea, and nature adjoins culture. According to the IUCN (2016), “Throughout the world, countries are embracing vast marine protected areas as an approach to support resilience and secure the future of humankind.” This approach has been widely embraced around the world in effort to protect 10% of marine ecosystems by 2020 (Conservation of Biological Diversity [CBD], 2010a, b; Our Oceans, 2016). However, protected area approaches must consider effectiveness, connectedness, and representativeness of such areas (Jones & De Santo, 2016). They must consider quantity and *quality*, as well as the associated benefits and trade offs that affect a multitude of place relations. In so doing, meaningful protection can extend to a plurality of places called “home,” regardless of lasting, fleeting, or generational resonance with this reference.

Meaningful protection includes investigating the knowledge, values, and interests that are implicated in such efforts (inclusive of non-humans); and how designated protected areas can support the entanglements of nature and culture in ways that respect endogenous development and support biocultural heritage. To date, Colombia has recognized this importance through signatory obligations to uphold international agendas, conventions, and treaties that implicate

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<sup>37</sup> Including Colombia

<sup>38</sup> This includes UN SDG Target 4.7 on Education, and the UNESCO Global Action Programme (GAP) on Education for Sustainable Development (ESD).

biological and cultural diversity.<sup>39</sup> Recognition to uphold biological and cultural interdependence further implicates three broad considerations: (a) biocultural ethics that consider the ways places are regarded, including their influence on the well-being of humans and non-humans; (b) biocultural rights and processes of reconciliation that legally recognize and actualize community rights to steward its lands, waters, and resources (and consequently be held accountable for their actions to jointly promote the rights of non-humans); and (c) how interdependence may create or perpetuate critical place issues that threaten ethics and rights, and thus the ways conservation, education, and development approaches can support alternatives (Bavikatte & Bennett, 2015; Harmon, 2007; Rozzi et al., 2013).

Prioritizing biocultural ethics and rights through transdisciplinary, critical, participatory, and action-oriented approaches can support alternatives that embrace diverse ways of becoming with place. According to Hayashi et al. (2013),

Interdisciplinary advances in research management and policy-development processes are needed. . . . The extensive use of participatory approaches and the incorporation of community values and local knowledge will be essential aspects of this work. Finally, education for sustainable development can be harnessed by taking into account and underlining the cultural dimensions of given societies, these determining the values, attitudes, skills, forms of knowledge, languages, lifestyles, and worldviews associated with specific contexts. (p. 7)

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<sup>39</sup> This includes CBD targets 15, 8j, 10c, and 17.2 pertaining to the protection of diversity in all of its forms, sustainable use of resources, as well as fair and equitable sharing of benefits arising from the use of genetic resources; Aichi Biodiversity Target 11 promoting healthy human-non-human ecosystems through protected area sanction; the Specially Protected Areas and Wildlife (SPAW) Protocol of the Cartagena Convention to protect, manage, and develop the Marine Environment of the Wider Caribbean Area in a sustainable manner; and the UN SDGs geared toward inclusive, environmentally responsible societies, to protect both people and planet. Colombia has also signed but not ratified the UN Convention on the Law of the Sea (UNCLOS), which defines national rights and responsibilities with respect to their use of the world's oceans.

This dissertation presented research that heeded this call in a small island community situated alongside a national natural park and within a marine protected area of Colombia. Implications involve how critical place issues in this region may be (re)conceptualized to consider biocultural interdependence, thereby supporting collaborative efforts to respond to shared challenges. We will now turn to recommendations for future research to support ongoing collaboration and learning toward entangled place relations.

### **5.7 Recommendations for Future Research**

Just as there are many ways to understand and experience the world, there are many ways to further develop the concepts, approaches, designs, and practices presented in this dissertation. In a humble way, this research offers multiple points of entry for future place inquiry. Four suggestions are presented below:

1. Future research could build on youth co-researchers' place relationships expressed in this research by considering ways to capture their daily interdependence with place (as discussed in chapter 2). Going "beyond the research" could draw attention to how place is understood and experienced on a more intimate level. This could be afforded through the creation of space in research for participants to engage in visual methods throughout the course of a day, week, or month. Photovoice, participatory mapping, and other visualization techniques such as audio-video recordings and video diaries could be used by youth to capture daily mobilities (Pink, 2008). Or external researchers could also facilitate visual methods to capture participant's spatial-temporal relations and emplaced daily practices to assess interdependence (Büscher & Urry, 2011; Pink, 2008). Particular emphasis could be given to youth movements with the more-than-human world, and the movements of the more-than-human world with youth. In this way, daily place relationships could be reflected from the "outside looking in," to more holistically consider how encounters with place unfold. By extension, this focus could also lead to further research on biocultural rights, and what this means for daily inter and intra-actions with place.
2. Future research in the local site community could also build on participatory and action-oriented approaches presented in this dissertation to facilitate intergenerational learning exchange. This suggestion stems from consideration of the research findings

particular to youth understandings of place. For example, it may be the case that the Communitarian Council, research advisory team members, community elders, and National Parks' authorities are cognizant of the interdependent relationships discussed by youth. However, the significance of these relations particular to youths' lives may not be apparent. Youth co-researcher perspectives provide valuable insight into their entangled place understandings and experiences, how they conceptualize well-being, and how they envision their role in shaping Island places. Creating opportunity through future research to acknowledge not only shared critical place issues, but their significance across generations is suggested.

This could further mobilize cultural and inhabitant knowledge held by community elders to maintain traditions through modern transitions—an interest expressed by youth co-researchers' in this study. Moreover, intergenerational exchange could inform the guiding principles of the community's sustainable development and “self”-determination efforts. How might interdependent relationships with place be differentially valued, including consideration of the mutually affective and responsive relations with the more-than-human world? What does this mean for the local community's role in conserving biocultural relationships and the rights of both humans and nature? Future research to support the community's efforts toward sustainable development would benefit from the deliberate creation of space for intergenerational learning and exchange that values reflexivity and reciprocity.

3. Furthermore, future research could expand on particular areas of interdependence emphasized by youth co-researchers. In particular, youth particularly reiterated the need for sustainable economic relations that do not degrade biocultural integrity. As mentioned earlier in this discussion chapter, research that promotes thinking of BCHIs is a means toward these ends. Future research could thus target how improvisations, innovations, and design processes may be advanced to collapse dualistic place constructs. For example, they could emphasize inherent biodiversity value and biocultural integrity to prevent these relationships from becoming a mere form of currency, and a bio/cultural divide (Turnhout et al., 2013). Future research would particularly benefit sustainable development agendas by considering how

BCHIs might support youths' interests in livelihood diversification. For example, "eco" tourism enterprises valued by youth co-researchers. This focus could consider how "eco" is conceptualized, practiced, and promoted in ways that maintain diversity and integrity of biocultural place relations. BCHIs could also provide opportunity to build on youths' interests in biocultural knowledge exchange with tourists—an opportunity they felt would enrich their livelihood practices and promote sustainability through shared learning. The creative development of new products and services through BCHIs could be an important means to trace place relationships toward shared goals and new possibilities.

