



Building a community of practice around the network of rural living labs of the Grassland Management project in Uruguay

Areosa Aldama, P; Pereira Machin, M; de Hegedus, P

Instituto Plan Agropecuario, B. Artigas 3802, Montevideo, Uruguay.

Key words: Community of Practice; Rangeland Management; Workshops; Living Labs; Learning

Abstract

Since 2021, the Grassland Management project has been monitoring 30 livestock farms (Living Rural Laboratories) grazing natural pastures. The objective of the project is to contribute to the better management of natural pastures, through the use of good pasture management practices, with the aim of developing sustainable livestock systems. After three years, 130 workshops have been held with the participation of laboratories, the accompanying group of neighbouring producers, the technicians responsible for monitoring and the extension agency. These meetings take place in autumn and spring, are attended by 15 producers (on average per laboratory), field visits are carried out and evaluations are made. Currently, a total of 1800 people are participating in project activities. From August 2022, on the occasion of the first meeting of the Laboratory Network, the Community of Practice on natural grassland management started to operate. According to the theory of Community of practice, the participants of the Community share a common concern, a set of problems, or an interest in a topic, and are motivated to fulfill both individual and group goals. Three levels of involvement are identified: 1) the central core (30 producer families and technical team; 80 people), 2) the accompanying core (15 neighbours per Lab. + 450 people) and 3) the peripheral core - a heterogeneous group composed of multiple actors, research and private technicians (+ 300 people). Based on the evaluation conducted within the framework of the project, through a survey of participants, it can be concluded that the learning of new concepts and ideas is a process that 90% of the participants have shown, the remaining 10% have incorporated new approaches to what they already knew. Community building is an emerging feature of the project, which has been enhanced by the development of information technologies. It is envisioned as an information scaling strategy and a space for sharing the experiences of livestock producers. When the project ends, it will face the challenge of sustaining itself and ensuring its sustainability.

Introduction

The Grassland Management project has yielded pertinent information and findings from the monitoring of 30 living labs, encompassing the majority of the country's agro-ecological zones. A conceptual model has been developed that involves five macro-variables that are determinants in grassland management. These variables are combined in multiple ways, demonstrating that grassland management is a complex phenomenon. The variability and diversity of grassland systems, the transmission of capitalised learning, and the direct effect of these factors on the sustainability of grassland enterprises are all key elements of this model. The implementation of self-assessment and quantification protocols enables the

standardisation of processes. The project provided over 1,900 participants with a straightforward and reliable method of estimating available pasture (the index on food plate [FPI]), which serves as a decision-making tool. As an outcome of the process, the network of living laboratories is now conceptualised as a community of practice that is continuously evolving and intends to persist, facilitating knowledge acquisition (Areosa, P. et al., 2021) y (Pereira, M. et al, 2023).

Methods

A living lab is a space designed for interaction and collaboration, fostering creativity and problem-solving. It is a platform for cultivating critical thinking and knowledge acquisition among the individuals involved (Bravo-Ibarra, 2019). Such spaces facilitate the intersection of technologies and people in authentic contexts (Zavratnik et al., 2019). The term "laboratory" typically denotes a controlled environment with variables that can be manipulated. In contrast, the concept of a "living laboratory" suggests a more open and dynamic approach, where the laboratory is integrated into the real world and its inherent complexities. The defining aspects of living labs include the following: Real environment: In contrast to the controlled environments of traditional laboratories, living labs operate in real conditions, including factors such as climate, pricing, and specific circumstances. This enables the efficacy of solutions to be assessed in authentic contexts, which may present distinctive characteristics and challenges. Open innovation is promoted by these laboratories through the involvement of multiple actors, allowing for the contribution of different perspectives to the development of more appropriate and sustainable solutions.

The laboratories serve as spaces for dialogue and learning, facilitating exchange and the construction of knowledge through the workshop methodology. Joint creation is another key feature of living laboratories, which are based on the participation of the community in the creation of solutions. The members and participants of the laboratory are not merely subjects of study; they are also pivotal contributors to the advancement of knowledge and technologies (Areosa et al., 2024).

