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Status, Drivers and Management of Degraded Sloped Pastures in the State of Rio de Janeiro

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Abstract

Large areas of the Atlantic Forest region in the state of Rio de Janeiro (RJ), Brazil, have suffered from historical deforestation and degradation due to landscape transformation towards economically unsustainable coffee and sugar cane plantations converted into cattle pastures afterwards. Today, over 50% of the RJ area is covered by pastures mainly on slopes and managed by smallholder farmers. An inadequate, lacking or unsustainable management in combination with unsuitable environmental conditions has led to high pasture degradation, threatening the socio-ecological resilience of the landscape. If no appropriated rehabilitation measures and/or sustainable pasture management will be applied to this fragile, historically strongly modified landscape, pastures will soon devastate to a degree and extent, where land use will not be profitable anymore and the rural population may lose its main source of income. The study aims at improving the adaptation to exacerbating environmental conditions in rural areas of RJ, driven by inappropriate land use and climate change with increased droughts and heavy rainfalls. The status and drivers of pasture degradation are analysed based on a case study in the municipality of Itaocara (RJ) and linked to possible strategies for pasture rehabilitation and appropriated management. The implementation, monitoring and post-management of a low-cost pilot rehabilitation measure on a medium degraded sloped pasture in rural Itaocara is presented which aims both at strengthening pasture resilience against degradation and continuation of extensive rotational pasture management at the same time. The selection of appropriated strategies depends on degradation level, site conditions, farmers' acceptance, expected costs, required man-power and time for measure implementation.

Keywords: Degradation, erosion, pasture rehabilitation, sloped pasture, unsustainable land-use