4. Lastly, future research is recommended to support collaborative processes among actors with diverse worldviews related to the ancestral territories of Isla Grande. One possibility toward these ends is the development of specific indicators for each area of interdependence in the biocultural framework introduced in this study. Indicator development would expedite participatory analysis processes in community settings. Moreover, it would make analysis relatable across contexts to facilitate discussions among diverse actors—community members, neighbouring communities, Parks officials, and more. By developing indicators, timely and collaborative inquiry processes could thus unfold that start from a place of commonality to appreciate difference. To elaborate, a common indicator frame could guide research to investigate the mobility of place relationships; how diverse relations may create, perpetuate, and respond to critical place issues; how future directions could be charted to uphold signatory obligations and encourage community accountabilities; and how diverse ways of becoming with place could be encouraged. With these foci, future research could support transformative and adaptive responses to shared critical place issues.

## **5.8 Concluding Thoughts**

This research conceptualizes place as dynamic—ever-evolving through biocultural relationships that shape collective heritage. Bringing these relations to the forefront is invaluable to understanding how critical place issues may be created, perpetuated, and addressed. Importantly, this dissertation posits collective biocultural heritage relations as extending beyond

traditional, Indigenous, and local communities, to emphasize their relevance across co-inhabited places. This extension describes the meshwork of interdependent relations that connects all places, humans, and non-humans through lines of movement. The significance of this fluidity is two-fold: 1. It refutes any claims that critical place issues happen to “them,” and not to “us,” thereby asserting that we are all a part of the problem *and* the solution; and 2. It potentiates collective responses by accentuating both human and non-human agency to affect change. In these ways, research that investigates biocultural relationships is encouraged as a means to guide transformative action to reclaim, reinvent, restore, reconcile, and regenerate place connections that are too often severed by critical place issues. With this transformative potential, hope is instilled: that together, we can (re)imagine a “new [biocultural] contract with the earth, nature, and future generations” (de Sousa Santos, 2014, p. 13).

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## Appendix A

### Review of Research Sessions—Experiential Activities, Methods Training, Data Collection, and Group Reflection

Table A1. Research session locations, methods, foci, and descriptions

<b>Session &amp; Location</b>	<b>Method</b>	<b>Research Focus</b>	<b>Synopsis</b>
1 Cultural House	<ul style="list-style-type: none"> <li>▪ Slideshow: “What is Research”</li> <li>▪ Experiential activity</li> </ul>	<ul style="list-style-type: none"> <li>▪ Co-researcher team building;</li> <li>▪ Introduction to research</li> </ul>	<ul style="list-style-type: none"> <li>▪ Purpose: To explore ‘what is research?’</li> <li>▪ Description: A slideshow re: research to investigate place, with place; experiential activity of blindfolded “What is it?” game to encourage multisensory research to explore place</li> </ul>
2a Cultural House	<ul style="list-style-type: none"> <li>▪ Experiential activity: Mind maps</li> </ul>	<ul style="list-style-type: none"> <li>▪ Place-based imaginaries;</li> <li>▪ Team building;</li> <li>▪ Research skill development</li> </ul>	<ul style="list-style-type: none"> <li>▪ Purpose: To consider place imaginaries</li> <li>▪ Description: Youth envisioned their community in 25 years; in partners, one person describes mental image while second draws what is described. Group reflection followed</li> </ul>
2b Island School	<ul style="list-style-type: none"> <li>▪ Experiential Activity: Photo collage</li> </ul>	<ul style="list-style-type: none"> <li>▪ Researcher and photography skill development</li> </ul>	<ul style="list-style-type: none"> <li>▪ Purpose: To introduce photography as a means to elicit diverse perspectives related to <i>buen vivir</i></li> <li>▪ Description: Magazine cut-outs presented; youth selected 5 that represented <i>buen vivir</i>; Group dialogue followed</li> </ul>
3a Island	<ul style="list-style-type: none"> <li>▪ Experiential Activity:</li> </ul>	<ul style="list-style-type: none"> <li>▪ Team building and consensus;</li> </ul>	<ul style="list-style-type: none"> <li>▪ Purpose: To consider <i>buen vivir</i> &amp; rights</li> <li>▪ Description: Youth given 24 cards</li> </ul>

School	Card sorting: Starting a new Island community	<ul style="list-style-type: none"> <li>▪ Interdependent place understandings in connection with <i>buen vivir</i>, rights, and youth participation</li> </ul>	<p>inscribed with wants and rights and told they were starting their own island. Collective selection of 10 most important items (Card items: Fashionable clothes; Bike; Own bedroom; Computer; T.V.; Stereo; Spending money; Fast food; Police protection; Healthy ecosystems; Decent shelter; Capacity for all to exist, persist, maintain and regenerate vital life cycles; Good working conditions and fair treatment; Medical care; Nutritious food; Protection from abuse and neglect; Education; Fair treatment and non-discrimination; Clean air; Clean water; Opportunities to share opinions and contribute to community decision-making; Playgrounds and recreation; Opportunities to practise own culture, language and spirituality)</p>
3b Cultural House	<ul style="list-style-type: none"> <li>▪ Experiential Activity: Slideshow</li> </ul>	<ul style="list-style-type: none"> <li>▪ Researcher and photography skill development</li> </ul>	<ul style="list-style-type: none"> <li>▪ Purpose: To develop photography skills</li> <li>▪ Description: Presented creative photography tips: lighting, exposure, rule of thirds, focus, natural frames</li> </ul>
3c Various	<ul style="list-style-type: none"> <li>▪ Experiential Activity: Camera use &amp; Scavenger</li> </ul>	<ul style="list-style-type: none"> <li>▪ Researcher and photography skill development</li> </ul>	<ul style="list-style-type: none"> <li>▪ Purpose: To develop skills in camera use</li> <li>▪ Description: One-on-one tutorials &amp; photo scavenger hunt: camera practice using creative photography tips</li> </ul>

4a Cultural House	▪ Photovoice	▪ Photovoice inquiry	<ul style="list-style-type: none"> <li>▪ Purpose: To capture what <i>buen vivir</i> means to youth co-researchers in relation to Island places</li> <li>▪ Description: In pairs, youth walked/ biked taking photos of places that signified <i>buen vivir</i></li> </ul>
4b Los Totumos	▪ Photovoice	▪ Photovoice reflection	<ul style="list-style-type: none"> <li>▪ Purpose: To share co-researcher photos</li> <li>▪ Description: Photos uploaded to computer and shared in slideshow-fashion for group reflection</li> </ul>
5a Los Totumos	▪ Experiential Activity: What does sustainability mean to you?	<ul style="list-style-type: none"> <li>▪ Interdependent place understandings;</li> <li>▪ Sustainability concepts</li> </ul>	<ul style="list-style-type: none"> <li>▪ Purpose: To orient critical thinking re: sustainability</li> <li>▪ Description: Youth defined sustainability; next read definitions from Gaia Education, the UN, and the Global Ecovillage Network to discuss. Four dimensions of sustainability used in this research presented—ecological, social, economic (&amp; political), &amp; worldview: discussed</li> </ul>
5b Los Totumos	▪ Photovoice	▪ Photovoice Inquiry	<ul style="list-style-type: none"> <li>▪ Purpose: To capture what sustainability means to youth co-researchers in relation to Island places</li> <li>▪ Description: In pairs, youth walked/ biked around Island taking photos of places re: sustainability</li> </ul>
5c Dani 's Pico	▪ Photovoice	▪ Photovoice reflection	<ul style="list-style-type: none"> <li>▪ Purpose: To share co-researcher photos</li> <li>▪ Description: Photos uploaded to</li> </ul>

