BIOCULTURAL DIVERSITY

prepared for the Christensen Fund
by Gleb Raygorodetsky

Through millennia, diverse traditional and indigenous peoples have developed a collective body of knowledge, practice and belief – referred to as Traditional Knowledge (TK) – that ensured vitality of their communities and their Buen Vivir, or life based on respectful and reciprocal relationships between men and women, different communities, and between human beings and the natural world of which they are part. Arising out of recognition of the interdependence of people, other living beings, and their physical and spiritual environments, this body of knowledge has been handed down through generations, largely by the word of mouth and hands-on practices on the Land and Water. Continued persistence of traditional indigenous communities and associated landscapes and ecosystems in different parts of the world—traditional indigenous territories have been estimated to contain 80 percent of the earth’s remaining healthy ecosystems and global biodiversity priority areas—in the face of dramatic environmental, social and climatic shifts, is a testament to the endurance and adaptability of these cultures, their holistic worldviews and ways of life.

Much more recently, just over the course of a few centuries, a reductionist worldview—postulating that human and natural worlds are separate and independent of each other—has become the dominant force behind policies, decisions, and behaviors that led to escalating and converging global environmental and social crises—from species loss to energy depletion, from climate change to financial meltdown, from growing inequality to a sense of alienation.

The modern technological prowess, rooted in this dominant worldview, appear less and less satisfactory to a growing number of scientists, managers and policy makers, as well as local and international organizations involved in conservation and management, cultural revival, and sustainable development. There is indeed a growing realization that elaborate, technology-rich, global production systems, striving for “market efficiency” in order to satisfy and fuel consumption of few at the expense of many, inevitably lead to dire consequences for Life on Earth. In the process of manufacturing technological riches, biological richness of ecosystems is diminished, while the cultural complexity of our relationships with each other, our habitat and the Earth itself is dismantled.

Fortunately, the recently emerged synergistic disciplines—such as Quantum Entanglement, Complexity Theory, Resilience Thinking, Deep Ecology, Ethnobiology, Gaia Theory, and others—give rise to a modern worldview.
alternative to the dominant reductionist paradigm. These fields of inquiry advance our understanding of the complex interactions between culture and nature, incorporating insights from both the biological and the social sciences, and integrating traditional knowledge systems and worldviews of indigenous peoples with more conventional scientific approaches. These branches of knowledge have affirmed the importance of maintaining—as the Belem Declaration stated in 1988—“the inextricable links between cultural and biological diversity” of phenomena, processes, and functions for attaining human wellbeing, and environmental and social sustainability in the face of global crises.

Biocultural Diversity is one such integrative field of inquiry that has evolved over the last two decades as a holistic way of looking at the world and our relationship with it. One of the pioneers of this synergistic field of inquiry, Dr. Luisa Maffi, Director of NGO Terralingua, describes Biocultural Diversity as “the pulsating heart of the globe, the multi-faceted expression of the beauty and potential of life on this planet—a precious gift for everyone to cherish and care for”. Seeing the world through the prism of Biocultural Diversity elucidates life-sustaining interdependencies and co-evolution of various forms of diversity—a view of the world integral to the indigenous ways of knowing—from cultural landscapes to ecosystems, from foodways to languages. Biocultural Diversity is defined as “the diversity of life in all of its manifestations—biological, cultural, and linguistic—which are interrelated (and likely co-evolved) within a complex socio-ecological adaptive system.” The field has emerged at the intersection of different disciplines—anthropology, linguistics, ethnobiology, conservation biology and ecology; fields which in the past were unable to spot the similar patterns and connections between the different kinds of diversities and systems that each studied. Key areas of enquiry include:

- regional and global mapping and analyses of the distribution patterns of biocultural diversity, which reveals considerable spatial overlap, particularly in the tropical regions;
- studies of the links between diversity and culture at the local level within specific land and seascapes that highlight the importance of language retention in maintaining the body of local knowledge about the specific environment;
- and development of methodologies and tools for evaluating the state and trends of biocultural diversity at different scales, not only to monitor the rate of decline, but to elucidate common causes of the decline and approaches to halting or even reversing it.
Millennia of co-evolutionary relationships between humans and their surroundings produced a tremendous variety of bioculturally-rich systems around the globe. As people adapted to their environment in search of sustenance, they also modified it through their subsistence and cultural practices. The essential feature of these biocultural systems that has ensured their persistence in time and space has been their resilience or, as described by a prominent Resilience scientist Dr. Brian Walker, the propensity of social-ecological systems to learn, adapt, self-organize (through co-evolution between different sub-systems) and absorb change, without losing functional integrity.

