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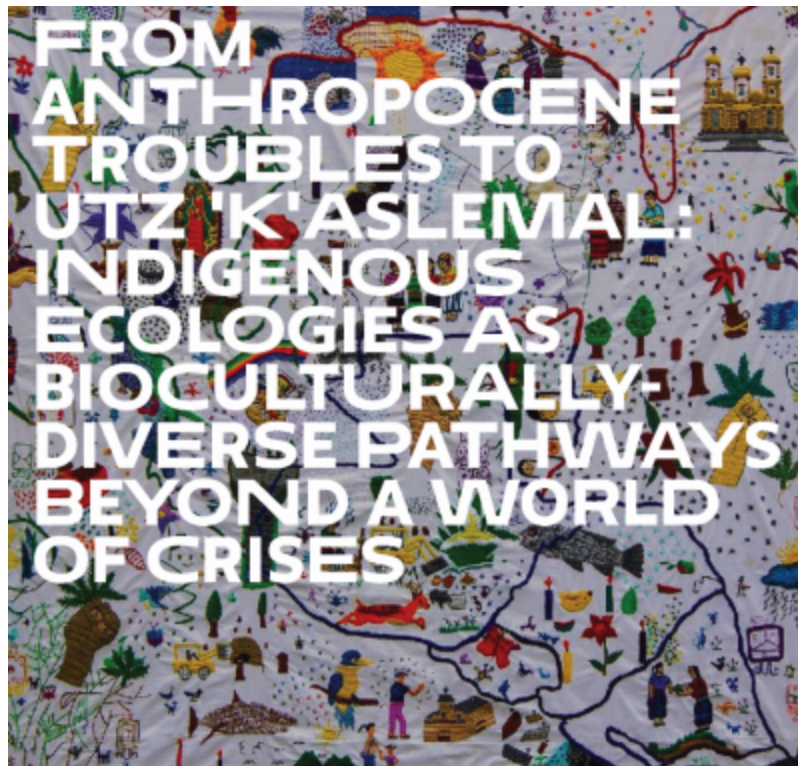


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Leonardo Figueroa on "From Anthropocene Troubles to Utz 'K'aslemal: Indigenous Ecologies and

Bioculturally-Diverse Pathways beyond a World of Crises" Q&A





Leonardo Figueroa Helland,
Associate Professor of [Environmental Policy and Sustainability Management](#) works at the intersection of diverse critical paradigms to study how indigenous knowledges combine with various transformative approaches to address environmental challenges, climate crises and social injustices. His research triangulates political ecology, global studies, complex ecologism, world-systems ecology, ecofeminism, and intersectionality with indigenous and decolonial studies to articulate systemic alternatives that embody social, environmental, climate, and global justice. His writings address themes like global environmental politics and policy, indigeneity and

decolonization, coloniality and ecological imperialism, gendered economies and socioecological reproduction, posthumanism and biocultural diversity, agroecology and sustainable food systems, social movements and prefigurative politics, energy geopolitics and energy transitions, and global migrations. Before coming to The New School, he chaired the Department of Politics, Justice & Global Studies at Westminster College (Salt Lake City, Utah), where he also taught in the MA in Community Leadership, the Environmental Studies program, and the Honors College. While at Westminster, he launched the Global Studies program and its annual conference on [“Global Crises, Global Change”](#). He is also co-convenor for the [Latin American Observatory of the Humanities for the Environment](#). His latest writings can be found in the Journal of World Systems Research, Perspectives on Global Development and Technology, the volume on Social Movements and World-System Transformation, and the forthcoming volume on Anarchist Political Ecology. His current projects include a manuscript on Indigeneity and Planetary Politics, an edited volume with Dr. Abigail Perez Aguilera on Indigenous Ecologies.