			computer and shared in slideshow-fashion for group reflection
6a Cultural House	<ul style="list-style-type: none"> <li>▪ Experiential Activity: Mural drawing of biocultural diversity</li> </ul>	<ul style="list-style-type: none"> <li>▪ Interdependent place understandings</li> </ul>	<ul style="list-style-type: none"> <li>▪ Purpose: To orient biocultural diversity learning</li> <li>▪ Description: With mural paper &amp; markers, youth drew/wrote a relation to <i>buen vivir</i> &amp; place in community; discussed and artistically elaborated in relations to biological and cultural diversity and heritage</li> </ul>
6b Cultural House	<ul style="list-style-type: none"> <li>▪ Photovoice</li> </ul>	<ul style="list-style-type: none"> <li>▪ Photovoice Inquiry</li> </ul>	<ul style="list-style-type: none"> <li>▪ Purpose: To capture what culture means to youth co-researchers in relation to Island places</li> <li>▪ Description: In pairs, youth walked/ biked taking photos of places re: culture &amp; <i>buen vivir</i></li> </ul>
6c Los Totumos	<ul style="list-style-type: none"> <li>▪ Photovoice</li> </ul>	<ul style="list-style-type: none"> <li>▪ Photovoice reflection</li> </ul>	<ul style="list-style-type: none"> <li>▪ Purpose: To share youth co-researcher photos and perspectives related to culture</li> <li>▪ Description: Photos uploaded to computer and shared in slideshow-fashion for group reflection</li> </ul>
7 Los Totumos	<ul style="list-style-type: none"> <li>▪ Photovoice</li> </ul>	<ul style="list-style-type: none"> <li>▪ Photovoice inquiry</li> <li>▪ Photovoice reflection</li> </ul>	<ul style="list-style-type: none"> <li>▪ Purpose: To explore what ancestral territory place of the sea means to youth co-researchers</li> <li>▪ Description: Co-researcher team swam to/dove in coral reef to take photos; group reflection followed</li> </ul>

8 Los Totumos	<ul style="list-style-type: none"> <li>▪ Photo exposition preparation</li> </ul>	<ul style="list-style-type: none"> <li>▪ Photography Exposition</li> </ul>	<ul style="list-style-type: none"> <li>▪ Purpose: Community dissemination</li> <li>▪ Description: Youth reviewed all photos &amp; selected most meaningful in relation to <i>buen vivir</i>, sustainability, and biocultural diversity; photos printed, framed, &amp; inscribed</li> </ul>
9 Los Totumos	<ul style="list-style-type: none"> <li>▪ Experiential Activity: Tablet use</li> </ul>	<ul style="list-style-type: none"> <li>▪ Researcher and tablet skill development</li> </ul>	<ul style="list-style-type: none"> <li>▪ Purpose: To familiarize youth with tablets and mapping interface</li> <li>▪ Description: Tutorials in pairs to learn how to use tablets and mapping software</li> </ul>
10–12 Various	<ul style="list-style-type: none"> <li>▪ Mapping</li> </ul>	<ul style="list-style-type: none"> <li>▪ Participatory Mapping</li> </ul>	<ul style="list-style-type: none"> <li>▪ Purpose: To map place understandings</li> <li>▪ Description: In pairs, youth walked/biked around Island to map place relationships; photos, videos, audio also taken; group reflection followed</li> </ul>
13 Livingston Dock	<ul style="list-style-type: none"> <li>▪ Experiential Activity: Opinion poll: Move your feet</li> </ul>	<ul style="list-style-type: none"> <li>▪ Interdependent place understandings and youth participation</li> </ul>	<ul style="list-style-type: none"> <li>▪ Purpose: To explore place connections</li> <li>▪ Description: Youth stood on horizontal gradient from “agree” to “disagree”; questions posed related to sustainability, <i>buen vivir</i>, biocultural diversity, and youth role in participatory planning; youth placed themselves on gradient in accordance with their perspectives</li> </ul>
14 Livingston Dock	<ul style="list-style-type: none"> <li>▪ Experiential Activity: Connecting place relations with</li> </ul>	<ul style="list-style-type: none"> <li>▪ Interdependent place understandings</li> </ul>	<ul style="list-style-type: none"> <li>▪ Purpose: To visualize biocultural diversity significant to youth co-researchers’ lives</li> <li>▪ Description: Youth co-researchers each given cards inscribed with emergent</li> </ul>

	biocultural threads		research themes; one person given ball of string & read a card; string thrown to youth with card-relation and connection described (when string thrown, a piece was held by thrower); a web of string created between youth demonstrating biocultural relationships; when string dropped, web collapse demonstrated the need for relational place-based understandings
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**Appendix B**  
**Third Party Photo Consent Form<sup>40</sup>**

I understand that \_\_\_\_\_ (youth co-researcher's name's) has agreed to take part in a research study and that \_\_\_\_\_ (youth co-researcher's name) has been given a camera to take pictures of people, places, and things that are important to them. \_\_\_\_\_ (youth co-researcher's name) has asked to take my picture and will tell the co researcher team why they selected me.

I have been informed that people external to the co-researcher team could view my picture and hear why it was important for \_\_\_\_\_ (youth co-researcher's name) to take my picture (e.g., at professional conferences; in dissemination materials). Therefore, my participation is voluntary, and I may refuse to have my picture taken.

My signature below indicates that I agree to having my picture taken and have received a copy of this consent form.

**My name (please print):** \_\_\_\_\_

My relationship to the youth co-researcher: \_\_\_\_\_

If a youth, my birth date: \_\_\_\_\_

(Day/Month/Year)

My sex:    Male                          Female                          Other   

Yes. I agree to being photographed and understand that I am not the focus of the research.

No. I do not wish to have my photograph taken.

My signature: \_\_\_\_\_                      Date: \_\_\_\_\_

\*\*If person to be photographed is under 18 years of age, consent must be received from their parent/caregiver:

\_\_\_\_\_

<sup>40</sup> \*This document was translated into Spanish for field purposes

Parent/Caregiver name: \_\_\_\_\_

Relationship to person identified in photograph: \_\_\_\_\_

Yes. I agree to this individual to be photographed and understand that he/she is not the focus of the research.

No. I do not wish to have this individual's photograph taken.

