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**REGENERATIVE AGRICULTURE IN THE BRAZILIAN AMAZON: THE CASE
OF ACRE, RONDÔNIA, AND PARÁ**

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Regenerative Agriculture is a holistic approach with high potential to address environmental challenges, including soil degradation, climate change, and biodiversity loss. This concept evolved from studies on alternative agricultural production methods – such as organic, agroecological, and biodynamic agriculture – and the principles of holistic agriculture in the late 20th century into a multifaceted approach that integrates soil health, the provision of ecosystem services, and the resilience of agroecosystems. Regenerative practices synergistically improve soil structure and nutrient cycling, promoting climate change mitigation and the provision of ecosystem services. Despite these benefits, it faces several challenges: 1) methodological heterogeneity and

conceptual imprecision limit the comparability and interpretation of results; 2) the lack of multi-criteria (multidimensional) metrics and long-term, large-scale analyses, preventing robust evaluation and dissemination of best practices; 3) the existence of socioeconomic barriers, including high financial costs and a lack of technical assistance and rural extension services. To assess the potential of regenerative agriculture and to overcome these challenges, a multicriteria methodology, named Protocol for Sustainable Regenerative Agriculture, was applied to 79 farmers in three Brazilian states (Acre, Rondônia, and Pará), where regenerative agriculture is being planned and implemented. Using 124 criteria across five dimensions (agricultural, socioeconomic, governance, environmental, and biodiversity) and on a scale of 0 to 10, the closer the production system is to zero, the less regenerative and sustainable it is; the closer it is to ten, the more regenerative it is. The results showed that the state of Rondônia had the worst multicriteria indicators (PARS = 5.57); the state of Acre is in an intermediate situation, with PARS = 6.13; and the state of Pará had the best results, with a PARS score above 7. The cultivation area exceeds 70,000 hectares, making it a pioneering study with high potential for replication in Brazil and other developing countries.

Palavras-chave: regenerative agriculture; agroecology; brazilian amazon; protocol for sustainable regenerative agriculture; multicriteria decision analysis.