- Resilient systems are characterized by a diversity of patterns, functions, and processes at different scales (e.g., local, regional, national and global) that ensures a wide range of responses to external or internal challenges. These range from nutrient cycles to ecological niches, from inter- and intra-specific variability to between and within richness of languages, from epistemologies to governance institutions.
- Another important component of a resilient system is modularity, the presence of somewhat autonomous “nodes” (e.g., local communities, ecological refugia, pastoral networks, communities of practitioners) at different scales that reduce over-connectedness within a system and therefore enhance its ability to resist rapid transmission of environmental and social shocks.
• **Tight feedback mechanisms** between various elements and scales of biocultural systems enable detection of approaching thresholds, or tipping points, long before the system is on the verge of flipping into a new, potentially irreversible state (e.g., corral reef dominated to algae dominate systems, form rainforest to savannah, from democracy to dictatorship, etc.).

• **Functional overlap**, another feature of a resilient social-ecological system, is a reflection of redundancy in the system, which is like having a “back-up loop” that kicks in when some of system’s elements cease to function properly (e.g., carbon sequestration is achieved by different parts of an ecosystem, or wildlife harvest is regulated through different institutional arrangements, such as hunting seasons or bag limits).

• **Substantial social capital** in the form of trusted social networks, wise leadership combined with novelty, and an equitable integration of different ways of knowing into decision-making, also allows for diverse systemic responses to change.

Maintaining and enhancing biocultural diversity is fundamental for sustaining resilience of a social-ecological system and achieving the coveted goal of sustainability of meeting “the needs of the present without compromising the ability of future generations to meet their own needs”xxv. This is not as much about “what,” “when,” or “where,” but largely about “how,” for the recognition of the value of biocultural diversity must permeate every aspect of human-environment interaction, be it establishment of protected areas, wildlife management, cultural preservation, food production, or development. Therefore, the proponents of valuing biocultural diversity at global, regional, and local scales attempt to infuse the fields of educationxxvi, policyxxvii, lawxxviii, conservationxxix, governancexxx, and sustainable developmentxxxi with more holistic models. “It is hard to ignore the similarities between the practical forces driving biological extinctions and cultural homogenization,” contends David Harmon, the President of the George Wright Societyxxxii, “The only effective way to meet them is with a cohesive, biocultural response.”

The current trajectory of human “progress”, however, is taking humankind further and further away from a future that is resilient and endowed with biocultural diversity. The juggernaut of the dominant development paradigm, epitomized by the Western multi-planet lifestyle fueled by the epidemic of “affluenza”xxxiii, is sustained through a constant expansion and exploitation of scarce resources, consumerism, privatization of the commons, and the homogenization of global cultures. As a result, intertwined and interdependent strands of biological and cultural diversity have frayed. The diversity within and across landscapes and ecosystems is being diminished; biodiversity loss is acceleratingxxxiv; languages vanish at an unprecedented ratexxxv; and associated time-tested systems of knowledge, wisdom and practice that regulate human-
environmental interactions are disintegrating, so called “extinction of experience\textsuperscript{xxxvi}”. Globalization further removes us from nature, truncates feedback mechanisms, and diminishes our ability to comprehend and adequately respond to the immediacy of our predicament, such as, for instance, global warming. Humankind has become a planetary force that is stressing all Earth systems, pushing them beyond the limits of “planetary boundaries\textsuperscript{xxxvii}” in the name of progress. It is making the world increasingly “over-connected” ecologically, economically, socially, and culturally and therefore more susceptible to swift propagation of adverse conditions through the system, be they economic insecurities, weather extremes, or outbreaks of invasive species.

Fortunately, a growing cohort of local and indigenous individuals, communities, non-profit organizations, and their international partners, is working hard to oppose the dominant reductionist forces while demonstrating and celebrating the importance of valuing and sustaining biocultural diversity. Examples of these initiatives include establishment of Vilcanota Spiritual Park in Peru\textsuperscript{xxxviii}, holding a festival of culture and music, called Thousand Stars, in Southwestern Ethiopia\textsuperscript{xxix}, and creation of biocultural community protocol for Raika pastoralists in India\textsuperscript{xl}. Many such examples have been meticulously documented in Dr. Maffi’s latest work on the subject “Biocultural Diversity Sourcebook”\textsuperscript{xl}, from revitalizing traditional practice of seed exchange in Costa Rica\textsuperscript{xli}, to integrating traditional concepts of conservation, like taboos, into the National Biodiversity Strategy and Action Plan of the Marshall Islands\textsuperscript{xlii}; to creating peoples’ biodiversity registers in India\textsuperscript{xlii}; to promoting traditional medicines in Uganda\textsuperscript{xlv}; and more.