***Q:** How do you explain the Anthropocene to those that aren't familiar with the term?*

A: The Anthropocene, a concept developed by the International Geosphere Biosphere Program, refers to a geological epoch in which human civilization is overwhelming the forces of the rest of nature and becoming the main driver of rapid—and largely destabilizing—changes in the Earth System. The arrival of the Anthropocene brings to an end the Holocene: an epoch spanning the last 11,700 years during which exceptionally stable climatic conditions enabled the rise of complex human civilizations based on, for instance, organized agriculture. In contrast, the Anthropocene signals an epoch where the largely destructive impacts of human civilization on the rest of nature is tipping the Earth System into a period of unpredictable and potentially catastrophic instability that could irreversibly imperil the continuation of human and non-human life. Two of the crucial markers of the Anthropocene are human driven climate change and human driven species extinctions. In relation to climate change, levels of greenhouse gases like carbon dioxide and methane, which lead to the warming of the atmosphere, are significantly higher than at any time in nearly a

million years, and are rising much faster than in any previous warming period. Concerning biodiversity loss, species are now going extinct at a rate about 1,000 times greater than in preindustrial times. If habitat loss and overexploitation continue at this rate, 75% of species could die out in the next few centuries. Human civilization may thus become the cause of Earth's sixth mass extinction event, equivalent to the extinction of the dinosaurs, 65 million years ago. Research has shown that the dominant way of life based on constantly expanding economic growth on a finite planet has already breached four of nine "planetary boundaries" (Stockholm Resilience Center), including climate change and biodiversity loss, and this is tipping the Earth System out of the relatively stable Holocene conditions.

There are several theses on the origins of the Anthropocene. Some argue it began with the rise of agricultural civilizations about 10,000 years ago while others underline how the emergence of patriarchal hierarchies which led to the subordination of both nature and women eventually produced an "Androcene" (an epoch dominated by "Man"), starting 6,000 years ago. Others still, emphasize how the colonization of the world by European empires starting over five

centuries ago enabled the rise of an extractivist, resource intensive Eurocentric world-capitalist system ushering in the “Eurocene” and “Capitalocene”, an epoch dominated by European or Western capitalist civilization and centered in the Global North. Others cite the industrial revolution and the second wave of imperialism as the starting point in the 1700s. Finally, some point at the “great acceleration”, when after 1945 the Western model of modernization, industrialization and consumerism became an international project, eventually globalized during the neoliberal period (post-1970s).

All of these drivers have a role in understanding the current Anthropocene and its associated crises. Moreover, these debates are relevant because they highlight the fact that not all humans are equally responsible for the dominance of an anthropocentric (human-centric) civilization that has come to overwhelm the planet and the forces of the rest of nature. Suffice it to underline, as the Ecological Footprint Network points out, that if everybody in the world had an ecological footprint equal to the average US or Canadian resident we would need between three and five Earths to regenerate humanity’s annual demand on nature. Furthermore, if everybody had the

ecological footprint of the average EU resident we would need the equivalent of between 2.5 and 3.5 Earths. In fact, 20% of the world's privileged consumer population consumes 80% of the planet's resources and owns 95% of the planet's wealth, with males and populations of European ancestry overrepresented in this top 20%. This population is concentrated in the Global North and increasingly also among the elites and upper-middle classes of the Global South aspiring to the consumerist lifestyle of the Global North. Finally, the Global North nations have consumed more than three times their share of the atmosphere (in terms of the amount of emissions that we can safely put into the atmosphere) while the poorest 10 percent of the world's population has contributed less than 1 percent of CO2 emissions. Among these, the indigenous populations of the world are among the least responsible for ecological degradation and climate change, and often those who suffer the most from its consequences, and hence the relevance of concepts like environmental/climate (in)justice and ecological/climate debt.

Q: The title of your lecture was "From Anthropocene Troubles to Utz 'K'aslemal: Indigenous Ecologies and Bioculturally-Diverse Pathways beyond a World of Crises". Where did

this title come from, and what do you hope people will take away from it?

A: The title tells a certain story, an account of the historical moment of crisis and the imperative of transition and radical change in which we find ourselves. On the one hand, we face a convergence of multiple environmental and social crises resulting from a way of life based on the mastery of nature in the service of human interests; it is this form of civilization that has brought us the Anthropocene because of its treatment of nature as a resource subject to ownership, extraction, capital accumulation, commodity production and consumption, and economic growth. This civilization has created a “metabolic rift”: a rupture of the Earth’s cycles of regeneration by the breakneck pace of extraction, production, economic growth and waste at rates that cannot be sustained, absorbed or recycled by the metabolism of Mother Earth—a rupture well exemplified by the breaching of planetary boundaries. On the other hand, the crises we face enable us to envision and bring about a transition to alternative ways of living that are more sustainable and just. Many valuable alternatives have been proposed under headings like just transitions, postdevelopment, degrowth,

sufficiency, post-capitalism, the commons, food sovereignty, (eco)feminism, decoloniality, Mother Earth jurisprudence, and several others; a good overview of some of these alternatives is given by the consortium SystemicAlternatives.org, whose work I strongly recommend.