Parent/Caregiver signature: \_\_\_\_\_ Date: \_\_\_\_\_

## Appendix C

### Group Dialogue Protocol

#### **Preparation:**

- Primary researcher and translator arrive prior to scheduled time to set up space (NB: location determined by co-researchers)
- Prepare materials (as required): notebook/computer or tape recorder to record proceedings; flip chart paper if no board is available and markers; equipment as necessary (i.e., tablets, battery chargers, cameras)
- Provide food and snacks

#### **Discussion foundation:**

- Co-determine start time of session, should all co-researchers not be on time/ in attendance
- Cyclical processes of action and reflection: Prior to group dialogue, youth co-researchers work in pairs to collect photovoice and participatory mapping data.

#### **Discussion commencement:**

- Co-researcher data (i.e., photovoice images and participatory maps) are uploaded or displayed on tablets
- Confirm that youth give consent to audio-recorded discussions
- Youth co-researchers guide sharing of collected data

#### **Discussion flow:**

- Topics of group discussion reflect on presented data; guided by co-determined research questions related to main research themes of well-being, sustainability, and biocultural relations
- A SHOWeD method of reflection used when necessary to encourage critical reflection: What do you *See* in this photo? What is really *Happening* in this photo? How does it relate to *Our* lives? *Why* does this situation, concern, or strength exist? What can we *Do* about it?

#### **Session conduct:**

- Set a positive and inviting tone
- Make sure everyone is heard

- Draw out quieter group members
- Probe for more complete answers
- Monitor questions, discussion, and time closely to stay on track

**Session closure:**

- Thank co-researchers
- Ensure contact information has been exchanged for ongoing team communication re: future session reminders and planning
- Co-researchers determine next research day, time, and location
- Allocate equipment if youth show interest in doing research between group sessions

**Follow up:**

- Transcribe audio recording of the group dialogue

**Appendix D**  
**Proposed Tablet-Based Participatory Mapping Categories Developed Through**  
**Community Consultation<sup>41</sup>**

Table D1. Participatory mapping customizable categories

<b>Place Category</b>	<b>Examples</b>
<b>Significant relations with Island ecosystems</b>	<ul style="list-style-type: none"> <li>▪ Mangroves</li> <li>▪ Dry Forests</li> <li>▪ Corals</li> <li>▪ Lagoons</li> <li>▪ Unusual or special geographical formations</li> <li>▪ Areas of scenic beauty</li> </ul>
<b>Significant relations with biodiversity</b>	<ul style="list-style-type: none"> <li>▪ Rare species</li> <li>▪ Charismatic species (most important for ecotourism)</li> <li>▪ Areas of greatest species diversity (land and water)</li> <li>▪ Sensitive areas fragile environments</li> </ul>
<b>Significant relations with culture</b>	<ul style="list-style-type: none"> <li>▪ Cultural history and spiritual aspects</li> <li>▪ Conservation practices</li> <li>▪ Environmental Education areas</li> <li>▪ Island places of most importance to me (youth co-researcher)</li> </ul>
<b>Significant relations toward sustainable development and innovation</b>	<ul style="list-style-type: none"> <li>▪ Land</li> <li>▪ Sea</li> <li>▪ Fishing</li> <li>▪ Agriculture</li> <li>▪ Tourism</li> <li>▪ Water Use</li> <li>▪ Solar panels</li> <li>▪ Dry Toilets</li> <li>▪ Waste management areas</li> <li>▪ Collaborative partners on the Island</li> </ul>

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<sup>41</sup> Legend and categories were translated into Spanish on field mapping interface

**Appendix E**  
**Communitarian Council Consent to Research<sup>42</sup>**

**Carta de entendimiento y consentimiento a la investigación con la juventud del Consejo comunitario de la Isla Grande**

Entiendo que Jennifer McRuer, doctoranda con el Departamento de fundaciones educativas, Universidad de Saskatchewan (2013-2017), visita la comunidad de Isla Grande para dedicarse a actividades de investigación hacia el cumplimiento de su médico en la tesis doctoral de fundaciones educativas: "Lugar de toma a través de un marco de diseño Biocultural: pedagogía crítica pública y basado en el lugar consulta con los jóvenes"

Entiendo y doy mi consentimiento para la investigación de la Sra. McRuer que implican trabajar con jóvenes de la comunidad. Con este fin, entiendo que la Sra. McRuer obtendrá formularios de consentimiento de los participantes involucrados en esta investigación.

Título de la posición en el Consejo Comunitario: Representante Legal  
Nombre de miembro del Consejo de la comunidad: Ever de la Rosa Morales

Firma ■ \_\_\_\_\_ fecha: 19 de Enero de 2015

**Letter of Understanding and Consent to Research with Youth from the Communitarian Council of Isla Grande**

I understand that Jennifer McRuer, PhD candidate with the Department of Educational Foundations, University of Saskatchewan (2013-2017), is visiting the Isla Grande community to pursue research activities toward fulfillment of her Doctor in Educational Foundations dissertation: "Place-Making Through a Biocultural Design Framework: Critical Public Pedagogy and Place-based Inquiry with Youth"

I understand and consent to Ms. McRuer's research that will involve working with youth in the community. To this end, I understand that Ms. McRuer will obtain consent forms from participants involved in this research.

Position Title on the Community Council: Legal Representative

Name of Community Council member: Ever de la Rosa Morales

■ \_\_\_\_\_

Signature:  
Date: January 19th, 2015

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<sup>42</sup> NB: Dissertation title in this consent letter has since changed



**Appendix F**  
**Co-researcher Application<sup>43</sup>**

**Are you:**

1. Between the ages of 18 and 24?
2. Involved or interested in community-based ecotourism, conservation of your environment, cultural integrity, and sustainable development efforts on the Islands?
3. Interested in making positive change in your community through a research project?

**Do you want to:**

1. Be a part of a team of co-researchers to explore your experiences of community places (land and sea) through photography and mapping?
2. Share your experiences with your community and beyond?
3. Contribute to the Life Plan initiatives in your community?
4. Travel locally to share your perspectives of your community?
5. Help to create sustainable development in the Islands?
6. Have fun while doing it?

**We are waiting for YOU! to be a part of our team.**  
**If interested in this opportunity, please fill out this form before Friday, April 3rd and deliver to Blanca or Carolina in the Los Totumos.**

Please tell us ...

1. Why are you interested in being a part of this project?
2. What do you hope to learn from this project?
3. Are you available to attend an information meeting about the project on April 9<sup>th</sup>?  
Please circle: Yes or No
4. Your personal information: Full name, date of birth, where you live on the Island, cellular number, and email if you have one.

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<sup>43</sup> This application was translated into Spanish for field research purposes

## Appendix G

### Participant Letter of Information and Consent

This letter<sup>44</sup> describes research that aims to engage up to 12 youth co-researchers (aged 18–24) in research to explore their community. It is a project intended to engage youth as co-researchers, and therefore be designed by, for, and with youth. Information gathered through the research process will contribute youths' perspectives to community development planning in Isla Grande regarding well-being, sustainability, and relationships with place. Additionally, it will be shared with other communities through Isla Grande's networks and in publications.

