

## CONSERVATION IMPLICATIONS FOR AN UPSIDE DOWN WORLD

*Marcel Serra Coelho*<sup>1\*</sup> and *Geraldo Wilson Fernandes*<sup>1,2</sup>

<sup>1</sup> *Universidade Federal de Minas Gerais (UFMG), Departamento de Biologia Geral /DBG, Belo Horizonte, BH, Brasil. CEP: 30161-970. E-mails: marcel.s.coelho@gmail.com, gw.fernandes@gmail.com*

<sup>2</sup> *Stanford University, Department of Biology, Stanford CA 94305, USA.*

The circular flow theorem synthesizes the flow processes involved in the real economy and is the basis of contemporary economic modeling. The main criticism of this flow model is its extreme reductionism to the point of having been developed as an isolated and ideal system (Daly & Farley 2004; Coelho *et al.* 2013a). Economic models have been ignoring the necessity of increasing material inputs and low energy entropy as well as the output of waste and high-energy entropy, revealing their weakness in not considering the economic system as dependent and part of the natural world (Daly & Farley 2004; Coelho *et al.* 2013ab) Thus, the growth of economic activities has generated increasing environmental impacts on a global scale. There is evidence that our economy is already worsening the support capacity of our planet (Barnosky *et al.* 2012). Furthermore, the intensity of economic activities has shown to be significantly asymmetric. Throughout the establishment of the modern economy, two specialized poles emerged in the area of production, which became globally known as the international division of labor. One pole became part of the globalization process, producing technology goods, while the other was specializing in the production of primary materials. The difference in price between the two goods-producing categories in the international market generated large differences in the development process among countries [see: <http://data.worldbank.org>]. The most recent sustainability indicators show that developed or northern countries (northern countries being distinguished from southern countries through an international geopolitical point of view) account for significantly higher energy consumption rates, waste generation and resulting environmental impact than do southern countries, as a result of the size of their economies (Moran *et al.* 2008). Predictions indicate that the consumption patterns of citizens from northern economies cannot be

replicated by citizens from southern countries due to the risk of severe deterioration of the natural bases that sustain life on our planet (Barnosky *et al.* 2012).

Among the recent changes to the global economic profile, one in particular stands out for its strong implications for conservation policies - the entrance of China into the World Trade Organization (WTO) in December 2001. China has altered the gravitational axis of the global economy with a consumer market of 1.4 billion people and an economic growth stimulus and development model that is unique in modern history [see: <http://data.worldbank.org>]. China has attracted investments from around the world with a meteoric industrialization process offering credit exchange, flexible labor laws and low wages compared to developed economies (Coelho *et al.* 2013ab). Becoming the global industrial park, China initiated a process of exporting goods of high aggregate value and importing primary materials. Due to its population and economic scale, China's presence in the economic global scene has resulted in the price reduction of high-tech products and an overvaluation of primary materials over the past 12 years [see: <http://data.worldbank.org>]. This phenomenon has favored southern countries (exporters of primary materials) and put northern countries (exporters of technology goods) at a disadvantage, generating atypical economic growth in southern countries [see: <http://data.worldbank.org>]. Putting the still neophyte Chinese urbanization rate in perspective, predictions point to the continuation of this 11-year process into the coming decades, with the real possibility of China becoming the leader of the global economy. The following figures reveal the concreteness of this process. While North America recorded a regional GDP growth of 52% and countries from the European Union 104% between the years 2001 and 2011, China, India, sub-Saharan Africa and

Latin America, including the Caribbean, recorded regional growth of 452%, 275%, 286% and 182%, respectively (Mol 2011, see: <http://data.worldbank.org>). Other regions of the world followed the same trend, demonstrating that the southern countries will be the main drivers of global economic growth over the coming decades, altering the gravitational axis of contemporary economics from North to South (Canuto & Giugale 2010).

Despite this important modification in the global economic flow, economic logic based on economic growth remains. Environmental policies, whether economic or legal, far from seeking to transform the foundations of the economic system that is leading to the depletion of the planet, have served as pillars for their support and even their expansion, through the dissemination of the discourse regarding ecological modernization. All technological advances have not reached what has been defined as sustainable development (Liu & Diamond 2005, Nn Grumbine 2007). However, the modification of the flow of economic activities points to the inclusion of more than 3 billion people in global consumer market patterns. The impossibility of replicating economic patterns and consumer habits of citizens from the North to the South has reached a paroxysm. The environmental crisis is a crisis of civilization. While globalization has led to almost universal desires and urban-industrial ways of life, it has also contributed to the emergence of alternative modes of development. Conservation Biology, despite all advances in knowledge of the processes that maintain the viability of ecosystems, should not become a tool to disseminate the principles of eco-efficiency.

It is imperative that concrete alternatives, which criticize development models based on economic growth, be included among those already addressed in the sphere of Conservation Biology (Ropke 2004). Thus, when they are added to the multilateral discussions agenda, we will be ready to contribute to a transition process going beyond technical and palliative solutions.

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