Some alternatives often do not just involve innovation, but also the decolonization, creative refiguration and revitalization of knowledges subjugated, marginalized and/or colonized by the dominant civilization. In this context, the ideas of indigenous peoples and movements figure prominently among such systemic alternatives. Across the Americas, for example, some of these have been associated with notions like *Suma Qamaña* (Aymara), *Sumaq Kawsay* (Quechua), *Utz K'aslemal* (Maya), *Nande Reko* (Guarani), or *Bimaadaziwin* (Anishinaabe), among many other terms in indigenous languages. While many such notions have been translated as relatively simplified concepts like *Vivir Bien* (in Spanish) or Living Well (in English), they convey complex, locally tailored and globally sustainable understandings of nature and humans' responsibilities as part of nature, cultivated over thousands of years of close interaction by indigenous peoples with the diverse

environments on which they depend. These understandings are based on the idea that sustaining life as a whole in the long term, for indefinite generations into the future, require us to live in ways that nurture the regeneration and revitalization of the natural cycles and the diversity of life on which we depend. Such ideas require us to shift our priorities away from notions of linear human progress, economic growth and individual success, and towards fostering practices and relationships that ensure the cyclical reproduction of human and non-human “communities of life”--communities that understand their existence to be symbiotic with and co-responsible for the regeneration of life in its rich diversity.

***Q:** How exactly does one define biocultural, and why is this important?*

A: It is in the context of Anthropocene crises and resurgent indigeneity where notions like “biocultural diversity” and the “biocultural axiom” attain critical historical importance. While indigenous communities customarily occupy or use about 22% of the Earth’s total land surface, they protect and manage an estimated 80% of the planet’s remaining biodiversity. Moreover, indigenous peoples comprise about 5% of the

world's population, yet represent an incredibly diverse number of 5,000 different cultures across the world. In short, indigenous communities account for most of the world's cultural and linguistic diversity, and protect and nurture most of the world's remaining biodiversity. This overlap between indigenous cultural diversity and biodiversity is not coincidental since indigenous cultures have cultivated ways of life that are intimately rooted in and deeply related to the ecosystems and biomes on which they have depended for thousands of years. Indigenous peoples have therefore nurtured lifeways and knowledges committed to the regeneration of the natural cycles that enable the diversity of life which makes the reproduction of healthy integrated communities of non-humans and humans possible for indefinite generations to come. These lifeways are embodied in indigenous paradigms like *Utz K'aslemal*, *Suma Qamaña*, *Sumaq Kawsay*, *Nande Reko*, and *Bimaadaziwin* among many others both in the Americas and across the world. All these concepts emphasize the regeneration of the spirit, energy, force and vitality of life as a whole.

The intimate relationship between indigenous cultures and their environments embodied in such worldviews is well reflected in the

amazing richness and variety of indigenous languages and practices, such as agriculture and agroforestry, which embody close, locally tailored spiritual relationships of interdependency among humans, non-humans, the land and Mother Earth. Yet, over centuries, the continuing expansion of the dominant mode of civilization, most often at the expense of indigenous lands and cultures, has continued to undermine both biological and cultural diversity. For example, European colonization of the world, alone, led to the destruction or loss of up to 5,000 indigenous languages, almost half of the 12,000 languages that existed then, reducing the total language diversity of the world to about 7,000 languages, 5,000 of which are still often threatened indigenous languages. In recent decades, linguistic diversity continues to experience an aggravating crisis similar to that of biodiversity: since 1970, global linguistic diversity declined 20%. The diversity of the world's indigenous languages declined 21%. Regionally, the decline was over 60% in the Americas, 30% in the Pacific (including Australia), and almost 20% in Africa. Linguists predict the disappearance of 50–90% of the world's languages by the end of the 21st Century.