Such efforts, however, are not likely to reverse or significantly alter the global course, unless humankind as a whole is prepared to commit to a more holistic worldview that is based on valuing biocultural diversity for our own and our Planet’s wellbeing. For such a shift to occur, we must be realistic about the scope and scale of what should be done to correct the course, as well as what each of us is capable of doing him or herself. The current focus on “feel-good” stories in addressing global crises is deceiving. However enticing and comforting it is for us to follow the dangling carrot of proclamations that—as the authors of World changing: The Users Guide for the 21st Century\textsuperscript{xlii} argue—changing the world does not have to conflict with living the life you want, such a mindset deceives us. We must focus our limited human and financial resources on maintaining resilient nodes of biocultural diversity—whether these are geographically anchored local communities, aboriginal nations, or global networks of like-minded individuals embracing biocultural wisdom and practice. It is also necessary to expand our notion of community from a group of people united by their geographic proximity or genetic make up, to a broader global community of like-minded individuals and groups united by their recognition of the value of biocultural diversity as the very “pulsating heart of Nature” and working hard to sustain it.
Finally, if we dream of a resilient bioculturally rich future, we must pursue it not only through our work as agents of change in others, but more importantly by changing our own thinking and actions. Only through such comprehensive transformation could we hope to achieve a lasting change and ensure bioculturally bountiful and resilient future for generations to come. One of the particularly promising developments in this regard is the Blessed Unrest\textsuperscript{xlvii} consequent on the converging of the planet’s social justice, environmental and indigenous movements that are increasingly recognizing both common cause and connected methods.
FOOTNOTES

i Alaska Native Science Commission -


National Aboriginal Health Organization/First Nations Center -
http://www.naho.ca/firstnations/english/documents/toolkits/FNC_TraditionalKnowledgeTo-
olkit.pdf

American Museum of Natural History/Spring Symposium 2008/Sustaining Cultural and
Biological Diversities - http://symposia.cbc.amnh.org/archives/biocultural/background.html

ii Ecotrust/People & Places -
http://www.peopleandplace.net/on_the_wire/2010/10/6/climate_change_buen_vivir_and_indi-
genous_resilience

http://development.thinkaboutit.eu/think3/post/sumak_kawsay_suma_qamana_or_el_buen_v-
vivir

iii GEF/Indigenous Communities and Biodiversity http://www.thegef.org/gef/node/1551

iv Holistic Education Network - http://www.hent.org/wview.htm


vi The Story of Stuff - http://www.storyofstuff.com/

vii Brian Clegg. 2006. The God Effect : Quantum Entanglement, Science’s Strangest Phenomenon -
http://calitreview.com/51

viii http://en.wikipedia.org/wiki/Complexity

ix Resilience Alliance - http://rs.resalliance.org/2009/06/10/what-is-resilience-thinking-and-
what-is-it-not/

A World of Possibilities/ Resilience: Adaptation and Transformation in Turbulent Times -
http://aworldofpossibilities.org/program/resilience-adaptation-and-transformation-in-
turbulent-times-0

http://www.deepecology.org/movement.htm

xi http://en.wikipedia.org/wiki/Ethnobiology

International Society for Ethnobiology - http://www.ethnobiology.net/resources/

xii http://www.gaiatheory.org/synopsis.htm
http://www.schumachercollege.org.uk/learning-resources/from-gaia-theory-to-deep-ecology
xiij http://www.ethnobiology.net/global_coalition/declaration.php


UNESCO/Links between Biological and Cultural Diversities - unesdoc.unesco.org/images/0015/001592/159255e.pdf

xv http://www.terralingua.org/html/home.html#

xvi University of Manitoba/Cultural Landscapes - http://www.culturallandscapes.ca/


Platform for Agrobiodiversity - http://agrobiodiversityplatform.org/


http://www.rferl.org/content/Silent_Extinction_Language_Loss_Reaches_Crisis_Levels/1963070.html

xxi Terralingua/Vitality Index of Traditional Knowledge (VITK) - http://www.terralingua.org/projects/vitek/vitek.htm


http://www.resalliance.org/564.php


Indigenous Education Institute http://www.indigenouseducation.org/about.html

Schumacher College/M.Sc. in Holistic Science - http://www.schumachercollege.org.uk/courses/msc-holistic-science

Athabasca University/Center for World Indigenous Knowledge and Research - http://www.athabascau.ca/indigenous/

United Nations University/Traditional Knowledge Initiative - http://www.unutki.org/

Association ANDES: Conserving indigenous biocultural heritage - http://www.iied.org/pubs/display.php?p=14567lED&amp;n=1&amp;l=3&amp;k=biocultural%20heritage


Global Diversity Foundation - http://www.globaldiversity.org.uk/home

IUCN/TILCEPA - http://www.iucn.org/about/union/commissions/ceesp/wg/tilcepa/


http://www.resalliance.org/955.php


http://www.georgewright.org/

PBS/Affluenza - http://www.pbs.org/kcts/affluenza/


http://www.nature.com/news/specials/planetaryboundaries/index.html
http://www.ted.com/talks/lang/eng/johan_rockstrom_let_the_environment_guide_our_development.html

xxxviii http://www.sacredland.org/vilcanota-spiritual-park/

xxxix http://www.youtube.com/watch?v=vlBEeR4UVKw

xl http://www.naturaljustice.org/index.php?option=com_content&task=view&id=76&Itemid=111

xli http://www.terralingua.org/bcdconservation/

xlii http://www.terralingua.org/bcdconservation/?p=230

xliii http://www.terralingua.org/bcdconservation/?p=162

xliv http://www.terralingua.org/bcdconservation/?p=121

xlv http://www.terralingua.org/bcdconservation/?p=96


xlvii Paul Hawken: http://blessedunrest.com/