In Africa, maize-based foods can serve as a normal meal, as well as be used for special ceremonies, caring for the sick, aged, pregnant women and infants. In spite of the wide acceptance of maize in Africa as a staple crop, regions with heavy consumption, among many other reasons, suffer an increasing rate of undernutrition due to natural deficiencies of some nutrients in maize. To date, the nutritional quality of maize-based foods in SSA is low when compared to Mexico, where maize originates. In Mexico, more than 70% of processed maize is produced using a thermo-alkaline method known as nixtamalization, a technique in which maize is cooked in water containing calcium hydroxide (Ca(OH)₂), see Figure 1. This process has been used for centuries and is the basis of a large diversity of maize-based foods. In Mexico alone more than 300 foods are produced with this method, the most common one being the tortilla. Nixtamalization of maize improves nutritional composition, processing quality, protein and starch functionality, flavour, aroma, and reduces the contamination with mycotoxins. Unfortunately, this processing method for maize is not known in Africa.

Based on the awareness of the above situation, we were awarded INREF seed money to organise a workshop on the above topic to exchange ideas on what benefits nixtamalization could have in the African context and come up with a collaborative action plan. The proposal is founded on existing, long-standing research collaboration between the involved African universities in Benin, Zimbabwe, Zambia and Wageningen University. Our main objective project is to develop a comprehensive research program to enhance food and nutrition security in Sub-Saharan Africa through the incorporation of Mesoamerican food processing technology and other novel methods in the maize production chain, including traditional maize fermented foods.

The main SDG targeted in this seed money project is SDG 2 (zero hunger), but we also expect to be able to contribute to SDG 12 (responsible consumption and production) by making better use of raw materials and SDG 1 (no poverty) by increased income generating activities through maize food production and sales. To avoid that lifting production and sales from household level could go at the expense of predominantly female producers in households, which would be a negative trade-off with SDG 5 (gender equality), we will pay special attention to women’s needs and integrate gender when strengthening entrepreneurship and upscaling production.

![Figure 1. Left the maize production process as commonly used in Mexico, including a nixtamalization step, and right an example of maize processing in Benin, West Africa.](image-url)