28. **Intensification test on maize production in the Sudano-Sahelian zone: techniques, soils, climate and economic conditions**

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The global context expects increased food production in the agricultural sector thereby substituting benefits in the petroleum sector and related services i.e. the conservation of biodiversity or carbon sequestration. These objectives are intended to be achieved under the constraint of expected climate change. Progress is particularly hoped for African agriculture, which by its low-intensity practices and low current yields is faced with a substantial margin of progression. The study conducted in two villages (Gashiga and Kawtal) in northern Cameroon during the 2013 farming season aimed to understand the feasibility of maize intensification in the current physical, climatic and economic conditions. Gashiga experienced sporadic rainfall during the 2013 farming season contrary to better rainfall conditions at Kawtal. Two levels of intensification were compared to the peasant practices (NP) consisting of 36 plots of producers with contrasting soil fertility levels, two repetitions conducted per plot. The first level (N1) corresponds to the specifications of the crop currently disseminated. The second level (N2) comprised of more intensive techniques (variety, seed treatments, organo-mineral fertilization and fight against weeds). The test cluster analysis showed increased production for N1 and N2 against NP (respectively 0.8 and 1.9 t.ha⁻¹) of maize grain at Kawtal. Yields for NP and N1 were equivalent at Gashiga and N2 experienced an increase of 1.5 t.ha⁻¹ of maize grain Soil fertility impacted just NP. Factors such as crop density and weed pressure limited the result of intensification. Despite the increased production achieved, both levels of intensification were not profitable. More than climate, economic conditions are a major constraint for crop intensification in North Cameroon.