

IMPORTANCE, USE AND MANAGEMENT OF SECONDARY VEGETATION IN THE EASTERN AMAZON REGION

IMPORTÂNCIA, USO E MANEJO DA VEGETAÇÃO SECUNDÁRIA NA REGIÃO DA AMAZONIA ORIENTAL

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ENV 25 - 1

In the traditional slash-and-burn agricultural system of the Eastern Amazon the secondary vegetation plays a key role in maintaining the system's productivity. However, the growing pressure on land and changes in agricultural practices have reduced the reliance on the fallow, resulting in decreasing levels of productivity. Since the small holder is largely dependent on this system for the family's subsistence, the primary objective of the studies undertaken herein is to find means of sustaining the productivity of the soils while meeting the increased demands placed on them. Increasingly, land is being used for short-term plantation crops and extensive grassland, thus disturbing the regenerating capacity of the secondary forest. The development of strategies to re-introduce the secondary vegetation in these areas taken into different uses is thus demanding greater attention if a decrease in productivity of these lands is to be avoided. All studies are conducted in and around the municipality of Igarapé Açu (northeast of Pará state), of which 3/4 of the land are covered by secondary vegetation mainly serving as fallow vegetation, for the small holdings. The project provides an overview of the basic information on importance, use, functioning and management of the secondary vegetation on the basis of which we aim to establish practical research priorities of direct relevance to the small holders in the region. Diverse themes are studied in order to understand the establishment and development of the fallow vegetation such as floristic composition, phytomass production, regeneration mechanisms and root dynamics. Regarding the importance of the fallow vegetation for the productivity of the small holder's land use system, studies are focused on nutrient accumulation in the above-ground biomass, nutrient flows and availability, nitrogen inputs through biological fixation and the dynamics of soil microbial biomass. The impacts of agricultural practices on the vitality of the fallow vegetation is being examined. The importance and dynamics of secondary vegetation at the landscape level are evaluated by means of satellite images. Ongoing studies on management options include fire-free land preparation with mulching and incorporation of the slashed and chopped material. These management alternatives aims at conserving soil organic matter, to reduce nutrient losses and also to avoid accidental fires, which are a recurring risk for the neighbouring permanent crops. Fallow enrichment is being tested in order to shorten the fallow period or to thicken the vegetation. The end-products of these studies should contribute to the stability of the production system while assuring increased productivity both in the cropping cycle as well as in sustainably managed secondary forests. The studies so far have primarily covered the municipality of Igarapé-Açu, but the investigations will be extended to other regions within this physiographic area guided by socio-economic surveys and satellite imagery. The integration of this project within the scientific activities of the Eastern Amazon region are also considered.

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