Chapter 10
Transitions toward Sustainability in the Livestock Business: Developing Countries and Disfavored Areas

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ABSTRACT
Transitions toward sustainability are increasingly important in the agricultural sector, and particularly for the livestock sector located in disfavored areas, due to the growing demand for protein of animal origin, and the need to reduce the environmental impact of this sector. The present study reviews the main factors playing a role in its sustainability from land to fork, and reviews relationships between competitiveness and sustainability. The study proposes recommendations for sustainable and successful transitions, and two new concepts for development: “sustainable competitiveness” and “sustainable specialization”, exemplified by the case of a Spanish disfavored area.

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Transitions toward sustainability are increasingly important in the agricultural sector, due to predictions of a global context, characterized by future increase in global population (FAOSTAT, 2009), decline in fertile soils, and climate change that will strongly impact areas such as drylands (Segnalini et al., 2013).

In particular, the livestock sector is and will be in the spotlight, as it must satisfy the growing global demand for animal protein, while complying with sustainable production principles (animal welfare, equity, food safety, healthiness, and environmental protection). As a result, livestock farming system redesign and implementation that will take these aspects into account are essential. The objective is to make them more sustainable, especially with regard to adaptability to changes in either the market (agricultural policies, consumers’ demands, and market competition), or the environment (climate change).

This is extremely important in developing and/or disfavored areas, where the livestock sector plays a central role in sustainability (Toro-Mújica et al., 2015; Escribano et al., 2015; Reynolds et al., 2015; Escribano, 2016a); and where production—both direct (food and fiber) and indirect (amenities)—is vital to securing the survival of humans (Darnhofer et al., 2010, Valbuena et al., 2014).

However, existing production systems in these areas (extensive, pasture-based, multipurpose, etc.) are not highly competitive, putting them at risk of disappearing, thus endangering socio-economic sustainability in the surrounding local economy and population. However, the obstacle to increasing the competitiveness of the livestock business in developing economies lies in the fact that these traditional livestock business models are essential for the conservation of the agro-ecosystems that serve as their physical basis, to ensure future environmental sustainability. Therefore, the equilibrium among the pillars of sustainability in these areas is complex and fragile, and competitiveness must go hand in hand with sustainability.

In these areas, the relationships among the dimensions of sustainability (institutional, environmental, economic, and social) are strong and marked, but starting to weaken, due to the deterioration of the agro-ecosystem on which they are based. Therefore, it is necessary to implement site- and time-specific, tailor-made production systems, to ensure true sustainability.

Hence, the objectives of the present study are:

1. To identify the key factors for livestock business sustainability and competitiveness in developing economies
2. Provide recommendations for sustainable development and transition toward a more competitive sector
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