



Ambiente & Sociedade

ISSN: 1414-753X

revistaambientesociedade@gmail.com

Associação Nacional de Pós-Graduação  
e Pesquisa em Ambiente e Sociedade  
Brasil

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INNOVATION AND SUSTAINABILITY

Ambiente & Sociedade, vol. XX, núm. 4, outubro-diciembre, 2017

Associação Nacional de Pós-Graduação e Pesquisa em Ambiente e Sociedade  
Campinas, Brasil

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# INNOVATION AND SUSTAINABILITY

A sustainable society strengthens itself as it enlarges initiatives that lead to the formation of new mentalities, knowledge, and behaviors. This raises the challenge of questioning the logics behind unsustainability, expanding the access to those channels that multiply transforming ideas and practices, and that present alternative visions and promote co-responsibility within society.

There is a growing need to fill the gap between the acknowledgement of the social and environmental crisis and the real construction of novel practices which are able to build the basis of a sustainable society. Enhancing responsiveness is other major challenge of a process that doesn't depend only on public policies, but also on private sector initiatives, which today is responsible for the generation of the greatest share of global wealth.

Maintaining the traditional business model has laid heavy burdens upon society, multiplying damage to the environment and human health, and increasing socioenvironmental injustice and vulnerability. This is mainly due to pollution, toxic waste discharges, and the effects of climate change by the sectors of housing, transportation, energy, and basic sanitation, among others.

As such, there is ongoing action with the focus on promoting economic development with social equity, taking into account the urgency of reducing risks and the degradation and depletion of natural resources. Human pressure on Earth's ecosystems has expanded in an exceptional way, and the impact on natural resources has accelerated the surpassing of diverse critical global, regional, and local thresholds.

The productive system is the source of a great amount of waste because of its excessive resource exploitation. Goods are produced and quickly disposed of, within a logic of programmed obsolescence and waste which is not reused and accumulates exponentially.

What can be seen is that the transition towards some society based on sustainability values is permeated by conflict, and the main causes of ecological predation arise from social institutions, information and communication systems, and the prevailing values of contemporary society. In a context of a finite resources planet, even with the advancements in energy and raw materials efficiency, companies are increasingly forced to rethink their philosophy. If we are to redefine strategies, we need to move on to a new economy effectively linked to resource finiteness, with a sustainability vision of innovation systems and responses aimed at regenerating ecosystems, and emphasizing the resolution of social and environmental problems.

Given this context, new concepts of corporate organization have emerged, which try to employ the markets as a way of promoting socioenvironmental transformation. This fosters transitioning from a linear economy to one based on the rational use of resources, implying a new regenerative conception of both the ecosystems and social relationships affected by the current wealth obtaining logic.

This vision about a new form of resources organization and a new economy that promotes decarbonization and advances towards reviewing the current production logic brings conceptual innovations such as the case of circular economy. The latter is a strategic concept based on materials and energy reduction, reuse, recovery, and recycling. It works by minimizing resources extraction and maximizing reuse, increasing efficiency, and developing new productive cycles and business models. Circular economy adds many notions that were born since the half of the 20<sup>th</sup> century, such as 'cradle to cradle', which means that resources must be managed in a circular logic of creation and reuse, and every time a cycle is completed, it becomes a new cradle for certain material.

Other idea is biomimetism, which tries to copy natural processes to lower the use of raw materials, energy, and biotic resources in the productive process, thus rethinking the production chain. The biggest challenge is improving the reprocessing and reintegration of raw materials in the chain of production.

Circular economy follows a rational use of resources, stimulating a cascade use of materials, allowing them to remain more time in the economy. It attempts to deconstruct the idea of 'waste' by the evolution of projects and systems that privilege natural materials that can be completely recovered, and proposes broader action, like redesigning processes and products and optimizing the use of resources.

The challenges of innovating to reduce the use of limited resources and balance renewable resources raise the need to dematerialize products and services and perfect its conception, in processes that use materials with a high recycling potential and not containing toxic components, therefore guaranteeing the reduction of pollution throughout its circulation

The conception of goods and commodities must have more and more into account their remanufacturing, reforming, and recycling potential, which in turn implies augmenting its utility both in the technical and biological parts of the cycle, ensuring the components and materials are still part of the production cycle, thus contributing to a shift from the actual linear economy to a more sustainable one.

