

## PhD project

**IRENE KOKO**

# The Impact of land use changes on ecosystem service values in the Kilombero wetland, Tanzania

**Keywords:** Ecosystem services, Trade-offs, Land use planning, Sustainable land management, Wetland

Wetland ecosystems are converted to other land uses, which may increase the provision and values of some services but decrease others. This is observed when land use decisions maximize a single output such as agricultural production at the expense of other ecosystem services. However, integrating ecosystem services values in landscape planning and management is still a challenge. Therefore, this PhD research project investigates the impact of land use changes on ecosystem services values in relation to stakeholders' perceptions and future management preferences in the Kilombero wetland. It is part of GlobE wetlands project - reconciling future food production with environmental protection.

To achieve the research objective, understanding how changes in land use, benefit flows and perceived values are linked, is of vital importance. Artificial Intelligence for Ecosystem services (ARIES) model will be used to simulate the impact of ecosystem services affected by land use change; also it will provide future prediction based on the land use scenario. Combining maps of alternative land use/land cover futures using ARIES model we will be able to estimate a range of potential changes in ecosystem services provision and trade-offs among various services at different geographical and socio-economic scale. Ultimately we expect the study to provide better understanding of land use changes and their impact on ecosystem services values as a basis for developing recommendations for sustainable use and management of the wetland ecosystem.



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Work Package	A4 Ecosystem services
Countries of work	Tanzania
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Faculty	Environmental sciences
University	Wageningen University, the Netherlands
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