There are three ways that young people can take part in this project:

1. **Participating in group discussions:** The program invites youth to take part in a research study to help understand what place means to young people in Isla Grande. I am interested in how young people understand place, and the ways that well-being and sustainability link with biocultural relationships. I am interested in hearing your opinions and experiences about:
  - What relationships are important to you in terms of your terrestrial/marine resources?
  - How do you understand and experience well-being and sustainability in your community places?
  - How do you perceive your role in terms of community involvement and as well as participants in Island planning initiatives?
  - Related to terrestrial and marine places in your ancestral territories, where are the most significant areas for you?
  - What is happening in these areas related to human and non-human relationships?
2. **In methods training and application:** Participate in fun and creative hands-on workshops, where youth will receive training in researching community places, conservation activities, and biocultural knowledge in their community. This may include developing the skills to use: photography, storytelling, mapping, online tools, and arts-based methods. The core aim of the research is to foster capacity in emerging young

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<sup>44</sup> This document was translated into Spanish for field purposes

leaders and researchers in terms of community planning involvement.

3. **In community action:** The program offers youth the opportunity to develop the skills needed to investigate aspects of place in their communities, and then *put their research skills into action* in their own communities. Young researchers will have opportunity to address a shared concern to their community places. The aim is to create an environment where young people grow more capable to take leadership in issues that affect their lives.

**Time and schedule of research:** The research is proposed to take place over the course of the upcoming year (Mar 2015-Mar 2016; approximately 90 hours total). In collaboration with youth co-researchers, the hours of research, schedule, and focus will be determined. Over the course of research, it is expected that approximately 15 group sessions will take place lasting approximately 3 hours each in duration; associated with 15 individual data collection sessions (involving cameras and mapping).

**Potential benefits that you may experience (but that are not guaranteed) include:**

- Training in photography, mapping, and online technological tools
- Increased confidence through new skill development
- Letters of recommendation based on your performance as a co-researcher for future employment and education
- Environmental education related to your community
- Opportunity to share your perspectives with community members, as well as regional, national, and international networks
- Opportunity to engage in participatory planning initiatives in your community
- Potential opportunity for local travel
- Opportunity to develop your role in community-based ecotourism
- Opportunity to take action on a shared community concern

If you are interested in taking part in the research project or training opportunities in any way, or would like to learn more, please contact Margarita Zethelius xx-xxx-xxx-xxxx or Carolina Morales xx-xxx-xxx-xxxx.

## Appendix H

### Research Agreement/Youth Consent to Research

**Project Title:** Critical Place Inquiry with Youth: Understanding Places in Relation to Biocultural Heritage<sup>45</sup>

**Lead-Researcher(s):** Jennifer McRuer, PhD Candidate in Educational Foundations, Department of Educational Foundations, University of Saskatchewan, xxx xxx-xxxx (Canada) or xx xxx xxx-xxxx (Colombia); j.mcruer@usask.ca

**Supervisor:** Dr. Marcia McKenzie, Department of Educational Foundations, xxx xxx xxxx (Canada); marcia.mckenzie@usask.ca

#### **Purpose(s) and Objective(s) of the Research:**

##### **Purpose:**

- To invite you to be a part of a co-researcher team to explore: your distinct knowledge, experience and expertise related to Isla Grande's biological and cultural heritage; your relationships with Isla Grande and Isleta's land and sea; and your contribution to community planning processes.

##### **Objectives:**

- To work with you, as part of a co-researcher team of up to 11 other youth; to design a research project in a way that is meaningful to you;
- To explore your knowledge and experience related to well-being and sustainability as well as biological and cultural heritage in your ancestral territories;
- To use photography and mapping to explore these aspects of your community;
- To produce an online Story Map related to your collective experiences with place that will be shared with your local community, with the potential of extending to regional, national, and international audiences;
- To work as a team to perform an action(s) that will address a shared concern in your community related to biological and cultural heritage and/or conservation.

##### **Opportunities to participate:**

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<sup>45</sup> This document was translated into Spanish for field research purposes

1. *Taking photographs*: You will be trained in photography and together with a team member, will use cameras to take pictures of places on the Island that are important to you in relation to biological and cultural heritage; You will be asked to share your opinions with the larger team; Additionally, a team photography activity will be suggested as a means to capture pictures of the sea using an underwater camera.
2. *Participatory mapping*: You will use mapping technology, cameras, audio recordings, and written narratives to document places in your community that relate to your environment and culture.
3. *Online mapping*: share your collective photographs and mapping data for the creation of an online story of your research
4. *Community action*: working as a team you will take action to address a shared concern related to biological and cultural heritage and/or conservation.
5. You will be asked to share your thoughts and opinions about your community places in group discussion with fellow youth, a translator, and myself. Your opinions will be digitally recorded and written down by the lead-researcher (Jennifer McRuer).

**Location**: Isla Grande and Isleta, Colombia

**Number of youth co-researchers**:

- Up to 12 youth, between the ages of 18 and 24, are expected to participate in this research.

**Estimated duration of research**:

- The research is proposed to take place over the course of 6 months during the upcoming year, in two time periods: between April 2015–July 2015; and between November 2015–March (approximately 90 hours total). In collaboration with youth co-researchers, the hours of research and schedule will be determined. Over the course of research, it is expected that approximately 15 group sessions will take place lasting approximately 3 hours each in duration; associated with 15 additional individual data collection sessions (involving photography and mapping activities). These individual data collection sessions will occur in pairs or teams of three co-researchers. Ideally the time afforded for these sessions will allow youth to do research amidst personal obligations/responsibilities. Data collection schedule will be decided with youth co-

researchers, to align with their time and interests.

- During the research, questions are welcomed, regarding the procedures and goals of the study or your role.

**Funded by:** The Social Sciences and Humanities Council of Canada

**Potential risks:**

- Although this form indicates specific methods (e.g., photography, mapping) as well as a tentative timeframe to meet research objectives, it is expected that the research design, terms, schedules, time, participation, etc. will ultimately be created by youth co-researchers, in collaboration with a research advisory team.
  - The research advisory team will consist of seven community representatives invested in the research process. Representatives will include: two community partners, one young person who will represent the interests of the co-researcher team, one school teacher, and two Communitarian Council representatives from Isla Grande and Isleta.
  - These individuals will be selected on account of their influence in the community of service providers and their potential to act as conduits for dissemination of results to practitioners and policy makers. Their role is to:
    - Ensure methods and research processes are appropriate for the Island context;
    - Inform youth co-researcher selection;
    - Support the co-researcher team if any challenges, concerns, or questions arise; and identify the appropriate authorities to contact should youth co-researchers disclose that they are at risk of being harmed, or harming others.
- Together, the co-researcher team (comprised of youth, translator, and university researcher) will determine the research design in consultation with the research advisory team. In this way, it is expected that we can work together to minimize any potential risk or discomfort that you may experience. Although potential risks or discomfort that you may experience by participating in this research are unlikely, the following may arise:

- Confidentiality: If you request that your name not be shared beyond the co-researcher team, confidentiality may need to be broken under particular circumstances (see ‘Confidentiality’ section below)
- Social discomfort or anxiety: If you are uncomfortable expressing yourself in group settings
- Feelings of low confidence: If you are learning research skills for the first time
- Physical injury (e.g., falls, wildlife encounter, water-related accident): Should you not take care to be safe and know your limits while participating in activities related to this research
- Travel sickness or a travel-related incident (i.e., home sickness, anxiety, boat-related injury): Should the team decide to visit a neighbouring community to learn and share about research and ecotourism
- Social exclusion: Should behaviour be demonstrated that requires a youth co-researcher to terminate their participation. It should be noted that the circumstances under which a youth co-researcher’s participation in the study may be terminated will be determined collectively by the team and myself before the research begins

