

Abstract

Modelling the value of farm animal genetic resources – facilitating priority setting for the conservation of cattle in East Africa

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Given the diminishing diversity within farm animals and with it dwindling genetic resources that are in jeopardy of becoming extinct forever, sound conservation programmes for farm animal genetic resources become more and more important, including appropriate compensation payments for community-based conservation programmes. The findings of this study will guide policy-makers in their decisions on which breed to conserve, where to conserve and how to conserve it, all under the umbrella of cost-efficiency. The survey was limited to the Borana breed in southern Ethiopia and northern Kenya.

The first scope of this study was to discover (1) unique benefits of and threats to the Borana breed and, (2) the distribution and existence of Borana subtypes. This study aimed to monetarily assess (3) attributes of local cattle breeds in the research area and, (4) different cattle breeds *per se* relative to each other. A further objective of this study was to reveal (5) the costs of a community-based *in-situ* conservation of the pure Borana. Finally, the study aimed to identify (6) a ranking priority for the conservation of different Borana subtypes and, (7) important implications and considerations for conservation programmes.

Overall, the study concludes that comparing the values of three locally adapted Borana subtypes (Ethiopian Borana (EB), Orma Borana (OB) and Somali Borana (SB)) to the costs of conserving them, conservation programmes will have great potential and will secure the Borana people's daily needs as well as their traditional pastoral lifestyle that is strongly interdependent with the keeping of Borana cattle. It was further concluded by applying a Weitzman priority ranking approach that the EB has the greatest potential to be conserved cost-efficiently and that this type in Ethiopia should receive the highest priority for conservation funding. With properly installed community-based *in-situ* conservation programmes, a rapid change in production and land use systems away from a sustainable cattle husbandry production can be halted. Conserving the EB in the Borana lowlands in Ethiopia will secure the future use of the Borana genetic material at very little costs per animal.

Keywords: animal genetic resources, Borana, choice modelling, compensation payments, conservation, Weitzman