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The impact of industrial oil development on a protected area landscape: A case study on human population growth and landscape level change in Murchison Falls Conservation Area, Uganda.

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Protected areas in Sub-Saharan Africa are sanctuaries for rich biodiversity and are important economic engines for African nations, but they are becoming increasingly threatened by discoveries of mineral deposits within and nearby their boundaries. In 2006, viable oil reserves were discovered in Murchison Falls Conservation Area (MFCA) in northern Uganda. Exploratory and appraisal activities concluded in 2014, and production is expected to begin in 2016. The oil development is associated with a substantial increase in human population outside MFCA, with people seeking jobs, land, and economic opportunity. Concomitant with this change is increased truck traffic, a sprawling and denser road network, and infrastructure within the park, which could have large impacts on both the flora and fauna. We examined the broader protected area landscape and the potential feedbacks from resource development on the ecosystem and local livelihoods. Our analysis combines a land cover analysis using Object Based Image Analysis of Landsat data (2002 and 2014), migration patterns and population change (1959-2014), and qualitative interview data. Our results suggest that most of the larger-scale impacts on the landscape and people are occurring in the western and northern sections, both inside and outside of the park. Additionally, oil development is not the only factor in the region influencing population growth and landscape change. Post conflict regrowth in the north, sugarcane production in the south, and migration to this region from conflict-ridden neighboring countries are also playing a vital role in human migration shaping the MFCA Landscape. Understanding the social and environmental changes and impacts in the MFCA and its surrounding areas will add to limited literature on the impacts of resource extraction on local, subsistence communities and landscape level change, which will be important as access and pressure for oil and minerals within protected areas continues to rise.