

Searching for Regional Sustainability in an Interlinked World: Reflections from the Amazon

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This presentation examines parallels in social and environmental change between the Amazon region and parts of Asia from which one can draw not only theoretical and methodological linkages, but also reflect on common challenges regarding sustainability. Few regions of the world have experienced inter-related processes of socio-demographic, environmental, and institutional transformations as intense as the Amazon basin, particularly in Brazil, during the past 40 years. Today, infrastructure expansion, commodity production and deforestation, social change and urbanization, and a myriad of new institutional arrangements underlie an evolving matrix of social-territorial complexity. Based on a review of these changes since the 1970s, I will discuss the challenges confronting environmental governance and sustainability of a region emblematic of the growing connectivity of local, regional, and global systems.

In the Amazon as elsewhere, regional changes are related to larger national and global contexts. National development policies and demographic trends since the 1970s set in motion major regional transformations which were followed by a variety of structural adjustment programs, trade liberalization policies, and demand for export commodities intensified since the 1980s. The social and environmental impact of structural adjustment programs in Brazil as well as in Latin American, African, and Asian countries has been diverse. In some cases, it has been marked by the exponential expansion of large scale agriculture export, deforestation, and pressure on small-scale producers. In other cases, there has been growing dependency on imported food (such as in Japan), in parallel to retracting rural economy and aging populations, followed by reforestation. Throughout, however, the expansion of urban areas has been striking. In the Amazon, for instance, approximately half of today's 760 municipalities and cities were created since the late 1980s. Today, more than 70% of the regional population lives in urban areas with significant infrastructural deficiencies and, largely, high unemployment and poverty rates. In parallel, there has been an exponential increase in protected areas which has offered both opportunities and conflicts for different social groups. No less dramatic, the scope of cultural changes has been tremendous. As other parts of the world, the region has seen parallel processes of 'de-agrarization' (diversification in economic activities, income sources, and social identity of rural producers with rural households moving to non-agricultural activities), 'de-pesantization' (relocation of rural families to urban areas with shifts in livelihood basis and social identity), as well as 're-indigenization' (reclaiming of indigenous identities frequently associated with land rights, eco-tourism, and access to incentives).

The interdependence of regional and global dynamics brings many challenges to the core of social and physical sciences, if we aim at making realistic policy recommendations. Understanding these processes and crafting visions of

sustainability requires balancing disciplinary expertise and interdisciplinary collaboration to study cross-level interactions and their implications. In a region marked by a history of central planning and the forces of global commodity markets, social and environmental change can be easily thought of, and are often misunderstood, as hierarchically and linearly organized, i.e., conditions set at the macro-scale result in predictable responses at lower levels. Such approaches do not capture the differentiated ways that sub-regional units, communities, and households respond to macro-scale forces and policy, nor are the alternative solutions visible at macro-levels of analysis. New mechanisms for interdisciplinary collaboration are needed to help us strike a balance between global, regional, and local levels of analysis. In this sense, integrated socioecological frameworks may help us to understand the highly variable nature of human activities and institutions in responding to structural conditions and the connectivity of local and regional systems to global processes.

The challenges ahead for the Amazon are many. These include finding governance systems to mediate local, regional, and global demands for resources and ecosystem services valued differently at each level. New forms of aggregating value to resources in ways beneficial to regional populations are needed to overcome the historical legacy of extractivism and predatory development resulting from national and global demands for resources. Such competition for resources defies environmental governance approaches which are level specific, i.e., effective at local or subregional levels but overwhelmed by national and global pressures. Considerable agreement exists for designing institutional arrangements for more robust governance at lower levels; however, we still lack institutions facilitating cross-level environmental governance. Polycentric approaches to environmental governance, i.e., localized systems linked to form dynamic networks capable of addressing macro-level issues, have been suggested as potential alternatives to deal with the cross-level nature of these challenges.

Reconciling our analytical paradigms and disciplinary contributions with the cross-level complexity of these problems remains a challenge for the research and policy communities aiming at understanding, forecasting, innovating, confining, and responding to the twin-forces of globalization and climate change in coming decades. These are important elements for the development of regional visions to the global challenges of sustainability.