

Exceptional bureaucratic rivalry and policy competitions in mangrove forests: explanations from the Sundarbans, Bangladesh

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Bearing diversified natural resources, the Sundarbans Mangrove Forests (SMF) considered a thrust area of ecological as well as economic importance of which a number of public bureaucracies of Bangladesh are given due attention for managing its resources. The aim of this study is to analyse the high degrees of competing policy conflicts of different bureaucracies prevailed for Sundarbans management practised on both formal and informal approach. Empirically, all policies and practices pursued by multiple administrations in Sundarbans are scrutinised. As an empirical method, the content analyses of various acts, rules, policy documents, missions, mandates and development initiatives of relevant ministries and public agencies were carried out and to distinguish the activities linked with informal interest present practices were critically analysed. The study observes that being the officially responsible administration for the Sundarbans, Bangladesh Forest Department possess 'control and command' approach towards managing SMF. The position of Forest Department is empowered by the existing laws and rules though observed approach has been threatened due to multi-bureaucracies' involvement in different sectors of Sundarbans for due reasons. Other bureaucracies became influential with their institutional capacities in respective sectors resulting exceptional high degree of bureaucratic competition among relevant bureaucracies. Forest bureaucracy is currently facing challenges of technical capacities, financial resources and institutional arrangements addressing effective management of Sundarbans. Administrative structures for complex landscapes, such as mangrove forests, pose real challenge to common bureaucratic structures which recommends in this study to establish an Integrated Mangrove Authority for the Sundarbans.

Participatory spatial scenario building in a mixed cocoa-oil palm area in the Eastern Region of Ghana as a way towards inclusive governance of mosaic landscapes

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Compositionally complex and multifunctional landscapes provide multiple ecosystem services relevant for rural livelihoods. Due to a growing population, climate change and the expansion of agricultural commodities, the future of mosaic landscapes is of scientific and societal concern. In the debate on mosaic landscapes, remarkably few scholars consider the views of farmers and other landscape dwellers. Political ecology makes local people's landscape knowledge and aspirations transparent, thus contributing to inclusive landscape governance. Employing participatory spatial scenario development with actors in a mixed cocoa-oil palm area in Ghana's Eastern Region, this study generates insights into farmers' perceived changes, desired future landscapes and the actions considered necessary to achieve them. Results show that landscape actors are aware of the state of the landscape and changes that have occurred, with the participatory scenario maps coming close to actual landscape composition and spatial configuration. Contrary to assumptions underlying many studies in the sparing-sharing debate, farmers' desired landscape is largely similar to the current situation, characterized by increasing homogenization due to expanding areas of commodity crops, as oil palm and cocoa represent the major source of stable income. Farmers however acknowledge drawbacks such as decreasing food-crop land, reduced availability of provisioning ecosystem services such as non-timber forest products, and declining presence of shade trees, and consider forest conservation and tree planting important. These findings challenge the prevailing assumption that small-scale farmers in the tropics prefer mosaic landscapes, implying that inclusive landscape governance should be based on a critical analysis of farmers' knowledge and views.

Spatial analysis to support rural development in settlements in Maranhão, Brazil / Análise espacial como subsídio ao desenvolvimento rural em assentamentos do Maranhão

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A maioria dos municípios no Maranhão possui base econômica nas atividades extrativistas, agropecuárias e em serviços essenciais, e envolve comunidades tradicionais e o agronegócio. O babaçu representa um expressivo recurso do extrativismo vegetal e a atividade é essencial para as quebradeiras de coco, populações rurais e indústria. Porém, a posse da terra, em geral, não é dos extrativistas cujo acesso é realizado por meio de parcerias com os latifundiários tanto na produção agrícola como na forma de comercialização das amêndoas. Apesar de sua grande área territorial o Maranhão detém uns dos mais baixos números de proprietários rurais revelando grande concentração de terra, porém, também é o 2º estado brasileiro com mais assentamentos. O presente estudo teve por objetivo realizar a Análise Hot Spot do extrativismo babaçu e das atividades agropecuárias no Maranhão e identificar a localização de assentamentos nas modalidades Projeto de Assentamento – PA, Projeto Agroextrativista – PAE e Projeto de Desenvolvimento Sustentável – PDS. Utilizou-se a ferramenta "Hotspot Analysis" disponível no software Arc GIS, pela criação de um banco de dados geográfico com a base cartográfica digital Malha Municipal Digital do Zoneamento do Estado do Maranhão, dados do Sistema IBGE/SIDRA e dados cartográficos e informações de assentamentos do Incra. Os mapas produzidos com os hot spots e com os assentamentos constitui uma abordagem espacial para identificar cenários de conflito e uma ferramenta para subsidiar políticas públicas em nível da paisagem para a proposição de projetos de desenvolvimento rural visando a manutenção de florestas e serviços ambientais.

Characterizing the space-time patterns of deforestation and land use intensification within the cattle supply sheds from meatpackers with zero-deforestation commitments in the Brazilian Amazon

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Supply chain agreements launched by governmental agencies and NGOs have been pushing meatpacking companies to reduce deforestation associated with cattle raised in the Brazilian Amazon. One current challenge is the lack of precise information on the cattle supply sheds and the patterns of land use associated with the agreements. In this study, we combined cattle movement data, properties boundaries, and roads network, to identify the cattle supply sheds of direct and indirect suppliers from meatpackers located in the states of Mato Grosso, Pará, and Rondônia for the period 2013 to 2017. Next, we documented the space-time patterns of deforestation and land intensification within each supply shed, from slaughterhouses that sign and did not sign the agreements. Our results have shown that most of the cattle transactions from the plants that signed the agreements, were from ranchers near to the plants and with little recent deforestation. However, cattle farms with deforestation can travel farther to reach plants that do not monitor their suppliers or send cattle to farms without deforestation for non-slaughtering purposes, which could be an indication of laundering. Finally, we found that land was more intensified within the supply sheds from plants that