Promoting Strategies for Sustainable Management of Trypanotolerant Cattle Breed in West Africa

A comprehensive program in the sustainable management of the region’s animal resources remains a veritable key to food security and poverty reduction in rural communities.

Domestic cattle populations in West Africa are a unique interface between the taurine and zebu breeds. The zebu cattle predominantly found in the dry Sahel are adapted to heat, have high capabilities for long migration, but they are susceptible to the deadly animal trypanosomiasis prevalent in more humid environments. This disease causes serious economic losses in livestock from anemia and emaciation. The taurine cattle on the other hand are tolerant to trypanosomiasis, thus presenting them as valuable genetic stock with high potentials for production in regions where trypanosomiasis poses great threat to cattle production.

This project is conducting phenotypic and molecular characterization of cattle populations in Burkina Faso, Benin and Mali with the goal of identifying geographic and biological patterns of admixture amongst taurine and zebu populations. A comprehensive cattle management program in West Africa is expected to be delivered to decision-makers.

Main Beneficiaries
Cattle farmers are the ultimate beneficiaries of this project. They will benefit from a more robust and sustainable cattle management methods. Policymakers will be provided with policy options backed with empirical evidence on the sustainable use of livestock biodiversity. Research scientists will benefit from techniques in molecular characterization of cattle.

Main Regional Benefits
Techniques developed in this project for geographic and biological genetic mapping of cattle in the three participating countries could be adapted to the other countries of the region. Preserved breed of cattle will be a valuable genetic source for generations to come.

Partners
This CAADP-compliant project is funded through the CORAF/WECARD MDTF with contributions from the EC and CIDA. It is coordinated by CORAF/WECARD. The implementing partners are: INERA, Burkina Faso; INRAB, Benin; Institut Polytechnique Rural de Formation et de Recherches Appliquées, Mali; Animal Genetics and Reproduction Areas, Spain; CIRDES, Burkina Faso; and PROGEBE/ILRI, Gambia.
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| **1** Gene Flow Mapping           | • Specific phenotypic characteristics of West African cattle identified in each country.  
• Ratio of trypanotolerant cattle to non-trypanotolerant cattle documented.  
• Trypanosomose infection rate for each cattle breed characterized.  
• Pattern and level of zebu genes introgression into trypanotolerant cattle breeds within the countries, and across boundaries identified. | **Outcome 1**  
Increased availability and accessibility of knowledge for decision-making in cattle improvement | Enhanced environmental sustainability in cattle producing zones of the region |
| **2** Livestock Management Options | • An inventory of animal resources management strategies currently in use developed.  
• Improved animal resources sustainable management options proposed. | **Outcome 2**  
Enhanced preservation of valuable local cattle breed | Improved income and livelihoods of smallholder cattle farmers in the rural areas |
| **3** Capacity Strengthening      | • Capacity strengthening needs of participating scientists in genotyping and molecular marking techniques identified.  
• Institutional research capacities of the participating countries identified.  
• Capacity Strengthening needs of the states animal resources management experts identified.  
• Molecular genetics research infrastructure provided | **Outcome 3**  
Improved cattle productivity in West Africa. | |

**For more information**  
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