

Greenhouse gas emissions by agriculture in the Brazilian amazon

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The Legal Amazon region includes the Amazon biome, the Pantanal (swamp) and the Cerrado (savannah). Starting in the early 1970s, agriculture, livestock, forestry and mining developed at fast speed in the region. In 2009, these activities accounted for 13.5% of GDP. Livestock alone produces, per cattle head, an average of 80-100 kg of methane per year. Deforestation has been a major cause of carbon dioxide emissions. The National Institute for Space Research (INPE) recorded and yearly average emission of around 850 million tons of CO₂ resulting from deforestation between 1988 and 2008. The objective of this paper is to estimate the GHG emissions generated by cattle ranching and deforestation in the Amazon region. This is done by applying a 2 Regions, Amazon and Rest of Brazil, input-output (I-O) model built specifically for these regions by using the database of the Regional and Urban Economics Laboratory of the University of São Paulo (NERUS) of Municipal I-O tables for the year 2009. The paper makes an estimation of the GHG emissions produced by primary activities, their link with deflorations and the responsibility of the consumer at the internal and external markets. The paper also presents a discussion of the effective role of government policies aimed to emissions reduction.

Keywords: Brazilian Amazon; GHG; Deforestation; IOM