**Abstract**

**Biophysical and socio-economic factors driving changes in South-Kivu wetlands, eastern D.R. Congo**

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Wetlands are assessed among the most important ecosystems worldwide. Democratic Republic of Congo (DRC)’s wetlands are among the richest and most diverse ecosystems in the world. They include streams, ponds, bogs, marshes, swamps, floodplains, isolated lands subjected to flooding, wet meadows, and coastal (shores) of rivers and lakes. Nevertheless, several biophysical and anthropogenic factors endanger these ecosystems and alter their ecological characteristics and ecosystem services they offer to communities. Losses of some of these ecosystems have been recorded for decades, though no complete inventory of such losses exists. Besides, the extent of the use dynamics and its driving forces are poorly understood and documented.

We combined field data, remote sensing, surveys and focus groups to assess the drivers of wetland changes in South-Kivu. Results showed that both biophysical and socio-economic factors are responsible for wetland use, change, and losses in the province. The major drivers are anthropogenic pressure, mainly from farming, aquaculture, dwelling and settlement constructions, and brick making. The loss of wetlands has been exacerbated by rural poverty, overgrazing and farming intensification to meet the market demand boosted by the demographic explosion. One of the tangible degradation effects is the gradual drop in water level. Some socio-economic factors such as household income, type of wetlands use, household head’s main activity, and longevity in exploiting wetlands significantly influenced these changes. The current dilemma is whether to preserve these ecosystems for carbon sequestration or to support agricultural development, a sector employing ~70% of adult populations. Our Ph.D. research aims to respond to the need for wetlands identification, loss quantification, and assessment of negative effects on ecosystem services they provide. Therefore, quantifiable indicators should be selected and developed to assess the sustainability of wetland use.

**Key-words:** *wetlands, ecosystem services, South-Kivu, sustainability*