The decline of biological diversity often comes as a result of the same drivers that lead to the decline of cultural diversity and indigenous cultures: environmental degradation due to land-use conversions in the service of capital accumulation and state expansion; over-exploitation of natural resources; economic developmentalism and industrialization exemplified in the expansion of export-oriented agro-industrial monocultures and mineral extraction projects at the expense of small-holder and indigenous food systems; land dispossession and reluctance to acknowledge or respect indigenous land tenure, autonomy or sovereignty, coupled with historical and contemporary land, water and ocean grabbing; and, obviously, colonization, including acculturation into dominant lifeways and different forms of violence—sometimes genocidal in character. While the defense of indigenous cultures and peoples must be undertaken in its own right, given the co-dependency of biological and cultural diversity, it is nevertheless urgent for us to stand in active solidarity with indigenous rights, decolonial movements and land struggles if we are going to have any biodiversity remaining at all. Additionally, the protection of biodiversity is fundamental to climate change mitigation and carbon sequestration, which thus

makes the defense of indigenous struggles for land, cultural autonomy, sovereignty and rights crucial to addressing climate change as well. The idea that the protection and nurturance of biodiversity depends on the defense and revitalization of cultural diversity, particularly indigenous cultures, and vice versa, is known as the “biocultural axiom”. The biocultural axiom entails that social justice, particularly in reference to indigenous struggles, is an inextricable condition for sustainability. Embracing the biocultural axiom and the struggles of indigenous peoples and movements is therefore crucial to address Anthropocene crises such as the potentially impending sixth mass extinction coupled with climate catastrophe.

Q: What should we learn from indigenous agricultural and agroforestry practices?

A: One of the main drivers of Anthropocene crises is modern industrial agriculture based on monocultures oriented towards export for global and urban consumer markets. Industrial agriculture destroys ecosystems, soil fertility and biodiversity, drives climate change, displaces communities, and erodes cultural diversity, often dispossessing

indigenous and small farmers. By the end of the twentieth century the proliferation of industrial monocultures, which now cover roughly 80% of global arable land, have resulted in the loss of 75% of world food crop biodiversity or agrobiodiversity. Moreover, the globalized food system relies on fossil fuels and greenhouse gas (GHG) emissions. The Food and Agriculture Organization of the United Nations calculates that at least one fifth of total GHG emissions comes from agriculture, forestry, and land-use change, but acknowledges that when incorporating other factors, like fertilizer and farm equipment production, and food transportation, emissions figures substantially increase. In fact, if all agriculture-related GHG emissions are taken into account, agriculture's total contribution to global warming may be at least 30% and potentially as high as 48%, making agriculture the single largest source of anthropogenic GHG missions. The expansionary industrialized food system also affects the Earth's ability to absorb GHG emissions. The Earth's forests, which are rich in biodiversity, are also carbon sinks, absorbing between a quarter and third of all carbon emissions, thereby regulating the Earth's climate cycles. Through land-use change, industrial

agriculture increases GHG emissions *and* weakens the Earth's capacity to absorb and mitigate them. The expanding agroindustry has disastrous social effects, particularly on indigenous cultures. It relies on incorporating new lands, which not only undermines ecosystems and biodiversity, but also cultural knowledge and social diversity. By incorporating new land into the dominant food system, as in land grabs for flex crops and biofuels, indigenous people are often displaced from lands that have sustained livelihoods for centuries and even millennia. Depriving communities of their land base erodes indigenous cultures. Lost are the intimate long-term relationships with traditional land bases fostering worldviews, knowledges, and social structures attuned to local conditions.

In contrast, indigenous agriculture and agroforestry is particularly beneficial to sustaining biodiversity and carbon sinks. Indeed, indigenous practices, as a whole (including spirituality, language, communal labor and decision-making systems, and land management systems, among other aspects), have often been found to play a role as "keystone cultures". This is parallel to the notion of keystone species in biodiversity conservation, because indigenous cultures have played a

key role in sustaining, revitalizing and even enhancing biodiversity and ecosystem functions, while introducing subtle modifications that mimic natural processes through different roles, for example through cyclical shifting and restorative agroecology and agroforestry. Moreover, the customary norms of indigenous cultures often contribute directly or indirectly to biodiversity conservation, for example, in the practice of sustainable resource harvesting techniques, sophisticated fire management cycles, the nurturance of forest gardens, the care of sacred groves, the ritual regulation of resource harvests in sync with natural cycles, among other practices. Research has shown that major ecosystems such as tropical forests, commonly thought of as the quintessential 'pristine' environments, have actually been partly nurtured and enhanced by thousands of years of land management practices by indigenous populations.

