

LAND USE CHANGES AND SOCIOECONOMIC CONDITIONS OF COMMUNITIES ALONG THE CARAJÁS RAILROAD IN EASTERN AMAZONIA

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Abstract

Studies on communities along large railroad infrastructures are very relevant because their operations can present socioeconomic and environmental impacts. This article examines the socioeconomic and environmental conditions of 32 communities directly affected by the Carajás Railroad, located in Pará and Maranhão states, eastern Amazon. The study analyses land-use changes in the territory and the indicators of those dimensions from 2010 to 2017. The environmental dimension involved qualitative analysis of satellite images from Google Earth, whereas the socioeconomic examined 17 variables collected during fieldwork in 2016 and 2017. To compare the indicators between urban and rural communities, the statistical tests of Kolmogorov Smirnov normality, the parametric Student's t, and the non-parametric Mann-Whitney and Kruskal-Wallis were conducted, considering a 5% significance level. Overall, the results show urban communities are in better condition and that those on the Maranhão railroad side are in a less sustainable situation. The study also found that the community's location along the railroad is associated with the forms of land-use and occupation in the territory; and directly influences the living conditions of locals since, in the communities near the railroad, there was a higher variation in land cover and socioeconomic indicators. The joint analysis of socioeconomic data with satellite images, in defined periods, can subsidize actions aimed at reducing risk situations and increasing the resilience and communities' sustainability endeavors.

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