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## **Hunting and photo tourism - where to from here?**

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In 2015, I submitted what I'd then considered an infallible op-ed to the East African Wild Life Society's SWARA magazine. The published title was *Conservation: Is It Warped by a Love For Animals?* This was before the killing of Cecil, famed lion of Zimbabwe's Hwange National Park. I argued that sport hunting is sometimes necessary for African wildlife protection and the conservation of their habitats. I made the case that derision and mounting global pressure against hunting would result in swathes of African wilderness being swallowed by human expansion while opening the doors to more illegal poaching. Eden could only be protected in certain places with a well-regulated sacrifice made at the altar of what for many (including myself) is an incomprehensible act.

Now in 2021, I write from a hopefully matured perspective. We would do well to remember hunting's role in habitat protection (significantly more than that of Africa's national parks). If effective wildlife conservation boils down to the fraternal order of gun and bow, then the upshot should mean a bolstering of biodiversity. Apart from some success stories, parts of Namibia and Mozambique being two examples, this doesn't appear to be the case.

Hunting apologists would rightly counter that ending their sport will severely reduce vital tracts of wilderness set aside for wildlife. While this is no doubt true for various reasons, one

need look no further than the literal closing down of the global system due to a zoonotic infection to see that sport hunting is a house of cards.

Photo tourism, meanwhile, though certainly the more accepted form of connecting people with nature in a world increasingly desperate to see and save wild animals like lions and elephants from extinction, can't seem to resuscitate Africa's fading natural heritage either. Like sport hunting, this seemingly more environmentally friendly industry has been hit just as hard by volatile forces. It's also worth noting that the reopening of the tourism industry may not see an upsurge of visitors for some time due to virus-related apprehensions, the rollout of vaccines, and associated economic setbacks.

While the pandemic hasn't inexorably sealed the fate of Africa's wildlife, and while ecotourism has its rightful place in financing habitat and species protection, one cannot reason that it will always be there to prevent ecological freefall, not to mention certain aspects of tourism in the aggregate that do not necessarily align with best conservation practices.



Kill Simba, save the species

Killing animals for sport is a paradoxical linchpin in preventing extinction. That hunters have held sway over substantial portions of Africa's animal kingdom, with many concessions significantly larger by landmass and, in many cases, less developed than parks dedicated solely to photo tourism, lends a certain amount of credence to the belief that the money sport hunting generates buttresses protective efforts for wildlife.

By financing these critical areas via hunting revenue, by donating harvested game meat to communities in exchange for tolerating dangerous animals, remaining wilderness and the wildlife therein remains relatively safe from agrarian and pastoral alternatives on a continent undergoing a significant spike in human population growth and an increasing demand for resources to meet it.

Long gone are the days when nature can sort things out by herself. To one degree or another, wildlife requires management. Even and especially fenced parks, though highly successful in reducing human-wildlife conflict, still require human involvement to prevent an imbalance in species biodiversity resulting from stochastic forces.

Nevertheless, and despite the developed world's—particularly via social media—clutching of pearls whenever an animal is mortally wounded by arrow or bullet, the failure of hunting to be a game-changer in the wider effort to preserve Africa's natural resources boils down to two primary reasons. Financing, the third reason, is an issue I'll touch on later.

First, it is partly because hunting has become an antiquated concept when weighed against immense sociocultural changes the world has undergone over the last century, particularly in how people "see" wildlife.

Aside from the rather hypocritical nature of many an omnivorous human's anti-hunting views, people increasingly do not like the idea of animals being killed for sport. Similarly, society's view of the noble hunter—man or woman—has fallen out of favour. Historically, this began with films like *Born Free*, based on the true story of George and Joy Adamson, who raised and released Elsa the lioness in Kenya.

