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## Incidence of Deforestation in Permanent Preservation Areas in Settlement of Agrarian Reform in Brazilian Amazon: A Case Study at the Pacajazinho Community

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## Abstract

As the activities developed in the Brazilian Amazon settlements have potential to produce forest degradation and deforestation in the region, the public policies remain with the dilemma of either meeting the social demand ensuring access to land for small farmers, or keeping areas with natural forest, source of numerous services and ecosystem functions. Within the settlements, the Permanent Preservation Areas (PPAs) are recognised for their ecological importance and therefore should be protected. In this context, this study aimed to determine the incidence of deforestation in PPAs of the rural settlement Pacajazinho in the municipality of Novo Repartimento, Para State, which has 32 settled farmers. Here we used an exploratory research based on the data set of the Rural Environmental Registry (CAR) provided by the State Environmental Agency, in order to identify variables to enhance such territories given its ecological potential and provision of environmental goods and services to the society. The study found that many areas that were considered PPAs were cleared and declared to be subject to future recovery of natural vegetation. The areas of PPA cleared corresponded on average 4.06 ha per property, ranging from 0.26 ha to 12.08 ha. In addition, from the PPA initially planned, only 21.29 % remain unchanged. The exploratory research findings of this study draw attention to the importance and the benefits provided by PPAs, coupled with the fact that the settled farmers, generally do not have the resources to rebuild those areas already cleared. In fact, the benefits derived from PPAs reverberate throughout society and require the correct valuation, supporting thus the establishment of environmental protection and recovery policies. Therefore, we proposed the insertion of Payment for Environmental Services (PES) schemes for the PPA remnants as economic incentive to recover the degraded areas and thus restore the ecosystem functions and services lost due to forest removal, especially in rural settlements located in agricultural and livestock frontier areas, such as the community case study.

Keywords: Payments for ecosystem services, public policy, sustainable development

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