Senior Fellowship for Dr. Simret Weldenegodguad: Capacity Building to Support in-situ Conservation of the Endangered Sheko Breed of Cattle (African Bos taurus) in Southwestern Ethiopia

Initiative: Wissen für morgen – Kooperative Forschungsvorhaben im subsaharischen Afrika (beendet)

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Local breeds provide economic value as well as social and environmental value, including their ability to help sustain rural livelihood especially for peoples in low-income countries such as Ethiopia. Sheko is one of the recognized local cattle breeds in Ethiopia and may be the only remaining representative of the humpless cattle in Eastern Africa. This cattle breed has been recognized as one of Africa's "Big Five" vintage cows having a great potential to form the genetic backbone for future survival. Sheko cattle stand out as the most trypanotolerant animals rarely get infected by trypanosomes than any other indigenous cattle populations found in Ethiopia. This unique breed is currently facing a clear risk of extinction due to rapid shrinkage of population size. The factors contributed for this situation include lack of program for conservation and genetic improvement of Sheko breed, lack of concerns of farmers to preserve this breed and interbreeding with thoracic-humped zebu cattle. Therefore, to greatly strengthen the body of evidences to promote conservation of Sheko breed and understand the genetic diversity and population structure among Sheko, zebu and their crosses, the proposed project aims to perform whole genome analysis. In addition, to investigate factors that contribute to farmers' decision to be in favor of Sheko, zebu or their cross breeds and their willingness to conserve pure Sheko cattle, a household survey and choice experiment approach will be employed. The results obtained from this project will help 1) to understand whether survivability of other cattle breeds in Sheko region depends on Sheko, 2) to indentify willingness of the farmers to conserve Sheko cattle, 3) to plan a road map to develop conservation and breeding strategies of the Sheko cattle.

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