



Improved pastures and some challenges of agricultural innovation adoption

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Introduction

- Since the 1960s, but more intensely since the 1980s, the factors affecting agricultural innovation adoption in the so-called developing world have puzzled scholars and development institutions.
- Although early studies recognized that adoption is affected not only by the promise of economic profitability but also by other attributes of the innovation, such as compatibility, complexity, trialability, and observability, economic analysis that barely touched upon sociological factors or the non-contingent character of extension programs dominated the literature until recent years.
- Despite the availability of sustainable technologies and practices, adoption levels are, and have been, historically low.
- Scholars and institutions have analyzed both external factors such as credit constraints, risk, and information or internal constraints such as farm size, farmer behavior, and land tenure patterns, showing how these factors affect agricultural innovation adoption (Figure 1).
- Even when constraints are lifted or improved, adoption does not seem to increase in overall terms. To explain so, new constraints have been researched, such as gender, age, and belonging to a social network but the answer is still elusive.

Results

- We found that, first, farmer's social and cultural constraints must be properly mapped to explain, more in depth, the limiting factors to diffusion and the shortcomings of adoption incentives.
- Second, we found that perfectible transference strategies lay at the core of agricultural technology adoption, and thus we aim to amplify the debate on to how to map societal constraints and how, if so, new narratives and mechanisms should be put in place to achieve more successful innovation processes.



Main factors that limits adoption

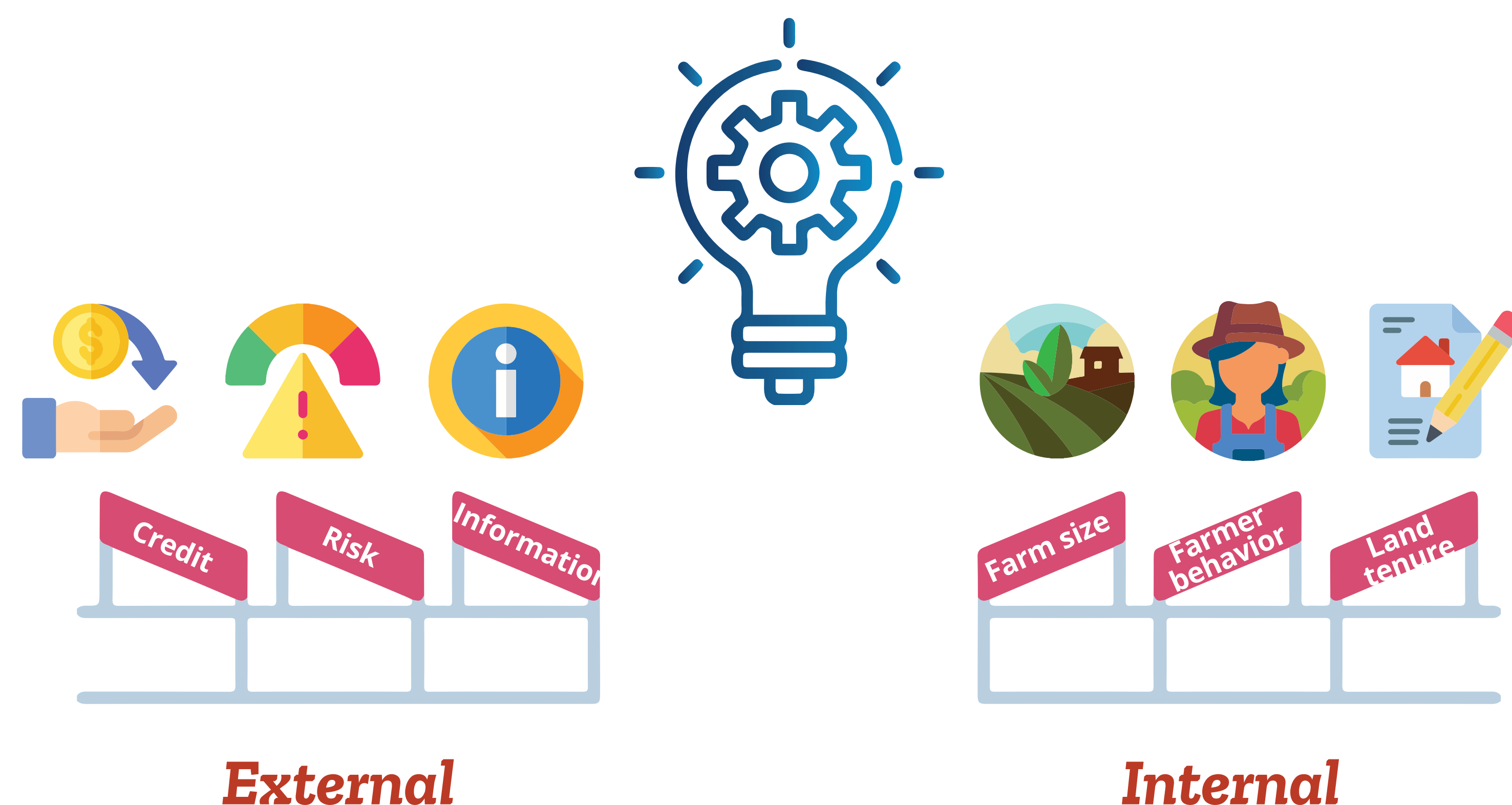


Figure 1. Main factors that limits adoption.

Objectives and Methodology

- This study reviews and summarizes evidence on experiments of agricultural innovation adoption, particularly those related to improved pastures and forage seeds in the Global South.
- It does so by focusing on reports, scientific and academic literature on the subject.

Conclusions

- Diverse studies in several geographies continue showing that education, access to credit, land tenure, access to extension services, and belonging to a social network are determinants of the adoption of agricultural technologies.
- Yet, adoption of agricultural technologies is so contingent on the type of technology and the socio-economic and environmental context that all variables need to be reassessed when devising extension programs or policies for each technology.
- Most recent approaches, particularly those involving participatory research, take into account farmer's needs to devise extension services. These approaches prove to have a higher impact on the adoption of new agricultural technologies because receive farmer's feedback and can learn better from farmer's needs.
- Productivity on milk and beef production increases with the adoption of improved grasses but not necessarily the efficient use of natural resources. Meeting the challenges of climate change will require a combination of strategies found across different agricultural technologies in order to increase rates of adoption of complex nature resource management such as silvo-pastoral systems.

Further reading

Lee S; Bonatti M; Löhr K; Palacios V; Lana MA; Sieber S. 2020. Adoption potentials and barriers of silvopastoral system in Colombia: Case of Cundinamarca region. *Cogent Environmental Science* 6(1):1823632. <https://doi.org/10.1080/23311843.2020.1823632>

Ruzzante S; Labarta R; Bilton A. 2021. Adoption of agricultural technology in the developing world: A meta-analysis of the empirical literature. *World Development* 146:105599. <https://doi.org/10.1016/j.worlddev.2021.105599>

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