

EDITORIAL

This issue of *Revista Paranaense de Desenvolvimento* brings in its first part a dossier containing environmental economy as a subject under different study dimensions. Having *Economy, Environment and Development* as its title, this section has been organized by Christian Luiz da Silva, who is an economist and doctor in Production Engineering by the *Universidade Federal de Santa Catarina* and postdoctorate by the *Universidade de São Paulo*.

The environmental issue brings to light different reflections – the fear of future, the possibilities of exploration, the sheer contemplation, the survival of both our species and others, the expectation of using without abusing and the feeling of reutilizing. These reflections have been intensified due to the scarcity of many species and products from the environment that we have experimented in the 20th century due to the economical growth based on industrialization, increase of urban concentrations, consolidation of mass consumption and other characteristics of industrial society. The profits made by the intensive use of environment have turned it into environmental resources and incorporated the decision making from the economic rationality, making better use of the resource based on the possible end and cost of involved opportunity.

The 1970s stand out in this scenario of initial discussions on environmental resources and development, attributing this debate a connotation of complexity, as anticipated by Celso Furtado in his work, by transforming development into interdisciplinary subject. The inclusion of new variables which transcended the economic rationality of both classic and neoclassic theories demanded a new comprehension of these resources in the economic logic, which not only are finite but also not renewable and whose scarcity cannot be replaced. Regarding other resources that are not conditioning to our existence the mere loss as objects of simple contemplation may be irreparable to the shaping of our history.

Different aspects and concepts originated approaches and areas of study in economics, dealt essentially by the environmental economy, environmental economics and ecological economics. The first has brought the theoretical matrix of neoclassic economics in order to understand the incorporation of these new resources. The second handles a more political and institutional aspect of the matter. The ecological economics has been seeded in the cradle of the law of entropy and thermodynamics, which demonstrates the existence of energy which is not able to be used in productive processes, therefore being dissipated in the environment, generating pollution and degradation of natural resources. These different approaches guide the theoretical and methodological complexity of the area in order to deal – as sciences – with empirical aspects and allow the understanding of reality from this field of studies.

Aiming at contributing with the consolidation of this field of study this issue's dossier of the *Revista* brings some reflections over the theme.

The first two texts handle the interaction between economics and environment, involving the matter of environmental economics valuation. In *La ciencia económica y el medio ambiente: un aporte desde la valoración económica ambiental*, researchers Alain Hernández Santoyo, Mayra Casas Vilardell, María Amparo León Sánchez, Rafael Caballero Fernández and Víctor E. Pérez show the relations between economic science and environment, underlying the role of economic valuation of environmental goods and services before the contemporary environmental situation, as well as its contribution to the process of decision making. According to them the interaction between nature and society creates a concrete phenomenon of economical and social exchange. The economic science, by approaching and interacting with this resource in the methodological and theoretical field, incorporates a multidisciplinary web in the discussion that integrates and formalizes a field of study which is formalized by new methods and techniques in order to deal with the object of nature in the economic sciences, materializing, for an instance, in the methods of economic valuation of environmental goods and services.

The second study, *The value of nature as a support to public decision*, talks about the value of natural resources in the decision of public policies. But what is this value? How do you value it? Professors José Aroudo Mota and Marcel Bursztyn try to answer those questions from the ethical pillars of anthropocentrism, biocentrism and ecocentrism in order to, then, relate them with the methods of economic valuation. The task of scientific positioning is then deepened over the multidisciplinary interface of economics with other sciences in the configuration of a consistent theoretical and methodological base for this field of study. Besides, it is discussed how to transform such theoretical elements into debate in a different multidisciplinary field: the public policies.

Considerations point to the controversial field of the relation between economics and environment under several aspects: technological, institutional, economical, conceptual and ideological. The transformation of these reflections into useful applications for themes of our reality which reflect the interface between economics and environment is the purpose of the articles in the dossier, involving important contemporary themes: carbon, energy and water markets.

In *Carbon Market in Brazil: analyzing efficiency and distributive effects*, researchers Luiza Maia de Castro and Ronaldo Seroa da Motta discuss about the opportunities and difficulties followed by the institutionalization of some markets related to environmental resources, usually intangible, in values of usury. In this case they talk about the carbon market, which was institutionalized from the Kyoto Protocol, creating a market of its own for such transactions. The innovative experience of institutionalizing this intangible resource brought both negative and positive results for the continuity of this and other markets

that may appear with similar purposes. It is used, then, the scenario technique in order to measure the economic efficiency and distributive effects of two criteria for allocation of emission rights based on a simulation model of carbon market for the Brazilian industry. Hence, authors contribute to the debate over techniques that allow the evaluation of institutionalized environmental resources markets by world policies and governments, increasing reflections on possible interventions and studies of future market mechanisms.