Results

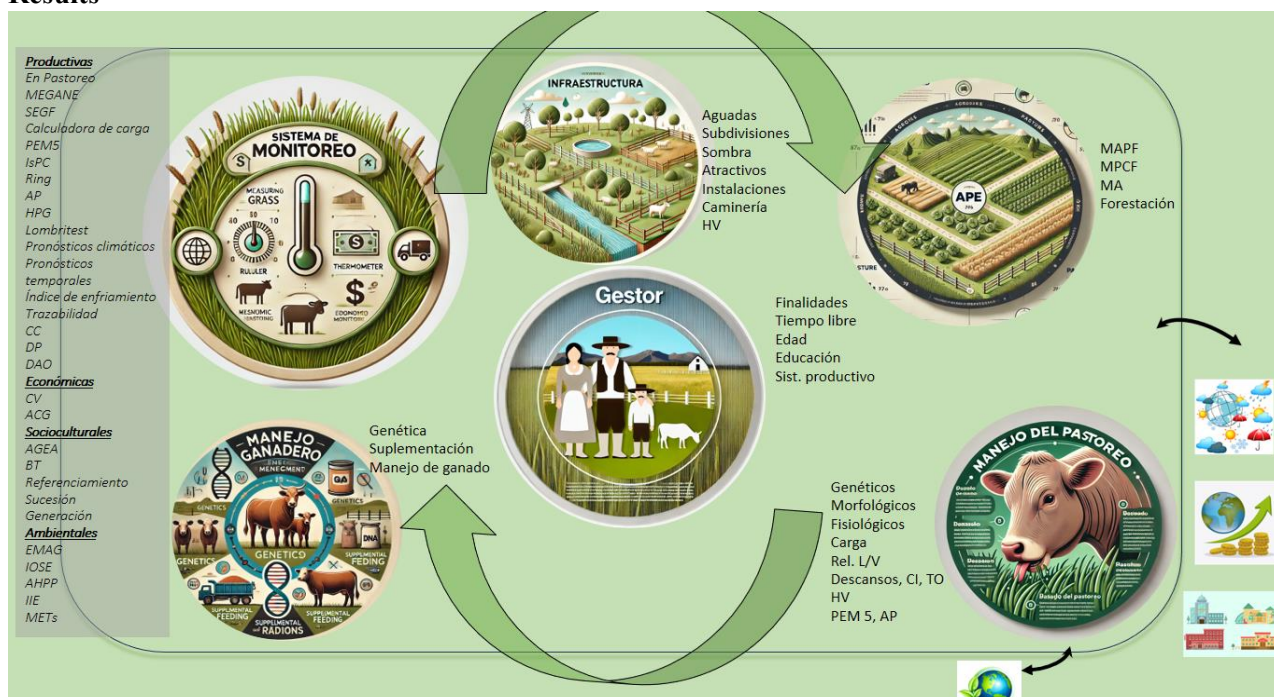


Figure 1. Conceptual model principal variables associated with effective pasture management practices.

The conceptual model generated by the project provides a systematic representation of the principal variables associated with effective pasture management practices. This product provides an evaluation framework for livestock producers, facilitating the planning and analysis of diverse scenarios and enabling prospective capacity and flexibility for adapting to changes. The macro-variables that warrant particular attention are: embeddedness in the context of infrastructure, the proportion of improved areas of strategic production, establishment ratio greater than 5 cm in the case of grazing management, strategic supplementation for livestock management and the importance of having a monitoring system in place. These approaches place an emphasis on process technologies and the soft skills (knowledge) of producers. In a complementary manner, the role of the natural field as a determinant of favorable environmental performance indicators is evident, providing systems with the resilience and resistance necessary to persist over time. The grassland management community of practice represents a learning community, comprising the living laboratory, dialogue workshop, and accompanying group components, which collectively form the laboratory network. This community demonstrates a capacity for synergistic and dynamic functioning, with learning outcomes that demonstrate a progressive improvement.

