

## Pastures Need People to Manage Them

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### Introduction

Starting with the premise that small farmers in Alto Camaquã — as long as there is a human/nature symbiosis would favor conservation of the ecosystems in which they participate, and that such a characteristic could support a strategy of rural development with national vision, a group of researchers at Embrapa South Livestock developed, along with family cattle owners, a methodology of intervention aimed at the valuing natural resources, product differentiation, and social organization. Based on participatory research methodologies and network organization, a collective of Participatory Experimental Units was established. These units, PEUs, or UEPAs as they are known in Portuguese, are productive units in which, starting with a process of reflection/action, knowledge about the processes of ecosystem function, and strategies of resource management, especially natural grasslands, are constructed. In these PEUs, in partnership with farmers and their associations, various practices of rational and sustainable management of the farms' available resources were introduced. This implied a redesign of the production systems. The effects of the tasks in the PEUs were experienced by all the farmers, all of whom belonged to local community associations. In this article, we will present a report about the study of the economic, social and environmental benefits brought about by the implementation of the described intervention methodology.

### Materials and Methods

For the evaluation of the impact, we conducted interviews with the family members of small farmers, with a time span of three years starting from the initial intervention by the research group. The evaluation methodology normally implemented by Embrapa throughout Brazil was followed. This methodology takes into consideration different indicators, while considering the point of view of the interviewees as paramount. At the same time, this methodology entails direct observation on the small farmers' properties, focusing on the fundamental elements of their production systems, not only on pastures or the animals.

### Results and Discussion

Among the results that need to be highlighted is the collective construction of the idea of lasting cattle farming as that which supports itself on natural resources and promotes "conservation in use" of resources. In this context, the importance of the handler comes into play, who determines the utilization of available resources through management strategies, starting with carrying out the production process in a conscientious fashion, and becoming strategic in natural resource management (Borba, 2009). The tools used include the monitoring of climatic variables (daily minimum and maximum temperatures, precipitation), growth (control of biomass accumulation), and availability of natural pastures (Embrapa Pecuária Sul, 2011).

An analysis of the results shows that there were economic benefits in the region, calculated at R\$3,267,997.50 between 2009 and 2014 (around US\$830 thousand)--a positive result for the farmers,

given that it allowed an important increase in business revenue. Moreover, there was a change in mentality among the small ranchers in the manner in which they think about natural resources, which prompted them to implement modifications in field management related to cattle grazing, create changes in the business infrastructure, and to be concerned systematically with the subdivision of areas, stocking rate control, and streamlining of animal health management. At the same time, a more systematic inclusion of these small ranchers in the improvement of administrative and commercialization aspects of their products was established. It was verified that they have maintained not only daily registers about variables at their farms, such as temperature and precipitation, but also, in some cases, they have advanced to accounting registers, like those that show production costs and sale of the products on the market. This fact can be seen as having important social impact, in that it improves the management capability of those small producers as a group.

The modifications in cattle grazing field management (subdivision of area, animal capacity corresponding to forage supply, deferred rotation) provide important environmental benefits, such as moderated recuperation of degraded soil and the improvement of the vegetation structure and associated biodiversity in the Pampa biome, the biome where Alto Camaquã is found. The interviewees consulted during the fieldwork highlighted that an essential benefit was brought about by the use of field and animal management on their properties. This can be corroborated in the regional land through maintenance of natural grasslands areas. Most of this land, without intervention of researchers and small cattle farmers, would be planted with soy at this point. Soy farming has expanded significantly in the past five years in areas traditionally occupied by ranching, in large part by land leasing. This is a result of the increase in price of this commodity in the international market.

## Conclusion

The intervention by a group of researchers from Embrapa South Livestock in areas of small cattle farming, who are not yet touched by the modernization process in Brazilian agriculture, consisted of a participatory pedagogy that provided recognition and appreciation of family ranching as an activity that preserves the ecosystem in which the farm is found. The study results indicate that modifications to the grazing management of natural pastures in the family ranches of Alto Camaquã, RS, transformed the small ranchers into skilled pasture managers, according to Borba & Trindade (2009). In social and economic terms, it was observed that farmers improved their ability to market their products (beef and sheep meat) by aggregating their marketing efforts –consequently also giving them new access to the larger regional market which allowed them to increase income. And, finally, in environmental terms, the maintenance of natural pasture areas and the improvement in its biodiversity are noteworthy.

## References

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