That the Adamsons' love of Elsa and George's particular passion for lions helped individualize a creature that had long been viewed as a monolithic species capable of nothing more than bloodthirsty predation is admittedly admirable. They showed the world that animals, particularly predatory ones, possess more than mere instinct. What grew from

such humble and well-intentioned beginnings, though, has now become bellicose rhetoric against sport hunting, arguably due to animal rights and welfare organizations successfully spending more money railroading the hunting industry than actually assisting in on-the-ground conservation efforts.

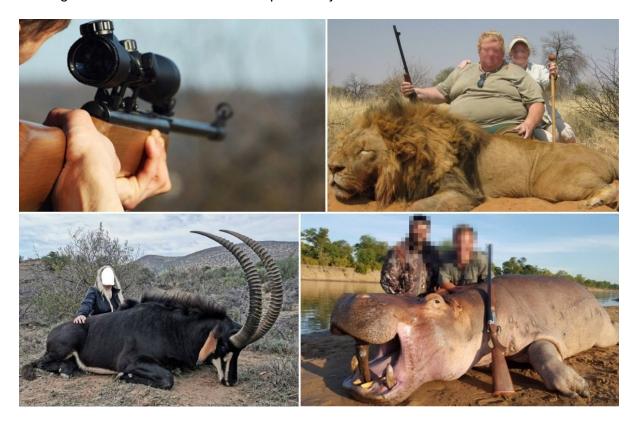
Such views are often dismissed by hunters and even some scientists as the irritating cry of the uneducated masses. But while animal activists and their do-no-harm approach are a thorn in the side of many a data-driven biologist or ardent hunter, to deny that the global collective is increasingly against the notion of killing animals for sport is to further malign a very influential zeitgeist that has already made significant impacts on hunting within the greater context of deliberative bodies worldwide. Failure to adapt to such a paradigm shift is to die, and the trophy hunting fraternity (particularly in Africa) has been unable to polish a deservedly tarnished image, leading to the second reason it has failed.

This more pragmatic reason boils down to the simple fact that hunting, like animal rights, is sold as an ideal conservation remedy. If only what was being preached was actually being practised. In reality, hunting is not being managed well enough in many places in Africa. While this does not mean that there are no examples where hunting is run well, certain practices do not showcase it as complementary to conservation, be it abstract or actual.

Such practices include unsustainably and deliberately going beyond legally-established quotas to make quick profits, not adhering to scientifically estimated age requirements, destroying the gene pool of species populations by targeting individuals with adaptively fit phenotypes, ignoring poor rural communities, and corruption, corruption, and more corruption.

Anthony Ham, author of the 2020 book *The Last Lions of Africa*, even writes of new, yet-to-be-published research suggesting that hunting may indirectly contribute to an increase in human-lion conflict as lions are more likely to leave protected areas and kill livestock in neighbouring villages following the death of resident pride males by sport hunters. While this finding may only be specific to the studied region in question, larger implications concerning hunting blocks directly adjacent to protected areas and how that may impact lion population stability cannot be ignored.

Of all the problems associated with hunting, however, the root cause is most certainly corruption on behalf of the hunting fraternity, which is often closely associated with corruption within government corridors. Tanzania provides just such an illustration.



Sport hunting has a mixed record of conservation success in Africa

# Dr Packer, I presume?

Craig Packer is the embodiment of scientific objectivity in a world increasingly driven mad with polarizing opinions when it comes to methods for saving wildlife. One part astute biologist, one part reasonable conservationist, his life is split between his time in Africa and his long-standing tenure as professor and head of the Lion Research Center at the University of Minnesota. This also means dividing time between his ongoing lion research and the shambolic world of lion conservation that wound up costing him more than he bargained for.

Yet through it all, Packer's somehow managed to remain rock steady, an impartial individual standing in the gap between the extremes of the hunting cabal and animal rights activists—the former whose abstract notions of wildlife and humanity's place in it tending to oversell hunting as a silver bullet (pun intended) for conservation, the latter often appearing fancifully ignorant of conservation's more complex realities, appealing largely to one's emotions with illusions of nature presented in insufferably anthropomorphic, Disneyfied fashion.

