



“Gheorghe Asachi” Technical University of Iasi, Romania



ECONOMIC ECOLOGICAL ZONING FOR THE SITING OF NEW HYDROPOWER PLANTS IN THE AMAZON BIOME, MATO GROSSO STATE

Carolina de Oliveira Jordão^{1,2,4}, Evandro Mateus Moretto^{3,4*}

¹Centre of Life Institute - ICV, Av. Ariosto da Riva, 3473, Centro, Alta Floresta-MT, CEP78580-000, Brazil

²University of Florida, 118 Newins-Ziegler Hall, PO Box 110410, Gainesville, FL 32611-0410, USA

³Research Group for Environmental Planning and Management – PLANGEA, School of Arts, Sciences and Humanities – EACH and Institute of Energy and Environment – IEE, University of São Paulo - USP, Av. Professor Luciano Gualberto, 1289, Cidade Universitária, CEP 05508-010 - Butantã - São Paulo-SP, Brazil

⁴Amazon Dams Network, Center for Latin American Studies, University of Florida, USA

Abstract

The Brazilian instruments of environmental policy are mainly geared toward specific uses. They are not usually integrated into an analysis of all land uses. Economic Ecological Zoning is an instrument which can consider multiple land uses. However, in Brazil, this instrument is still not appropriately used to assist with the siting of planning projects. In this context, this paper aims to analyze the ‘usefulness’ of Economic Ecological Zoning for the siting of hydropower plants prior to an Environmental Impact Assessment. The study focuses on Mato Grosso state in the Amazon region. It takes into account the fact that this region is the main target for locating new Brazilian hydropower plants. The case study assessed 24 spatial criteria for the siting of new Amazon hydropower projects. These criteria were analyzed in the Socio-Economic Ecological Zoning - SEEZ - of Mato Grosso state. From the results obtained it is possible to argue that SEEZ can assist in the siting of hydropower plants in the Amazon state of Mato Grosso. This zoning instrument appropriately addresses a broad range of physical, biotic and socio-economic criteria which have been established for this purpose. Nevertheless, it is important to stress that SEEZ has some limitations for this type of planning, given that it does not adequately address the following criteria: biome conservation, urban and rural settlements, demographics and the regional economy, as well as hydrological regimes. Thus, this paper concludes that SEEZ is useful for the siting of new Amazon hydropower plants when used prior to Environmental Impact Assessment. However, this ‘usefulness’ is limited and SEEZ must be employed carefully, given that it may lead to land use conflicts, affecting the planning process and Environmental Impact Assessment, making them overly complex.

Key words: Amazon, Economic Ecological Zoning, hydropower plant, impact assessment, location siting

Received: May, 2013; Revised final: June, 2014; Accepted: June, 2014; Published in final edited form: February 2018

* Author to whom all correspondence should be addressed: e-mail: evandromm@usp.br