Prioritizing climate-smart cattle farming practices and technologies for sustainable livestock production in Colombia's Orinoquia region

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Abstract

The Orinoquia region in Colombia is home to diverse ecosystems, including forests and various agroecological zones, but extensive cattle ranching poses a significant challenge as it contributes to deforestation and threatens the region's valuable forest resources. To address this issue, there is a growing interest in promoting low-carbon land use and practices that increase adaptation and resilience to climate change.

Climate-smart cattle farming (CSCF) integrates adaptation, resilience, and mitigation strategies to ensure sustainable and profitable productivity. This study aimed to identify, evaluate, and prioritise CSCF practices and technologies for the Orinoquia region in Colombia in a participatory manner. The framework developed for the study involved a first phase of identification and evaluation of CSCF practices and technologies based on evidence from the literature, followed by a second phase of classification and prioritisation of practices through participatory processes with key stakeholders in the region. CSCF practices were evaluated and ranked by five pillars: productivity, mitigation, adaptation, economic feasibility, and ease of implementation (perception pillar). Indicators analysed included animal stocking rate, weight gain, duration of practice evidence, enteric methane emission intensity, soil carbon stock, establishment costs, and forage production in high and low precipitation seasons, ease of implementation, and level of interest in the practice by the producers.

The study found that intensive silvopastoral systems for browsing, improved pastures plus rotational grazing, and grazing management practices represented the CSCF options with the greatest productive, environmental, and economic benefits. These practices can help promote a productive, profitable, and climate-adapted livestock sector in the region. The participatory approach used in the study can also facilitate alignment between sectors and policies and help develop farmers' capacities and knowledge to make climate-smart choices in their livestock production systems. In conclusion, promoting climate-smart cattle farming practices is crucial for ensuring sustainable and profitable productivity in the Orinoquia region of Colombia. The participatory approach used in this study can help identify, evaluate, and prioritise CSCF practices and technologies that are productive, profitable, low-carbon and climate-adapted.

Keywords: Adaptation, climate change, mitigation, Orinoquia, sustainable livestock farming

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