One particular example of an indigenous land management system that promotes the long-term regeneration of biodiversity and carbon sinks is the practice of shifting and cyclical agriculture and agroforestry. According to the International Centre for Research in Agroforestry these are land use systems and practices in which

woody perennials are deliberately integrated either in spatial mixtures or temporal sequences with crops and/or animals on the same land unit. Shifting agriculture/agroforestry cycles may last decades, at the end of which forest cover is deliberately restored to sustain the richness of species. According to scholars like John Parrotta, Ronald Trosper and David Barton, traditional and recently modified agroforestry systems as practiced by indigenous peoples can offer benefits over the conventional agricultural and forest production methods. Long-fallow shifting cultivation as practiced in indigenous agriculture and agroforestry, recreates the diversity, complexity and use of biomass for nutrients that existed in natural forest. Shifting cultivators actively recreate the forest in their fields, protecting a diversity of multiple species so as to preserve long-term stability and production. Thus, the local ecology and biology is disturbed as little as possible and its periodic re-establishment ensures long-term biodiversity, sustainability and carbon cycle stability. These systems both increase productivity of food crops, fodder, fruits, and other non-timber forest products; they provide social, economic, and ecological benefits, including food sovereignty, biodiversity conservation, and

enhancement and increased sequestration of carbon in biomass and soils, all of which are common elements of indigenous agroforestry.

There are many valuable examples of indigenous agriculture and agroforestry that can be termed agroecological because of their convergent sustainability, food sovereignty and social justice dimensions. These include systems as practiced by the Maya and Huastec peoples of Mesoamerica or the Bora, Amuesha, Kayapo and Ka'apor peoples of the Amazon. Such systems have comparable examples in other parts of the world, such as among the Dayak people of Borneo in Southeast Asia. These kinds of land management systems regenerate forest gardens, which have not only contributed to sustain biodiversity and carbon sinks but have often been found to expand them. For example, the indigenous peoples of the Americas have manipulated natural resources so much and so creatively, by the interchange of plant species between ethnic groups over thousands of years, that they have transformed much of Amazonia and Mesoamerica, and thereby increased forest cover and biological diversity throughout these regions. Indeed, it seems that a significant part of the forests of Mesoamerica and the Amazon are the result of indigenous

agricultural and agroforestry practices—up to 12% of non-flooding forests in these regions may be anthropogenic or enabled by human actions. These systems of interchange of plant species among ethnic groups extend beyond forest cultures. For example, in the Andes and the Amazon in South America, for communities located in different altitudes and microclimates have for millennia practiced the ritual exchange of seeds as a celebratory form of biocultural complementarity, regenerative rebirth and symbiotic reciprocity in order to preserve and enhance biological and cultural diversity. In this region, the revitalization of the indigenous ceremonies of the Watunakuy, meaning “endearment encounters” among indigenous cultures located in different altitudes and microclimates is a testament to this ritual complementarity, as has been well documented by PRATEC (Spanish acronym for Andean Project of Peasant Technologies) and supported by CEPROSI (Spanish acronym for Center for Promoting Intercultural Knowledges/Wisdoms).

Such indigenous practices and the worldviews that underpin them, not only serve to protect biodiversity and carbon sinks, but may also serve as blueprints for the design of sustainable and just futures. This acknowledgement should help to

recognize that indigenous communities must be at the forefront of addressing Anthropocene crises like biodiversity loss and climate change. In contrast to the dominant civilization that has devised practices that overwhelm the forces of nature and brought about the crises of the Anthropocene, we find indigenous cultures whose worldviews and practices revitalize, nurture and expand the regenerative forces of nature. It is these practices that give meaning to concepts like *Utz K'aslemal*, *Suma Qamaña*, *Sumaq Kawsay*, *Ñande Reko*, and *Bimaadaziwin*, among other indigenous concepts around the world.



The Latin American Observatory: Chullachaki's Chakra and Environmental Education in the Amazon basin

