

**PROJECT/THESIS TOPICS AVAILABLE AT THE ANIMAL HUSBANDRY IN THE  
TROPICS AND SUBTROPICS GROUP: SUMMER SEMESTER 2023**

1. **Assessing the impact of replacing oxen with tractors on GHG emissions from smallholder crop-livestock systems in Ethiopia**

**Supervisor(s):** Dr. Christian Bateki ([christian.bateki@uni-kassel.de](mailto:christian.bateki@uni-kassel.de))

**Prof. Dr Eva Schlect**

**Project description**

Several governments across sub-Saharan Africa are promoting the introduction of tractors to modernize smallholder mixed-crop agriculture and mitigate GHG emissions from these systems. There is information in the literature about the yield gains because of agricultural mechanization but there remains a knowledge gap in terms of how total GHG emissions change as a result of mechanization.

Therefore, this project would utilize survey data from 60 households in the Oromia Region of Ethiopia, to estimate and analyse the impact of introducing tractors on the overall crop and livestock production of the studied population, as well as the resulting GHG emissions.

**Type of project:** MSc thesis involving literature review and data analysis

**Number of students:** 1

**Timeframe:** April to September 2023

2. **Yield gap analyses of cattle milk production in urban and peri-urban systems in West Africa and Asia.**

**Supervisor(s):** Dr. Christian Bateki ([christian.bateki@uni-kassel.de](mailto:christian.bateki@uni-kassel.de))

**Prof. Dr Eva Schlect**

**Project description**

Urban and peri-urban agriculture supplies roughly 10% of the food consumed globally and is poised to grow in importance within the rapidly urbanizing low and middle- income societies of Africa and Asia. This can also be seen in the rapidly growing urban and peri-urban dairy cattle farming occurring in these regions. While there are many similarities between urban and peri-urban dairy cattle farmers, differences including levels of performance, feeding practices, and access to land also exist.

The present project will leverage a large database consisting of surveys on urban and peri-urban dairy farmers in West Africa and India to quantify existing milk yield gaps and determine the driving factors underlying them. There is also the possibility to employ a livestock model to assess options for closing the milk yield gaps as well as the impacts on GHG emissions.

**Type of project:** MSc thesis involving literature review, data analysis, modelling using a livestock model (optional)

**Number of students:** 1

**Timeframe:** April to September 2023

3. **A review and meta-analysis on the reason why small- and medium- scale farmers keep livestock in sub-Saharan Africa**

**Supervisor(s):** Dr. Christian Bateki ([christian.bateki@uni-kassel.de](mailto:christian.bateki@uni-kassel.de))

**Prof. Dr Eva Schlect**

**Project description**

Many surveys/studies have been carried out to understand why farmers in sub-Saharan Africa (SSA) keep livestock. Based on the conclusions of these surveys/studies, several projects and strategies were championed amongst farmers in SSA to improve husbandry practices and achieve various socio-economic and environmental objectives. Yet, in many cases, the adoption of proposed husbandry improvement strategies in the region remained low. So, there is a need to review whether the right conclusions have been drawn from the existing individual studies.

Therefore, this project will systematically review the evidence published so far (reading in between the lines) to create a framework that integrates quantitative and qualitative data on why farmers in SSA keep livestock. The outcome of this project could be very policy relevant especially with respect to how to promote greenhouse gas mitigation strategies in SSA.

**Type of project:** BSc thesis or student project involving literature review and data analysis

**Number of students:** 1

Please feel free to contact us if any of these topics interest you. We would be happy to accommodate your ideas and personal interests!