A New Approach to Classify Livestock Farming Systems in Sub-saharan Africa

SARAH GRAF, THOMAS DAUM, REGINA BIRNER

Universität Hohenheim, Inst. of Agric. Sci. in the Tropics (Hans-Ruthenberg-Institute), Germany

Abstract

The farming systems approach has emerged as unique tool to deal with the enormous diversity of smallholder farming in the tropics. Following the pioneering work of scholars such as Hans Ruthenberg and Pierre de Schlippé, the approach has been further developed - most notably under the leadership of FAO, but the focus has mostly been placed on the cropping component of farming systems. With regard to livestock, an influential book on livestock framing systems in Africa was published by Hans Jahnke in 1982. In 1996, Carlos Seré and Henning Steinfeld devised a global classification, which remains an important basis for classifying livestock farming systems, but its global scope results in few rather broad categories of farms that keep livestock, which are not necessarily similar regarding their size, resource base, enterprise patterns, household livelihoods and constraints.

To address this limitation, we propose a new approach that combines a classification at two levels: the herd level and the farm level. In the first step, herd systems are defined according to classification criteria that we derived from primary studies about livestock in Sub-Saharan Africa. We applied an iterative process of reviewing, coding and classifying these studies. The following main classification criteria were thus identified: main feed source, production goal, how animals are confined, and—if applicable—the mobility pattern. The second step of the classification refers to the farm level and identifies what type of cropping system a particular herd system is combined with. This combination of herd systems and cropping systems forms a livestock farming system. Key livestock farming systems are then defined as a typical combinations of specific herd systems and specific cropping systems. This modular approach addresses the need for meaningful descriptions of livestock and herd management practices on the one hand, and farm level analysis on the other. By geo-referencing the literature that was reviewed using GIS, a map of herd systems was produced based on relationships between geographic conditions and the classification criteria. The proposed new classification system can inform future research and development interventions by guiding topic choice, implementation strategies and transfer of results.

Keywords: Africa, Farming Systems, GIS, livestock Production Systems

Contact Address: Sarah Graf, Universität Hohenheim, Inst. of Agric. Sci. in the Tropics (Hans-Ruthenberg-Institute), Wollgrasweg 43, 50599 Stuttgart, Germany, e-mail: sarah.graf@uni-hohenheim.de