

## Is conservation helping communities, and vice versa?

By Katie P. Bernhard & Edwin Sabuhoro, 8th September 2020

In the Greater Virunga Landscape, at the convergence of the borders of Rwanda, Uganda and the Democratic Republic of Congo, lies a transboundary ecosystem that protects the mountain gorilla's last remaining habitat. However, on the Rwandan side, this landscape is also home to thousands of people and is one of the most densely populated regions in Africa. Despite strong ecotourism practices in Rwanda that bolster the local economy, the livelihoods of communities adjacent to Volcanoes National Park have not improved. These communities face food, education, health and financial [insecurities](#). As a result, people continue to participate in illegal activities in the Park such as poaching, and collection of water, wood, and medicinal herbs to support their basic needs.



A community at the forest edge of Volcanoes National Park, Rwanda. Access to essential services and basic needs can be limited for communities on the Park boundary, despite ecotourism and the nearby urban area of Ruhengeri in Musanze District. Photo: Katie P. Bernhard.

The boundary between the community and the Park is stark. In some places agricultural or community-owned land run right up to the low rock wall delineating the edge of the Park. This

makes it hard for law enforcement rangers to regulate illegal activities in the Park, and poses troublesome questions for conservation. How do we reconcile conserving the Endangered mountain gorilla and their critical habitat in a landscape where so many people are living and working? How can we justify a strictly enforced conservation regime, outlawing the use of Park resources by the surrounding community, when many have few other options?

To address these challenges, the Rwandan government and conservation organizations identified two potential solutions: tourism revenue sharing and integrated conservation-development projects. Tourism revenue sharing redistributes 10% (as of 2018–2019) of the total funds from national tourism revenues to communities adjacent to national parks, in the form of projects and programmes to [meet community development needs](#). Conservation organizations also fund integrated conservation-development projects, often as a part of their community engagement efforts.



Left: Guide and rangers at the base of Mt Bisoke in Volcanoes National Park, Rwanda. Pyrethrum plantations and other agriculture run right up to the forest edge. Right: Silverback mountain gorilla in Volcanoes National Park, Rwanda. Photos: Katie P. Bernhard.

Conservation-development projects range from building schools, classrooms and water tanks, to funding community-based organizations or agricultural and artisanal cooperatives. These projects aim to help meet the livelihood needs of communities in the hope they will be less likely to depend on Park resources. The rationale for this approach is that, as community livelihoods improve, people will be willing to support and take on board conservation messages and to work with rangers to protect a resource they benefit from and view as important to their livelihoods.

Our study used spatial econometrics and qualitative GIS to examine whether mountain gorillas and their habitats could be conserved sustainably if those living adjacent to the Park have their needs met. We used data from the wardens at Volcanoes National Park to investigate whether, as a result of tourism revenue sharing and integrated conservation-development projects, pressure on the Park for basic needs has been reduced.



Old water sources (top two images) for the community near Volcanoes National Park, Rwanda, and a new clean water station (bottom two images) at the Gorilla Guardians Village, Kinigi, Rwanda. Photos: Edwin Sabuhoro.

We found that, overall, the investment in these projects appears to have reduced some forest dependence, but only weakly, and only sometimes. Critically, the community development projects that are funded are more effective in reducing forest dependence when they are targeted at the particular locations that need these projects the most. This may seem intuitive: an area that has challenges with water collection and rainfall may benefit the most from water tanks, or an area with particularly high poverty and low education may benefit the most from a paved road, new school building or community-based development organization. However, this is not necessarily how project funding is targeted. Sometimes projects are funded in certain districts for administrative or bureaucratic reasons, based on government-level decision-making for tourism revenue sharing. Or projects are funded in a certain place because it is easiest to access logistically or has a history of being a district from where many poachers originate. These may be valid reasons to fund projects in particular locations but may not necessarily lead to the most effective outcomes for either conservation or development.



Left: Arts and crafts exhibition at the Gorilla Guardians Village, Kinigi, Rwanda. Right: Traditional dance shows at the Gorilla Guardians Village, Kinigi, Rwanda. The Gorilla Guardians Village supports reformed poachers and communities around Volcanoes National Park through provision of conservation incentives, supporting community enterprise development and livelihood-based projects. Tourists are given the chance to meet local people and to experience Rwandan culture and traditions. Many of the visitors to this community and cultural centre are ecotourists visiting Volcanoes National Park. Photos: Edwin Sabuhoro.

Ultimately, we hope that this study stimulates conversations about the relationships between communities and conservation, and how parks and people can work together to ensure better outcomes for all. Community engagement and development, and conservation and law enforcement, can best work together for mutual benefit when the difficulties or areas of ineffectiveness are well understood by all.

The open access article [Effects of integrated conservation-development projects on unauthorized resource use in Rwanda's Volcanoes National Park: A mixed-methods spatiotemporal approach](#) is available in *Oryx—The International Journal of Conservation*. The article was co-authored by Katie P. Bernhard, Thomas E.L. Smith, Edwin Sabuhoro, Elias Nyandwi and Ian E. Munanura. The authors thank the University of Rwanda, Rwanda National Council for Science and Technology, Rwanda Development Board, the wardens at Volcanoes National Park, and the International Gorilla Conservation Programme.



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