

Title: Agricultural development, biodiversity and ecosystem services in the Lake Victoria Basin

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Conference themes addressed:

Ecosystem Services and Biodiversity Benefits

Balancing Conservation and Development

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Abstract:

Competition for land is increasing as a consequence of the demands for food and commodities and for conserving biodiversity and ecosystem services. Land conversion and the intensification of current agricultural systems continues to lead to a loss of biodiversity and trade-offs among ecosystem services. Stakeholders need to understand these trade-offs in order to better balance different demands on land and resources. Therefore, there is an urgent need for spatially-explicit information and analyses on the effects of different trajectories of human-induced landscape change on biodiversity and ecosystem services.

This study developed a novel framework to evaluate priorities for conservation, applied to the Lake Victoria basin in East Africa. It includes spatially-explicit consideration of the drivers of land use change, including population change, trends in commodity markets and agricultural

production. Regionally specific scenarios¹ developed in consultation with local stakeholders were applied in a land-use change model to project plausible futures of landscape change due to likely changes in these drivers. Modelled land use/cover scenarios were then used to assess the potential future impacts on biodiversity and ecosystem services in the landscape.

Results highlight areas with the highest and lowest potential impacts on biodiversity and ecosystem services under future scenarios of land use change. Such results aim to support decision makers in (a) assessing and visualising likely future impacts on biodiversity and ecosystem services, (b) assess trade-offs and (c) make more informed choices balancing conservation and development needs.

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¹<https://ccafs.cgiar.org/publications/future-food-security-environments-and-livelihoods-eastern-africa-four-socio-economic#.WLGmmvKR4us>