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Farmers' Willingness to Conserve the Endangered Sheko Cattle Breed in Benchi Maji Zone, Ethiopia

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Abstract

The Sheko cattle breed has a promising potential to form the genetic backbone to cope with new tropical diseases, unpredictable future climate changes and food insecurity in Ethiopia. Despite its recognised trypanotolerance and adaptation to environmental stressors, the breed currently faces clear risk of extinction. In order to support the establishment of cost-efficient conservation plans, this study aimed at assessing farmers' willingness to conserve the Sheko breed in its natural breeding tract of Benchi Maji zone, Ethiopia. Choice experiments were employed on 400 cattle keepers to assess their preferences for important cattle attributes. Preferences for cattle attributes are used as indicators for farmers' willingness to conserve the local Sheko cattle breed. The study revealed that farmers' generally preferred cattle breeds with a high trypanotolerance, low feed requirements and aggressiveness, and high milk yield. However, preferences for cattle attributes differed according to agro-ecological zone (AEZ). Farmers in the midland AEZ were willing to pay 603 Birr (21.60 €) for a cow with a high milk yield. On the contrary, their counterparts in the lowland AEZ were willing to pay 2.3 and 1.9 times more for a cow with low feed requirements and high trypanotolerance than farmers in the midland AEZ. This suggests that farmers, in particular in lowland AEZ, valued adaptation traits more than a high milk performance. Furthermore, farmers who were born in the Sheko community were more likely to prefer aggressive cattle, while a longer experience in keeping the Sheko cattle breed increased the probability that farmers preferred cows with a high milk yield. Similarly, a positive interaction was found between satisfaction with the veterinary service and a high milk yield, as well as high feed requirements and trypanotolerance. Consequently, conservation programs for the Sheko cattle breed in Benchi Maji zone of Ethiopia will imply compensation payments of the farmers due to the high feed requirements and aggressiveness of this breed. It is recommended to implement conservation strategies in the midland AEZ by involving farmers who originate from the Sheko community or have experience in keeping Sheko cattle, and to improve veterinary services to reduce compensation costs.

Keywords: Choice experiments, Ethiopia, in-situ conservation, preference heterogeneity, Sheko cattle breed, trait preferences

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