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

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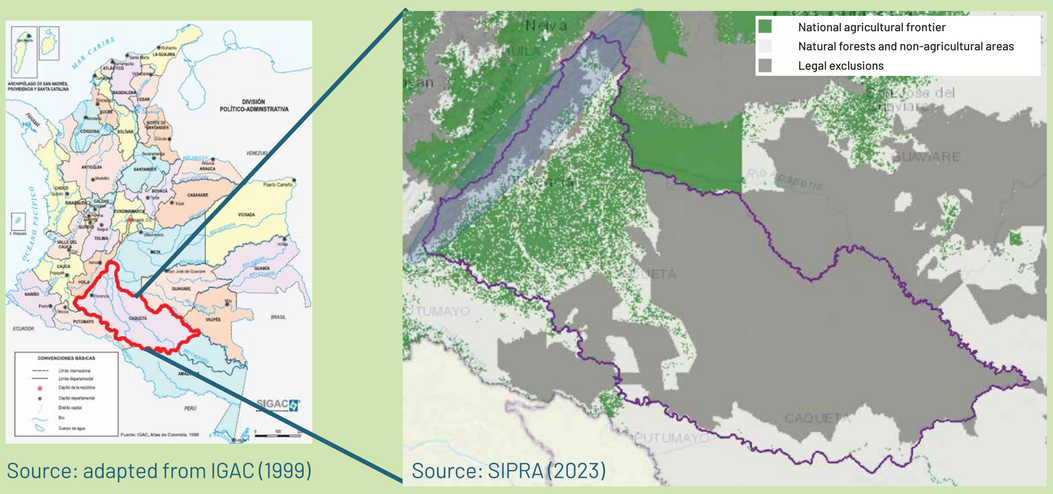
Introduction

- Extensive cattle farming causes environmental damages in the Colombian Amazon:
  - One of the main causes for deforestation.
  - Land degradation, greenhouse gas emissions, biodiversity loss, amongst others.
- Sustainable intensification of the cattle sector on the national policy agenda.
- Past and ongoing endeavors to introduce sustainable production practices (e.g., silvopastoral systems). Limited success and adoption rates remain at a low level.



Source: adapted from IGAC (1999)

Source: SIPRA (2023)

Figure 1. Study region - Caquetá Department in the Colombian Amazon

Objective

To improve the understanding of factors that influence the adoption of sustainably intensified cattle husbandry systems in the Colombian Amazon.

Gaps: Importance of interconnections, and information exchange between different actor groups in facilitating innovation diffusion, received only marginal attention.

Specific objective: To study the structure, composition, strength, and level of trust of personal information exchange networks of different groups of cattle farmers and their influence on technology adoption behavior.

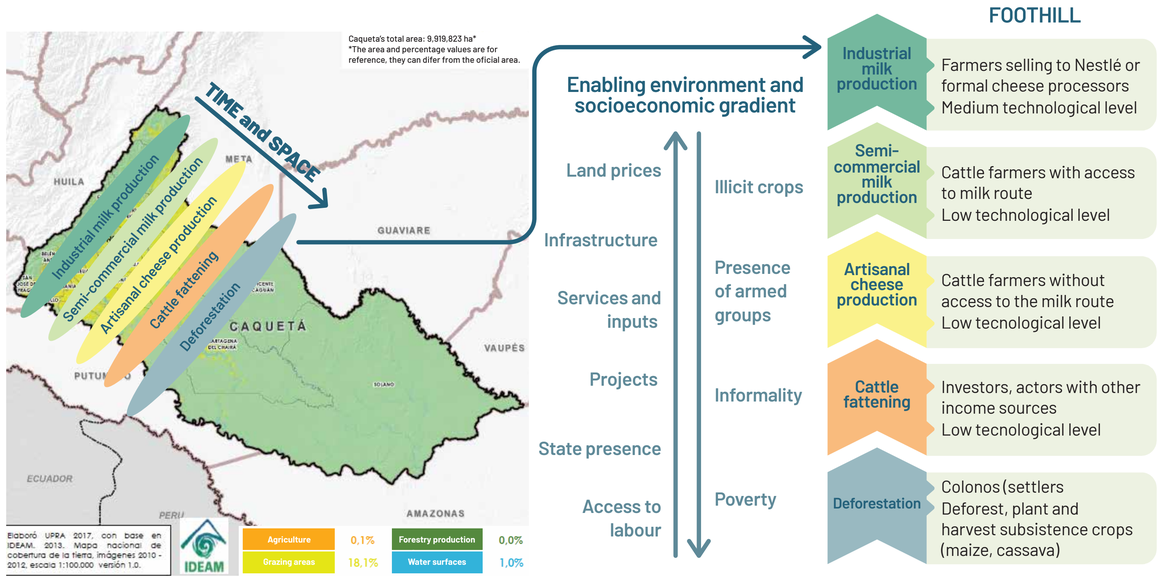


Figure 2. Production focus of cattle farms along an enabling environment and socioeconomic gradient. Source: map adjusted from Ministerio de Agricultura y Desarrollo Rural (2014) and own elaboration

Methodology

- Ego-network analysis - information exchange of cattle farmers with farmers and other actors.
- 150 interviews in 4 municipalities of Caquetá.
- Convenience sampling and selection of farmers groups based on outcomes of value chain analysis carried out in March 2023.
- Regression analysis: Influence of network measures, trust, and other adoption relevant variables (e.g., membership in organizations, farm size, educational levels, internal displacement, etc.) on adoption behavior.