Opening up this volume, the article **"Urban and environmental management challenges considering transformations in property law in Brazil"** by authors *Sandra Regina Mota Silva* and *Bernardo Arantes do Nascimento Teixeira*, uses legislation to discuss the conflicts and contradictions present in the different modalities of property rights and its close links with agrarian and real estate rights.

In the article **"Fires in Brazilian Amazon: why does policy have a limited impact?"** by the authors: *Thiago Fonseca-Morello*, *Rossano Ramos*, *Lara Steil*, *Luke Parry*, *Jos Barlow*, *Nils Markusson* and *Amanda Ferreira*, the main factors that put a limit on the efficiency of current public policy on wild fires prevention in the Brazilian Amazon are identified and discussed.

By means of documental review, the authors *Caroline Krüger*, *Marina Kolland Dantas*, *José Marcelo de Castro*, *Cláudia Souza Passador* and *Adriana Cristina Ferreira Caldana*, identify the main policies executed in the Brazilian border strip, crossing this information with evolving data from education, health, employment, and income indicators, calcula-

ted for the years of 2005 and 2011, in the article called **“Analysis of public policies for developing the Brazilian border strip”**.

The aim of the article **“Water supply and sewage services regulation indicators in poverty areas: structure and application process in Cubatão-SP, Brazil”** by the authors: Denise Rasera, Tassia Gaspar Mendes, Tiago Balieiro Cetrulo, Maria Paula Cardoso Yoshii, Tadeu Fabrício Malheiros, Rodrigo Martins Moreira, Alejandra Daniela Mendizábal-Cortes, and Ester Feche Guimarães, was building and presenting an indicator system for water and sanitation services in subnormal settlements, trying to analyze the fulfillment of the sanitation plans by the supplying companies.

Authors Larissa Marchiori Pacheco, Marina Kolland Dantas, Cláudia Souza Passador and Lara Bartocci Liboni-Amui, by means of a bibliographical review, identify and characterize the research field of environmental public spending, highlighting the needs of the expansion and evolution of this kind of research to systematize existing information and knowledge about the topic. Their article is called: **“Environmental public expenses: an integrative literature review and future research agenda”**.

The article **“Forest and poverty: a historical evidence of the relationship between social inequality and environmental harm”** by author Juan Ramón Núñez Pestano analyses the relationship between forest management policies and long-run forest sustainability, considering the impoverishment of rural communities in the 18<sup>th</sup> century as a result of forest exploitation.

Sérgio Mantovani Paiva Pulice and Evandro Mateus Moretto discuss about financial compensation as a legal instrument to improve the development of those cities affected by hydroelectric plants through the analysis of human development indicators, in the article **“The financial compensation and the development of Brazilian municipalities flooded by hydroelectric dams”**.

The article **“Vulnerability and Resilience: potentials, convergences and limitations in interdisciplinary research”** by the author Diego Pereira Lindoso critically reflects upon the convergence, divergence, and limitations of the dialogue between the concepts of Vulnerability and Resilience, in face of the efforts of finding solutions to the problems that stem from the interaction of society and the environment, and especially climate change.

By means of an exploratory study based on interviews with dwellers of the seven Territory Planning Units of the Federal District (Brazil), the article **“Medication disposal: a reflection about possible sanitary and environmental risks”** by authors: Hayssa Moraes Pintel Ramos, Vanessa Resende Nogueira Cruvinel, Micheline Marie Milward de Azevedo Meiners, Camila Araújo Queiroz and Dayani Galato analyzed the way medications are discarded by the population, thinking about its possible sanitary and environmental risks.

Antonio F. P. Oviedo and Marcel Burztyń present study cases of inter-organizational fishing management in the Brazilian Amazon, aiming to examine the efficiency of local institutions and small farmers in relation to the resources, identifying relevant patterns of decision, property, and liability rights, in the article **“Decentralization and fisheries management in the Brazilian Amazon: resource rights and accountability”**.

Closing this volume, the authors Erick Silva dos Santos, Alan Cavalcanti da Cunha and Helenilza Ferreira Albuquerque Cunha analyze the socioeconomic impacts of the

building of the Ferreira Gomes Hydroelectric Plant, with the aim of verifying the remedying being performed to reestablish socioenvironmental conditions, in the article called **“Hydroelectric power plant in the Amazon and socioeconomic impacts on fishermen in Ferreira Gomes county – Amapá State”**.

We wish you all an excellent reading.

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<http://dx.doi.org/10.1590/1809-4422asoceditorialv2042017>