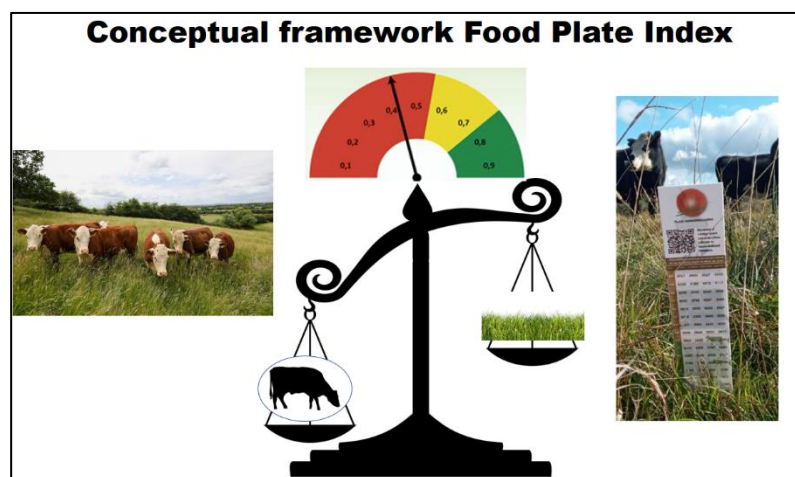


Figure 2. Food Plate Index method, proposed by the project and adopted by the 30 living labs.

Conclusions/Implications

The findings of the project substantiate the assertion that the long-term sustainability of livestock enterprises is contingent upon the macro-variables identified and their utility as self-assessment tools. These facilitate support, correction and the setting of new objectives, thereby enabling the construction of resilient family-business systems with adaptive capacity. This process, undertaken by each system, incorporates an appropriate degree of sophistication without compromising the fundamental simplicity, monitorability and protocolizability of the approach. In order to achieve this, it is necessary to promote reflective processes (critical thinking) that necessarily require a certain investment of time and motivation from decision-makers. This challenge is encountered in the process of extension, the development of learning and the acquisition of new skills, which undoubtedly represent one of the most significant impacts of this project.



Photographs: Dialogue workshops from 2021 to 2024 in the living labs

Acknowledgements

We would like to say a huge thank you to the 30 families who welcomed us into their homes to develop this project, as well as to the team at the Instituto Plan Agropecuario and to INIA for their constant support.

References

- Areosa, P., De Hegedüs, P., Lombardo, S., y Pereira, M. (2021). Talleres para aprendizaje: primeras reflexiones del proyecto gestión del pasto. *Revista INIA*, 67: 103-106. <http://www.ainfo.inia.uy/digital/bitstream/item/16167/1/Revista-INIA-67-Dic-2021-24.pdf>
- Areosa, P., De Hegedus, P., Molina, C., Pereira, M. (2024). Construcción de una comunidad de práctica en la gestión del pasto: laboratorios vivientes y generación de aprendizajes en escala ascendente. *Anuario 2024. MGAP-OPYPA-Uruguay*. <https://descargas.mgap.gub.uy/OPYPA/Anuarios/Anuarioopypa2024/ESTUDIOS/10/E10web/E10-Construcciondeunacomunidad.pdf>
- Bravo-Ibarra, E. R. (2020). Revisión sistemática del concepto de laboratorios vivos. *Dimensión empresarial*, 18(1): 78-104
- Pereira Machín, M., Areosa, P., De Hegedüs, P., y Carriquiry, E. (2023). Avances en la sistematización de buenas prácticas para la gestión del pasto. *Revista INIA*, 72: 115-118. <http://www.ainfo.inia.uy/digital/bitstream/item/17055/1/Revista-INIA-72-marzo-2023-28.pdf>
- Zavratnik, V.; Superina, A., y Stojmenova Duh, E. (2019). Living labs for rural areas: Contextualization of living lab frameworks, concepts and practices. *Sustainability*, 11(14): 3797.