**Potential benefits:**

- Potential benefits that you may experience (but that are not guaranteed) include:
  - Training in photography, mapping, and online technological tools
  - Increased confidence through new skill development
  - Letters of recommendation based on your performance as a co-researcher for future employment and education
  - Environmental education related to your community
  - Opportunity to share your perspectives with community members, as well as regional and international networks
  - Opportunity to engage in participatory planning initiatives in your community
  - Potential opportunity for local travel
  - Opportunity to develop your role in community-based ecotourism
  - Opportunity to take action on a shared community concern

### **Compensation:**

- During the second period of research (between November–March 2016), youth co-researchers and invested members of the research advisory team, will be offered a travel bursary toward a team learning experience to inform and share our research. The regional location will be discussed and determined collectively as a team, in collaboration with the research advisory team.

### **Confidentiality:**

- Before beginning research, you can choose that your name be kept confidential. I will ensure this through the use of a fake name in all documentation of research (i.e., in relation to photo contributions, written narratives, notes of verbal responses, research contributor acknowledgement).
- In the case that you choose for your name be kept confidential, it should be known that if you reveal information that is required by law to be communicated to a law enforcement or other agency (e.g. child abuse), I will have to break this confidentiality and your name will be shared with the official agency.
- In the case that you choose for your name be kept confidential, it should be known that your involvement in the research will likely be recognized within your community as a result of: 1) your recommendation to participate by the research advisory team, and 2) your research activities in the community during photography and mapping sessions which may be in public spaces 3) during your involvement in focus groups, all youth co-researchers will be encouraged to refrain from disclosing the contents of the discussion outside of the focus group; however, we cannot control what other youth co-researchers do with the information discussed
- You have the right to not have photographs taken of you, or to be audio recorded during group sessions.

### **Storage of data:**

- In the field, collected data (e.g., photos and maps) will be stored with the lead-researcher on two hard drives designated specifically for research purposes, secured in a locked Pelican Case. Data will not be shared outside of the co-researcher team (including translator). Data will also be devoid of identifying tags to protect co-

researcher identities, if requested by youth co-researchers.

- The data on one hard drive will be saved and stored until at least March 2021 by the principal investigator of the research. With permission of youth co-researchers, data may be used for future dissemination efforts such as photo exhibits, publication purposes, community and policy outreach. If a youth co-researcher(s) does not grant permission for on-going use of data, select data can be destroyed after March 2021.
- Data on the second hard drive will be given to a designated co-researcher team member or other selected individual, for use in on-going initiatives post-research.
- Collected data may be used in an online atlas, photo exhibits, publication purposes, community and policy outreach, or other means of interest to the co-researcher team, or advised by the research advisory team and Communitarian Council (with permission from youth co-researchers).

**Right to withdraw:**

- Your participation is voluntary and you can participate in the research at your comfort level. You may withdraw from the research project for any reason, at any time without explanation or penalty of any sort.
- Whether you choose to participate or not will have no effect on your position (e.g. employment, access to community services) or how you will be treated.
- Should you wish to withdraw, please contact the lead-researcher (Jennifer McRuer) or translators (Carolina Morales, Margarita O. Zethelius, Juan Vega) immediately. Any data collected by you up until that point will be used with your permission.
- Your right to withdraw your data from the study will apply so long as the data has not yet been analyzed. After analysis, it is possible that some form of your research contribution will have already been used to inform later stages of research, and it may not be possible to withdraw your data.

**Follow up and dissemination:**

- Dissemination efforts stemming from PhD requirements (e.g., journal publications written by the lead-researcher) will ensure youth co-researchers have the opportunity to review any materials intended for publication in which quotations or other data gathered from them is planned to be included. Youth co-researchers may at that time

- chose to remove or change this data if they are not comfortable with it.
- Any other forms of dissemination of interest to youth co-researchers, Communitarian Council, research advisory team, or other research partners may be pursued, provided there is consultation with youth co-researchers and consent to such efforts is given by youth co-researchers. This requirement is included in the research agreement and consent to research form signed by the Communitarian Council.
  - To obtain research results that have not been created by the co-researcher team (e.g., journal articles written by the primary researcher), please contact the primary researcher after December 2017 (contact information provided at the top page 1).

**Questions or concerns:**

- Please find contact information at the top of page 1;
- The University of Saskatchewan Research Ethics Board has approved this research project on ethical grounds. Any questions regarding your rights as a youth co-researcher may be addressed to that committee through the Research Ethics Office [ethics.office@usask.ca](mailto:ethics.office@usask.ca). If you live outside of Canada, you may call toll free 1-306-966-2975.

**CONSENT**

**Continued or on-going consent:**

- This consent form will be in effect until the youth co-researcher indicates otherwise. To ensure your consent during extended research phases that may be separated by a few months at a time, this same form will be issued in any and all subsequent research phases that occur until the completion of research.

**Option 1–SIGNED CONSENT**

Your signature below indicates that you have read and understand the description provided; I have had an opportunity to ask questions and my/our questions have been answered. I consent to participate in the research project, and any harm or injury resulting from any research-related activities is not the responsibility of the supervisor (Marcia McKenzie), lead-researcher (Jennifer McRuer), field translators (Carolina Morales, Margarita O Zethelius, Juan Vega), the University of Saskatchewan, members of the research advisory team, or the Communitarian Council of Isla Grande. A copy of this Consent Form has been given to me for my records.

<i>Name of youth co-researcher</i>	<i>Co-researcher's signature</i>	<i>Date</i>
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\_\_\_\_\_  
*Lead-researcher's Signature*

\_\_\_\_\_  
*Date*

*A copy of this consent will be left with you, and a copy will be taken by the lead-researcher.*

**Option 2–ORAL CONSENT**

In the case of consent obtained orally. If this Consent Form is dated and signed by the lead-researcher(s) it indicates that, “I read and explained this Consent Form to the youth co-researcher before receiving the youth co-researcher’s consent, and the youth co-researcher had knowledge of its contents and appeared to understand it.” In addition, signature and date may indicate consent obtained through audio or videotape.

<i>Name of youth co-researcher</i>	<i>Co-researcher's Signature</i>	<i>Date</i>
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\_\_\_\_\_  
*Lead-researcher's Signature*

\_\_\_\_\_  
*Date*

*A copy of this consent will be left with you, and a copy will be taken by the lead-researcher.*

**Option 3–FOR VISUAL DATA**

In cases where visual data is being collected and disseminated of co-researchers, option 3 should be used to supplement one of the aforementioned consent options.

**Visually recorded images/data:** Participant or parent/guardian to provide initials:

- Photos may be taken of me for: Analysis \_\_\_\_\_ Dissemination\* \_\_\_\_\_
- Videos may be taken of me for: Analysis \_\_\_\_\_ Dissemination\* \_\_\_\_\_

\*Even if no names are used, you may be recognizable if visual images are shown as part of the dissemination efforts.