Having spent the better part of 40 years fastidiously studying Serengeti's lions, taking up the mantle of acclaimed lion researcher George Schaller, Packer's soft-spoken demeanour and objective analyses on hot-button issues may account for why many on both sides of the hunting debate find him an irritant. Animal activists don't like it when he explains how and why it is better to ensure the survival of entire lion populations instead of saving Simba, hunters are unnerved by him because he exposed unscrupulous embellishment and unsustainable practices. He summed it up poignantly when I asked him to elaborate on the problem with both pro and anti-hunting advocates.

"It seems to be inherent that we don't weigh our decisions on the basis of broadscale, alarming trends. We focus on the specifics. It's an empathy gap, that when it comes to the individual animal, people go up in arms. I guess evolutionarily that's what we've always done because you'd be out to rescue your own family member against a leopard. Anything that might possibly be good for two generations (of animals) down the line is taken for granted because people tend to respond only to an immediate threat. And it feels immediate if you can put a face on it.

"Cecil is a classic example of that. Cecil was one out of a hundred lions shot that year. He was shot very inappropriately because, as is typical, he was baited and drawn out of the park. But again, it always comes down to the individual. I don't know what to do about it. That's why I wrote about it. What can we possibly do? It's what's going to get us all boiled alive because it seems like we're incapable of really thinking about it."

It is this objective line of thinking in which Packer largely stands alone—the complete opposite of heretofore conservationists like George Adamson, misanthropic scientist-activists Mark and Delia Owens, and famed hunter-naturalist, Jim Corbett. The difference? Aside from not being overly sentimental, Craig Packer prefers hard data to hyperbole.

It was his personal history navigating the murky depths of Tanzanian realpolitik that left Packer somewhat sceptical of hunting's role in lion conservation, beginning with the notion that lions, indeed all wildlife under the African sun, must pay to stay. Be it revenue from sport hunting or the income generated from photo tourism, such a profit-driven mantra is touted by pro and anti-hunting advocates alike as economically practical in subsidizing the immense costs of protecting wildlife in Africa, not the least of which includes financial incentives for poor rural communities that live with the daily threat that wild animals pose. The principle is simplistic if not too good to be true: pay enough and African people living hand-to-mouth on the fringes will turn a blind eye to the damage wildlife unintentionally and instinctually inflicts.

That money makes the world go round is an undeniable old saw. Funds are essential for the maintenance of buffer zones and fences, anti-poaching patrols, game management, compensating farmers and their families for livestock, crop, and even human losses, preventing encroachment on another sliver of remaining habitat, the daily upkeep of camps and lodges for visiting tourists, and other services such as regulated wood harvesting, fishing, and the like. For the hunting industry, outlawing their sport would likely remove the value of wildlife and concomitant funds needed to protect wildlife habitats and animals under their charge, leaving both utterly vulnerable in places that are not photo-friendly and therefore unable to be supported by ecotourism as an alternative option.

Yet profit and commodification in the realm of wildlife conservation don't pair quite so well when taking ethics into account; a complex system of social beliefs that, love it or hate it, is increasingly dovetailing with conservation science and public policy. Similarly, hunting can (and does) do ecological damage when not operated efficiently. In the case of sport hunting in Africa, one doesn't have to scratch the surface too hard before an industry marred by opportunism and shady behaviour is revealed.

For Craig Packer, what was taking place at hunting blocks adjacent to the iconic Serengeti National Park and within and around the much larger Selous Game Reserve—concessions being subleased to individuals with little concern about the future of wildlife—provided the picture-perfect example of the downside of the ambivalent idea of wildlife paying to stay.

Packer wrote about this at length in his 2015 book, *Lions in the Balance: Man-Eaters, Manes, and Men with Guns*. In it, Packer observes Tanzania, his home away from home,

long considered an ecological treasure trove and the pantheon of successful conservation in Africa, falling into disarray.

