# Zambian traditional fermented foods


## Summary

This project capitalizes on the prevalence of traditional dairy and cereal-based fermented products, which are consumed on a daily basis throughout rural Zambia. Enhancement and increased availability of these foods will improve nutrition security, consumer satisfaction and livelihoods of small-scale predominantly rural women producers. To date, needs and preferences of rural and urban consumers and production processes have never been systematically analysed and aligned. Moreover, the nutritional and food safety aspects of products in relation to the currently used processing practices, including mixtures of microorganisms used for product fermentation, have not been determined and optimised. This project will define best practices to improve the food production chains themselves and better address the demands of urban and rural consumers. Moreover, tailor-made starter mixtures for fermentation will be formulated and made available by involving stakeholders, NGOs and private enterprises. These optimisations will be made durable by engaging committed stakeholders throughout the project.


## Midterm summary of progress

By optimizing traditional fermented foods, we aim to improve the food chain between consumption and production and increase production and nutritional value. We specifically focus on two traditional fermented foods from Zambia: Mabisi (milk-based) and Munkoyo (cereal-based). Fermented foods rely on the activity of micro-organisms to transfer a raw material into a product with enhanced properties. We started by characterizing the current variations in production process among producers. We found that for both products variations exist that give rise to slightly different products. By intensively monitoring selected fermentations, we have made a first characterization of the types of microbes present. Finally, we quantified the nutritional content of the products and surveyed the current diet of people in rural areas. We found that especially Mabisi can contribute to optimizing the diet. Next steps are to optimize current processing practice, the define what combinations of microbes yield the best products and to assess how the consumption of our products can improve nutritional status during field trials. In our project, we work with local stakeholder organizations which has greatly helped to focus our scientific research and to ensure ownership of local producers. This will allow for effective dissemination of results.