\_\_\_\_\_  
*Lead-researcher's Signature*

\_\_\_\_\_  
*Date*

*A copy of this consent will be left with you, and a copy will be taken by the lead-researcher.*

## Appendix I

### Photo Release Form for Youth Co-Researchers

I, \_\_\_\_\_ (co-researcher's name) agree that in photos taken of myself, that my face may be shown when the co-researcher team shares information with people at presentations and conferences around the world so they can learn about youth perspectives related to their social and natural environments. I understand that if I prefer, the co-researcher team will edit the photos I took so that my face will be blurred to conceal my identity. Therefore, not having my face blurred on any photographs I take as a participant in the research is voluntary, and I may change my mind and request my face be blurred on photographs shown outside the co-researcher team at any point, up to two years from now (March 2017). My signature below indicates that I agree to have my face ***visible on photographs that have been taken of myself*** shown outside the co-researcher team.

Youth co-researcher signature: \_\_\_\_\_ Date: \_\_\_\_\_

I agree that the photographs I take can be used for purposes of research dissemination efforts, including (but not limited to): photo exhibits, publication purposes, community and policy outreach. I understand that my full name will not be used for such efforts unless I indicate otherwise.

Yes, I agree       No, I do not agree

Name \_\_\_\_\_ Date: \_\_\_\_\_

Youth co-researcher signature \_\_\_\_\_

Preferred name of use for dissemination efforts:

Name \_\_\_\_\_ Date: \_\_\_\_\_

Youth co-researcher signature \_\_\_\_\_

**Appendix J**  
**Sustainability Concepts Introduced to Youth Co-Researchers to Orient Global**  
**Sustainability Concepts Relevant to Their *Plan de Vida***

Table J1. Sustainability definitions introduced through research

<b>Source</b>	<b>Sustainability Framework</b>	<b>Framework Dimensions</b>
United Nations	<ul style="list-style-type: none"> <li>▪ “Development which meets the needs of the present without compromising the ability of future generations to meet their own needs” (Brundtland Commission, 1987, p. 41).</li> </ul>	<ul style="list-style-type: none"> <li>▪ Sustainable development dimensions: social environment, and economic.</li> </ul>
Gaia Education	<ul style="list-style-type: none"> <li>▪ “Sustainable systems . . . continue into the indefinite future” (Gaia Education, 2012, p. 77);</li> <li>▪ Sustainability: “Whole systems learning in order to see the wider context in which we function, and the web of relationships upon which all life depends” (Gaia Education, 2012, p. 14);</li> <li>▪ Sustainable community design includes “The creation of self-reliant, self-maintaining, self-regenerating ‘living systems’ that can assume a life of their own with a neutral carbon footprint” (Gaia Education, 2012, p. 76).</li> </ul>	<ul style="list-style-type: none"> <li>▪ Four primary dimensions of experience: social, ecological, economic, and worldview (the latter explicitly recognizes underlying patterns to culture that strongly influence sustainability of place-based relationships (Gaia Education, 2012).</li> </ul>
Global Ecovillage Network (GEN)	<ul style="list-style-type: none"> <li>▪ Designing intentional ways of living with “the Earth . . . to ensure the <i>buen vivir</i> of all life-forms into the indefinite future” (GEN, 2014);</li> <li>▪ Sustainability: “Using local participatory processes to holistically integrate . . . dimensions of sustainability . . . to regenerate social and natural environments” (GEN, 2014).</li> </ul>	<ul style="list-style-type: none"> <li>▪ Four dimensions of sustainability: social, cultural, ecological, and economic.</li> </ul>

## **Appendix K**

### **Categories of Biocultural Interdependence**

The following descriptions were reprinted from the following source: Interlinked Diversity: Categories of Interdependence. Adapted from “Linking biological and cultural diversity UNESCO-sCBD Programme: A global knowledge platform linking local, regional, national, and international practices and experiences,” by CBD, 2014. Reprinted with permission from SCBD.

#### **K.1 Languages and Linguistic Diversity**

##### **K.1.1 Language**

- Language is the key vehicle of knowledge. It captures, maintains, and conveys information of local territories, species, ecosystems, landscapes, as well as their functioning and connection to local practices, livelihoods, and well-being.
- Language is also vital in transmitting intangible cultural heritage, including oral traditions and expressions concerning nature, rites related to natural seasons and cycles, and celebrations of culturally and spiritually significant species, natural sites and locations.
- When a language is lost, the associated ecological and cultural knowledge is lost with it.

##### **K.1.2 Linguistic diversity**

- Diversity of languages embodies our cultural diversity and underpins exchange of views, renewal of ideas and broadening the capacity to describe and understand biodiversity and related processes.
- Different language groups maintain the knowledge of respective regional landscapes, their key components, and interactions between them.
- Through the richness of linguistic diversity, local knowledge, techniques, practices and innovations are maintained and passed on to new generations, supporting the cultural connection to the place and cultural elements inherited from common ancestors.

## **K.2. Knowledge, Technology, Improvisation<sup>46</sup>, and Innovation**

### **K.2.1 Knowledge (local, traditional and Indigenous knowledge)**

- Local and Indigenous communities possess sophisticated sets of knowledge, know-how and practices related to local biodiversity.
- Developed over centuries of direct interaction with the local environment and based on long-standing observations and experience, such knowledge provides the basis for local-level decision-making about the use, management and conservation of both cultural and biological diversity. It underpins aspects of day-to-day life in fields like agriculture, fisheries, water collection and storage, health, horticulture, forestry, including the development of plant species and animal breeds.
- Part and parcel of a cultural complex that encompasses intangible components, such as language, rituals, beliefs, spirituality and worldview, this culturally grounded, collectively owned and place-specific knowledge is highly dynamic and responsive to change.
- In form of stories, songs, folklore, proverbs, rituals and cultural practices, traditional and local knowledge is accumulated within a specific community and orally transmitted from generation to generation.

### **K.2.2 Technology, techniques, improvisations, and innovation through practice and adaptation**

- Local communities and Indigenous peoples have learned to adapt to local environment and to cope with its changes by developing a complex set of observations, experiences, practices and knowledge in close overlap with local social and cultural evolution. As a consequence, traditional and local knowledge results in technologies and techniques that are socially acceptable, and intimately linked to sustainable utilization and management of local natural resources.
- Traditional technology and techniques are specific to a particular locality and of key

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<sup>46</sup> I have expanded this category to include “improvisation” to reflect not just the novelty of innovation, but the creativity that is involved in the process.

- importance for local livelihoods and well-being. The use of traditional techniques and technologies ranges from gathering, preparation and conservation of food, domestication of crops, water management, adaptation to climate change, construction and maintenance of shelter; confection of clothing and tools, orientation and navigation on land and sea, traditional medicine, early warning systems.
- Traditional knowledge is often combined with innovation in response to the changing environment and the subsequent local adaptive management. Innovation arises from the interaction of practices, customary laws, cultural and spiritual values and local landscapes and biodiversity.

