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## Information exchange patterns and technology adoption behaviour of cattle farmers in the Colombian Amazon

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### Abstract

Colombia's cattle sector, characterised by extensive production systems, plays an important role in the national economy, contributing 19.8% to the agricultural GDP and providing employment and income to around one million people. However, the sector is associated with low productivity and negative environmental impacts such as land degradation, greenhouse gas emissions, and deforestation. This is particularly true in the Caquetá Department, located in the Colombian Amazon, which has the country's fifth largest cattle herd and the highest deforestation rate. Although efforts have been made in recent decades to introduce improved production practices to intensify cattle farming in a sustainable manner (e.g., improved forages or silvo-pastoral systems), corresponding adoption rates remain low.

While several studies have analysed the cattle sector in Caquetá and have identified key adoption barriers, such as poor access to finance, inputs, technical assistance, and knowledge, the importance of interconnections, and information exchange between different actor groups in facilitating innovation diffusion, has received only marginal attention. There is a broad consensus that the structure and composition of social networks can affect information flows, learning processes, capabilities, preferences, and decision-making processes and that social networks can both facilitate and impede access to information. To address the identified knowledge gap, a social network analysis (SNA) using egocentric network methods will be conducted in June 2023 with 150 cattle farmers in the Caquetá Department to study the structure, composition, and strength of personal information exchange networks as well as their influence on technology adoption behaviour. Information will be elicited about the interviewed farmers' relationships with other farmers, and with other actors such as input and service providers, buyers, extension agents, researchers, and NGO staff. First results will be presented during the Tropentag. Heterogeneous patterns of information exchange are expected to exist in the Caquetá Department, depending on, among others, the degree of remoteness of the farmers. It is also expected that farmers with larger, more diverse, and more fragmented networks are more likely to adopt improved practices. The findings will be useful for designing more context-specific policies to improve information flows and promote the sustainable transformation of the cattle sector.

**Keywords:** Caquetá, Colombian Amazon, ego-centric network analysis, extensive cattle husbandry, sustainable intensification, technology adoption