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Outsourcing conservation in Africa

There’s an experiment going on in conservation in Africa. With biodiversity imperiled, and nations facing financial and political crises, some governments are transferring the management of protected areas to private, non-governmental organizations (NGOs).

This strategy seems to be paying off. NGOs can better manage corruption, making them attractive to large donors like the World Bank and European Union. Their capital can fund personnel, research and technology to more effectively manage protected areas and species. While these management changes appear to be working anecdotally, few if any studies have rigorously evaluated the results.

A team of researchers from institutions including UC Santa Barbara wanted to know how this trend affects wildlife and people. Surveying parks throughout the continent under private and government administration, they discovered that NGO management improves measures for wildlife, including by reducing elephant poaching, and increases tourism. Overall, management appears to improve under NGO control. However, they also discovered that in landscapes experiencing armed conflict, outsourcing park management also raises the risk of armed groups targeting civilians in and around protected areas. The team published their results in the Proceedings of the National Academy of Sciences.

“Protected areas, and conservation generally, do not exist in isolation from humans,” said lead author Sean Denny, a doctoral candidate at UC Santa Barbara’s Bren School of Environmental Science & Management. “In fact, conservation is, at its heart, about humans — it's about finding ways for humans and other species to

coexist. This includes preventing extinctions caused by human activities like hunting and deforestation.” As a result, conservation often impacts people’s lives and livelihoods, outcomes that need to be taken into consideration.

African Parks as a case study

Denny and his two co-authors — Gabriel Englander, at the World Bank, and Patrick Hunnicutt, at the University of Oregon — focused on the organization African Parks (AP) as a case study. AP is the largest NGO partnering with governments in Africa to administer protected areas. The South Africa-based non-profit is given complete authority to manage, staff and fund the parks.

AP’s primary mission is to conserve and restore wildlife populations in Africa, but they also seek to make protected areas benefit people through tourism and development projects, like building schools and hospitals for local communities. Due to their focus on restoration, they sometimes work in areas experiencing armed conflict, where wildlife is especially prone to being over-hunted and faces extreme pressure from hunting. But protecting wildlife in these landscapes can require high levels of security and enforcement, which could have unintended impacts on people and result in tradeoffs between wildlife conservation and human well-being. The authors were interested in exploring these trade-offs; and, because AP operates in conflict zones, they suspected AP’s activities might capture them.

But running a study at such a large scale presented a challenge: The authors had to compare outcomes in areas under AP’s management to what would have happened if AP were never given the reins. To do so, they ran a quasi-experiment in which researchers make use of real-world events to create treatment and control groups. In real experiments, researchers randomly assign subjects to one of these groups to ensure that their findings are due to the treatment and not simply down to prior differences. But Denny and company didn’t have this luxury.

Fortunately, AP published a map of protected areas in Africa that they believe are key to safeguarding the continent’s biodiversity and ultimately meet their criteria for future management. These “anchor sites” share key characteristics like a large size, strong legal status, limited agricultural activity and the potential to sustain large wildlife populations. Twenty-two of these anchor sites are already managed by AP,

but the rest are managed by governments and in very few cases, by other NGOs.

The research team formed a treatment group from anchor sites that AP already administers. Their control group consisted of anchor sites not managed by AP or another NGO. “African Parks essentially created our control group for us,” Denny said.

Deciding what to look for

The team used a variety of metrics to measure the effects of private management on wildlife and people. They needed metrics for which data was available at a continental scale. For wildlife, they focused on elephant poaching and bird abundances. On the human side, they looked at tourism, wealth and armed conflict. To measure these outcomes, they drew on diverse datasets and platforms, including a dataset called MIKE that monitors elephant poaching; the citizen science platforms eBird and iNaturalist; Atlas AI, which measures wealth; and the Armed Conflict Location & Event Data Project, which measures incidences of armed conflict.

The researchers also used the Management Effectiveness Tracking Tool (METT) to look under the hood at how AP affects management practices themselves. Developed by the International Union for Conservation of Nature, this standardized questionnaire quantifies how well protected areas are managed. It reports data on planning, financial resources, law enforcement and stakeholder involvement. The METT can shed light on the mechanisms behind the outcomes observed in the other datasets.

Following the results

Denny and his co-authors were impressed by the results private management had for wildlife. It reduced elephant poaching by 35%, and increased bird abundance by 37%. “African Parks really appears to work for wildlife,” Denny said. “The fact that they can reduce elephant poaching in protected areas that are threatened by armed groups is really quite extraordinary.” NGO administration also increased tourism, but the effects on wealth were less conclusive.

The authors also found some important drawbacks, though. In areas already experiencing armed conflict, these changes can increase the probability that armed groups target civilians living in areas bordering those overseen by AP. They think this could be a result of armed groups redirecting their activity toward exploiting civilians when AP prevents them from operating in or extracting resources from protected areas.

“While the outcomes for wildlife were even stronger than we expected,” Denny said, “we were concerned by the conflict results, especially when combined with the potential decrease in decision-making inclusiveness that comes with private management.”

Looking under the hood

The Management Effectiveness Tracking Tool provided insights on the mechanisms behind these outcomes. African Parks is a juggernaut compared to many cash-strapped national governments. Results from the METT revealed that AP increased capacity and resources (in terms of budget and staffing), as well as design and planning. “In some management criteria, they really do seem to manage more effectively,” Denny said.

The authors also found that monitoring and enforcement within parks rose under AP. The organization uses sophisticated equipment — like aircraft, drones and remote sensing — to monitor illegal activity in their parks and enforce wildlife protection. This likely contributes to the benefits of AP management for wildlife, as well as the rise in likelihood that armed groups target civilians.

Notably, only one of the four categories measured by the METT appeared to fall under private park management: decision-making inclusiveness. The slight drop in this category didn’t surprise Denny and his colleagues since AP maintains tight control over its work. It does, however, point to an opportunity for improvement.

Managing more effectively

African wildlife is threatened, and NGOs are offering a potential solution. But it’s crucial to investigate the impacts of private conservation management to

understand its strengths, weaknesses and opportunities for improvement. Outsourcing conservation appears to provide a path for protecting wildlife, but the accompanying increased enforcement can lead to problems for people.

One way to ensure that protected areas work for people, according to the researchers, is to include local communities in stewardship. In Denny's opinion, ethical conservation requires compensating local communities for the costs they bear and including them in policy decisions.

"If, in conflict regions, civilians are bearing some unexpected costs of private protected area management, then it is especially important that they are involved in decision making," he said. Another avenue is to make sure that conservationists, park managers and governments monitor the impacts of private management, not just on wildlife but also on people, and adapt when necessary.

Additionally, many national parks in Africa were created by colonial administrations, so they have deep colonial histories and legacies. Denny and his co-authors are eager to partner with African researchers to explore how this history affects local people's perceptions of parks, and their preferences for how they're managed and by whom. "By elevating local voices, perspectives and experiences, we can develop more meaningful research and support management practices that benefit both wildlife and local communities," he said.

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About UC Santa Barbara

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