### **K.3 Material Culture**

#### **K.3.1 Objects created from or representing biodiversity**

- People engage with biodiversity through specific objects, which can be created from biodiversity components, or represent biodiversity.
- People's relationship to these objects and their perceived value are socially and culturally dependent. Understanding the different ways in which communities relate to, use and value such objects helps to understand how a particular culture is organized, functions and evolves over time.
- Objects created from/representing biodiversity also provide valuable information on the diverse use of biodiversity. They reflect the associated cultural and natural resource use practices, spiritual and religious beliefs, sources of aspirations and artistic expressions. They are also source of inspiration offering new perspectives for innovative, sustainable use of biodiversity.

### **K.4 Modes of Subsistence**

#### **K.4.1 Resource based livelihoods**

- The livelihoods of hundreds of millions of people around the world heavily depend on natural resources.
- From agriculture to fisheries, forestry, or pastoralism, people depend on natural resources and knowledge and practices related to their sustainable use and management to meet their basic needs and earn an income.
- Both in rural and urban contexts, local management and governance practices relating

to the use of natural resource result from complex interactions between economic and cultural forces that drive communities' interactions with their local environment.

#### **K.4.2 Land/sea use and management**

- For generations, local communities and Indigenous peoples have maintained vital economic, social, and cultural ties to the land and the sea.
- They have developed and employed a wide range of land/sea management practices and techniques as means of sustaining livelihoods while maintaining local biodiversity and cultural heritage.
- By incorporating biological and cultural diversity in land/sea management practices, they have also created specific cultural sea and landscapes characterized by complex sea/land use systems and patterns which provide important economic benefits while sustaining high levels of biodiversity and enhancing local cultural heritage.

#### **K.4.3 Plant/animal domestication and selective breeding**

- Throughout history, people have not only used biodiversity, they have also created and maintained plant and animal varieties, landscape and seascape types, thus contributed to diversification at genetic, species and ecosystem levels.
- Local and Indigenous knowledge has been critical in the process of selective breeding which resulted in domestication of plant and animal species with genetic traits that benefit human needs, including production of food and commodities; transportation and protection; scientific research; decor and companionship.
- This knowledge, skills, and practices remain key in creation and maintenance of genetic diversity adapted to and appropriate for the local environment and culture.

### **K.5 Social and Economic Relations**

#### **K.5.1 Sense of identity and attachment to place**

- As human cultures co-evolve with their environment, cultural identity and sense of belonging are strongly linked to local biodiversity and the relationships communities have with the surrounding land, sea, rivers, mountains, forests, lakes, animals and plants.
- Cultural identity is often inscribed in natural places, such as cultural landscapes, national parks and sacred sites that embody local history and promote respect,

interrelationship and responsibility of the past and present.

- The distinctiveness of local biodiversity which, among others, leads to the development of specific local gastronomy and food products, as well as related knowledge, skills and practices also enhances attachment to place, sense of belonging and pride.

#### **K.5.2 Social roles in resource use, sharing and management**

- Management of natural resources requires collective and collaborative action which is carried out by a number of actors and stakeholders each holding a specific role and related responsibility.
- Within a community, different social structures, networks and roles associated with shared resource use and management are often grounded in local culture and have been institutionalized in different forms of associations through land ownerships, clan or kin groups, traditional leadership, hunting, grazing, and fishing societies, women's groups, youth and religious groups.
- Disruption of social constructions which underpin common resource use and management can empower or disempower particular groups affecting their livelihood concerns, causing further social disruptions and ecological degradation.

#### **K.5.3 Gender considerations**

- Historical division of labor between man and women has resulted in their different roles and knowledge related to biodiversity within their communities.
- Women and man have specific needs, interests, aspirations, social and cultural functions hence make different contributions to the conservation and sustainable use of biodiversity.
- Understanding of local gender relations and cultural dynamics can help mitigate the loss of important biological resources and related knowledge.

#### **K.5.4 Political and economic relations and legal institutions**

- Political and economic relations, including control over access to resources, sharing of benefits arising from their commercial use, partnerships based on resource trade, evaluations of economic values of biodiversity, or management of common property

resources, are important aspects of biodiversity governance which is constantly shaped by and is shaping the links between biological and cultural diversity.

- An important expression of the interconnectedness of biological and cultural diversity are customary laws which often combine provisions/norms relating to use of and access to natural resources, rights and obligations relating to land, conduct of spiritual life, maintenance of cultural heritage and knowledge systems.
- To benefit from the positive and mutually reinforcing synergies between biological and cultural diversity, the full and effective participation of local communities and Indigenous peoples in political, economic and institutional decision-making processes need to be ensured. This is indispensable for development and implementation of holistic approaches that guarantee the protection of community rights, the respect for their customary laws and consideration of their worldviews.

## **K.6 Belief Systems**

### **K.6.1 Rites and rituals**

- Rites, rituals, and ceremonies are important cultural expressions that structure the lives of communities who practice them, reaffirm their identity as a group or a society and play a key role in their social, cultural and spiritual life.
- As they mark the passing of seasons, events in the agricultural calendar, animal/plant productive cycles, healing practices or stages of a person's life, many such events relate to and depend on the environment and local biodiversity, including the availability of particular species or the presence of specific sacred natural sites.

### **K.6.2 Sacred natural sites**

- Sacred natural sites are areas of land or water having special spiritual significance to peoples and communities. They can be perceived as areas where nature, connection to the greater universe, and collective or individual recollections come together in meaningful ways. They can be areas for ceremony and contemplation, prayer and meditation or source of inspiration and well-being.
- An extended family, a clan, a tribe, a religious faith, or entire nations may root their cultural identity in a specific sacred natural site. Due to the spiritual values attributed to these sites, human disturbance has been reduced or prevented, or careful

management has taken place, often for long periods of time, with resulting high levels of biodiversity.

- Due to their dual character as places of high biological and cultural value, these special places contribute meaningfully to both the conservation of biological diversity and the maintenance of cultural diversity.

### **K.6.3 Mythology, worldview, cosmology, and spirituality**

- The diversity of the world's mythologies, worldviews, and cosmologies embodies the profound and complex nature of human-environment relationships. It also underpins the diversity of value systems and affects the ways people develop their identity and spirituality in relation to the natural world.
- Nature and biodiversity play a key role in our overall perception of life, world, and universe; in our interpretation of the origin and nature of the universe; and in the narratives explaining how the world or humankind came to be.
- In some societies, people believe in a vital spiritual connection with an animal or a plant and construct their identity with and through the surrounding natural world.

### **K.7 Values**

- Cultural values of biodiversity encompass aesthetic, spiritual, recreational, educational, inspirational values. They define peoples' relations to biodiversity and are defined by culturally grounded and often intergenerational value and belief systems.
- Biodiversity, on the other hand, is an invaluable source of intangible cultural heritage, intercultural exchange, creativity, and innovation. It strongly influences cultural value systems and underlie many cultural practices and cultural traditions.
- Cultural value systems are an important factor that drives people's interactions with biodiversity including its conservation strategies and sustainable use and management practices.