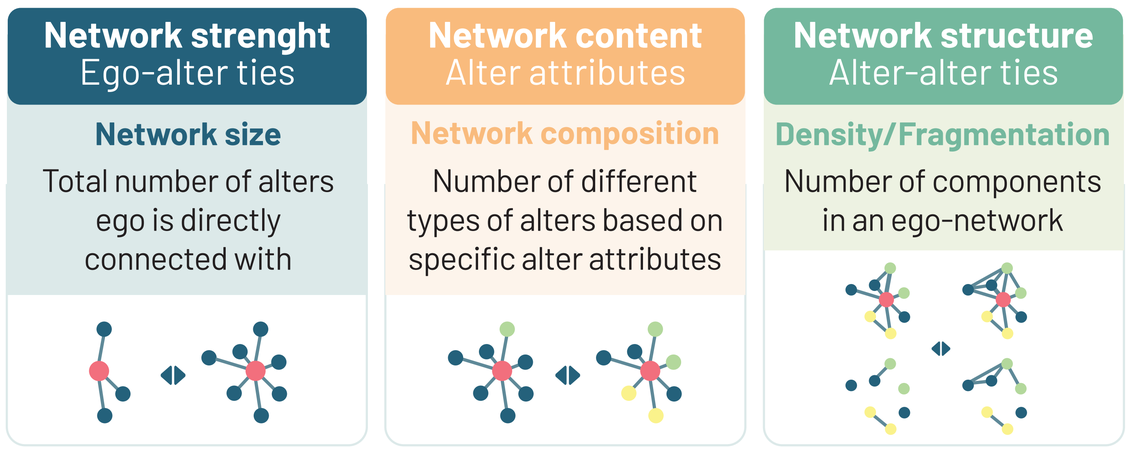


Figure 3. Network measures used for the analysis of information exchange patterns

Data collection ongoing: Interactive interview software Network Canvas

Delays: Study region shaped by immigration, armed conflict, internal displacement ▸▸ currently deteriorating security situation.

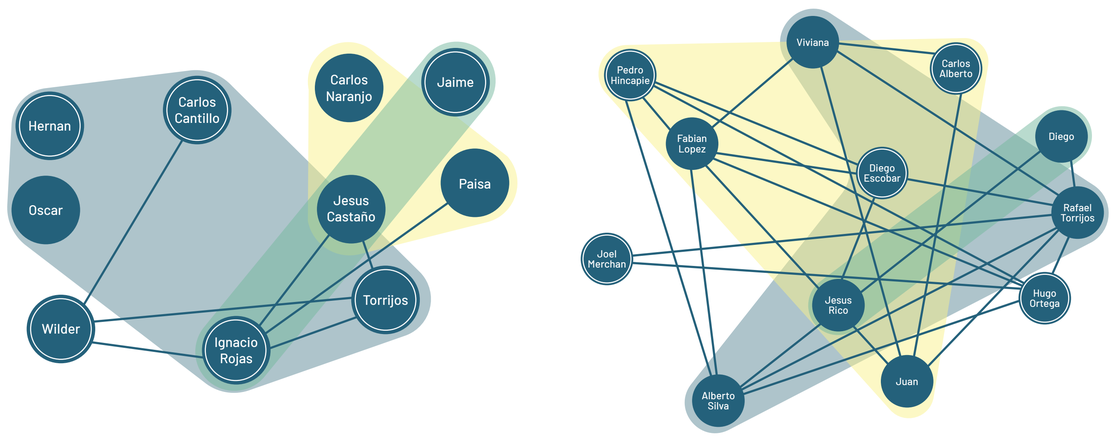


Figure 4. Information exchange ego-networks of two cattle farmers collected and visualized with Network Canvas

References

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Preliminary and expected results

- Heterogeneous patterns of information exchange depending on, among others, the degree of remoteness of the farmers.
  - Farmers in more remote regions (cheese farmers) have smaller and less connected networks.
  - Farmers closer to the Andean foothill have larger, more connected, and more diverse networks.
- Farmers with larger and more diverse networks adopt more sustainable practices.

Acknowledgments

This research was funded by the Academy for International Agricultural Research (ACINAR), commissioned by the German Federal Ministry for Economic Cooperation and Development (BMZ), is being carried out by ATSAF (Council for Tropical and Subtropical Agricultural Research) e.V. on behalf of the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH.

This work was carried out as part of the CGIAR Initiative on Livestock and Climate. We would like to thank all the donors who globally support our work through their contributions to the CGIAR System.

Poster prepared for:
Tropentag 2023
September 20–22, 2023
Berlin (Germany)