



**AMPHIBIAN DIVERSITY PATTERNS IN THE NAMULONGE AGRICULTURAL
LANDSCAPE**

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ABSTRACT

Uganda's agricultural landscapes are patterns of cultivated areas and semi-natural elements. Although comprising only a small fraction of the total area, semi-natural elements provide habitats for most of the landscape biodiversity. Agricultural intensification has increasingly destroyed or fragmented semi-natural elements resulting into species decline. Insights into the effects of landscape structure on species' distributions within and among semi-natural habitats are needed to effectively conserve biodiversity in agricultural landscapes. The influence of land use practices on amphibian species diversity was investigated in areas of intensive and subsistence agriculture in Namulonge for 12 weeks. Amphibians were sampled using Visual Encounter Surveys while environmental parameters were measured using digital multimeter. Altogether, 19 amphibian species were recorded in the Namulonge agricultural landscape. The Mann-Whitney U test showed no significant difference in species diversity between the land use areas. Characteristics of the landscape were used to predict patterns of amphibian species distribution in canonical correspondence analysis (CCA). The model identified plant materials, water and ambient temperature as the most important variables in predicting species distribution. Areas with relatively intact natural vegetation cover supported a few more species than completely converted areas. Such pockets of vegetation provide microhabitat conditions suitable for amphibian species occurrence. The foregoing observation suggests that there is value at landscape-level to preserve natural/semi-natural pockets of vegetation to enhance biodiversity in any agricultural environment.