In the text *Pre-Salt, industrial development and innovation*, professor André Tosi Furtado discourses over an important issue of economics and environment, which is the energy matrix, bringing elements in the light of examples and international literature for the comprehension of risks and challenges – of technological, economical and institutional nature – imposed to the Brazilian society.

These reflections guide the discussion regarding the energy matrix. It is not only about a decision over the potential existence of the environmental resource. Transforming it into energy potential involves a technological and institutional process and an alteration in the productive and distribution chain suitable to whatever energy matrix chosen. The risks and investments are inherent to any activity of such level and the decision should comprise these elements in order to make a consistent choice in the long run.

The last two articles, over the water theme, complement the dossier. In the paper *Valuation and charging water for water use: an economic-ecological approach*, professors Junior Ruiz Garcia and Ademar Ribeiro Romeiro discuss about the valuation and charging for the use of this asset under an economic-ecological approach which prioritize the valuation through ecosystem services rendered by watersheds. The authors mention the importance of using the valuation of natural resources as an aid to the implantation of charging for the use of water in watersheds, as well as the application of the method in the Alto Iguaçu and Afluentes do Alto Ribeiro watersheds. Furthermore, they call our attention to the need of searching for a model of integrated management for this water resource and understand its functions and attributions in the complex interaction of this natural resource with modern society and the ecosystem conformation. For the authors, it is necessary a model of Integrated Management of Water Resources, still lacking in Brazil.

Aiming at enriching this debate the last text goes over the institutional difficulties for the conformation of this model for integrated management in the country, which the first step would be the creation of committees of watershed. Thus, in *Water resources management: an approach on the Hydrographic Basin Committees*, professors Denise Rauber and Jussara Cabral Cruz discourse about this natural resource, which is one of the main environmental resources, under an institutional focus, discussing about the legislation that institutionalizes the creation of committees for the management

of watersheds and placing the State of Paraná in the context of this discussion. The discussion is also relevant because it gives this debate the question that it is not only about establishing formal rules for the management of environmental resources, but promoting a cultural and institutional change so they can be incorporated to the actions of economic agents, which would allow to leave the field of ideas and position itself in a practical way before limits and political agenda for resource management, in this case water resources.

The texts which make the dossier fulfill, thus, the goal of identifying the transversality and complexity of economics and environment themes by involving an extremely rich field of study with a theoretical and methodological base under way in the midst of technological, economical and institutional challenges which demand a higher integration of the object of study for this theme.

Many other discussions are suitable for this field of study, such as the climate changes, pollution, instruments of environmental policies, management of solid waste, renewable sources, among others. At the same time it shows the scope of this field it also points at the need of research and academic education in the area in order to bring elements to the understanding of our reality, which, even restricted to models or scientific observations, reveal its complex, transdisciplinary and interdependent nature.

We hope, thus, that the reading of the papers composing this section is profitable and able to stimulate new studies towards this comprehension.

After the dossier, the section *articles* shows four studies whose themes span over economic development job and income generation, production of agroenergy in small properties, the importance of water resources for the regional development and the process of urbanization of the Paraná coastline.

The first article, *The importance of a development bank in employment and income generation in the State of Paraná: BRDE case*, Carlos Alberto Gonçalves Júnior, Peri Francisco Assis Shikida and Ricardo Luis Lopes analyze, through an *input-output approach*, the generation of job and income derived from financial contracts made by the Regional Development Bank of Southern (BRDE), for 2010 and 2011.

Following on, Anelise Graciele Rambo, Alexandra Munaretti Michaelsen and Sergio Schneider handle the production process of alternative energy by family farming, confronting it with the traditional system of energy production in Brazil in the text *Agroenergy production by family farmers: a contribution of "small" family enterprises to "big" current problems*.

In *Economic growth and water resources: a study of farming in Paraná III basin region*, authors Katia Fabiane Rodrigues and Ricardo Rippel go over the importance of water for the economic growth in the municipalities which make the Basin.

In conclusion the second part of *Revista*, in the article named *Second residences and urbanization at the coastline of Paraná*, Mauricio Polidoro and Marley Vanice Deschamps investigate the spatial dynamics at the coastline of Paraná, focusing on the exclusionary characteristics of the region.

Finally, Markus Erwin Brose's essay: *When participation in regional development is not only about jobs: an analysis of California's experience*, discourses over the regional development from people's participation in the strategy for prevention and mitigation of climate change impacts in the State of California, USA.

We wish you all a pleasant reading.

Christian Luiz da Silva
Organizer of Dossier
Economics, Environment and Development

Silmara Cimbalista
Editor of Revista Paranaense de Desenvolvimento (RPD)