152. Crop diversity as an adaptation strategy to climate change in West Africa

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In Sub-Saharan Africa, climate fluctuation is believed to increase and smallholder's rainfed agriculture will be particularly challenged. This region is a crop domestication and diversity center for local crops, among which fonio, pearl millet and sorghum. A large amount of crop diversity is maintained by family farmers. This diversity is a basic fuel to allow future adaptation.

In this presentation, we illustrate how this extraordinary genetic diversity mitigates the actual impacts of climate change in different crops. We will further analyze what biological mechanisms are involved (local adaptation, selection, gene flow…). We will illustrate the particular role of fonio (*Digitaria exilis*, Stapf), a neglected and underutilized crop, in Western Africa agro-ecosystems. Our presentation shows that crops and landraces diversities are key factors for agriculture adaptation, and consequently that this diversity should be managed and conserved to allow local adaptation of agriculture.