With increasing land rents coming down from on high came the urgency for sublessee hunting operators to make up for financial losses as quickly as possible, meaning little to no reason to abide by any of Tanzania's wavering hunting quotas. Moreover, bribery isn't difficult in a part of the world where having the means while lacking the scruples makes for good bedfellows.

Be it predator or plains game, animals in these areas were being killed faster than they could reproduce to maintain what ecologists refer to as minimum viable populations. Taking into account that there are no fences between Serengeti and designated hunting areas, the ecological integrity of the entire system was found by Packer and fellow researchers to be under threat. Packer writes of former Tanzanian hunting areas once rich with wildlife now strip-mined by fly-in, fly-out hunting operators. This was found to be especially true for *Panthera leo*, arguably the most coveted of trophy specimens on any hunter's Big Five bucket list.

Scientists estimate that with an extant population of between 25,000 to 30,000 lions left in Africa, due primarily to habitat loss, only 2000 or so are breeding males. If male lions are killed at too young an age, consequently unable to sire cubs, it could be curtains for the sub-Saharan species. After fastidiously pouring over the data and establishing ageing metrics for Tanzania's lions through a combination of fieldwork and computational analysis, Packer and fellow researcher Karyl Whitman hypothesized that if males five to six years of age and older were legally hunted, there would be no negative disruption to the overall numbers.

In a nutshell, and considering the ecologically shorter lifespans of lions to lionesses, most males in this age bracket have already allocated their energy to reproduction, thus ensuring at least one future generation of cubs. Yet photos of dead lions in hunting areas such as Maswa, located just outside the Serengeti, showed smiling clients with trophies estimated to be no older than two. According to Packer, it was tantamount to shooting human male pubescents, old enough to be kicked out of mom and dad's house, yet not nearly ready to take on the role of father and provider.

Packer, who worked arduously with the government of Tanzania and professional hunters to enact a more sustainable regulatory system for lion hunting, including ageing benchmarks instead of quotas and improved transparency through accountability, made the compelling case that, aside from a few key areas, the centre of Serengeti National Park being one of them, lion numbers in Tanzania were dwindling everywhere else. Put another way? Sport hunting was to blame, at least partly. Male lions were being dispatched before they could successfully reproduce, thus creating a population vacuum.

Packer, who is neither pro nor anti-hunting, hoped for institutional reform that would ensure a future for Tanzania's wildlife, while at the same time improving the image of an industry struggling to gain public favour in a world growing more sentimental toward the plight of deliberate animal suffering at the trigger fingers of humans. Whether prepared to admit it or not, the tide was turning against the hunter, and rural communities whose family members were being mauled and even killed by lions, whose crops were being destroyed by elephants, still understandably looked to some form of compensation in exchange for their losses.

No good deed goes unpunished. For attempting to proactively reform a politically tone-deaf industry, and after years spent contributing to the greater understanding of Serengeti's lions, Packer was declared *persona non grata*, a pariah no longer welcome to research in Tanzania. When I spoke with him in 2018, he was still barred from entering on a research visa.

Not surprisingly, it was Tanzania's hunting establishment and mercurial members of government who were behind his expulsion—two institutions with a historically surreptitious relationship. From hunting outfits with a penchant for short-term profit to individuals who knew how to gladhand and whose palms to grease, Packer saw the forest for the trees. Unfortunately, those trees fell fast before he could get out of their way. Cast adrift, Craig Packer now does his lion fieldwork in South Africa, Kenya, and Namibia, though he is still the de facto head of the longstanding Serengeti Lion Project.

Yet in Packer's opinion, high roading hunting does little more than cast a pall over an already gloomy forecast for the wildlife of sub-Saharan Africa. Rather than reignite the same tiring polemics, the same unending debates, he now looks toward a quantifiable truth that

everyone can agree on. To paraphrase him, neither hunting fees nor tourism dollars will ever meet the true cost of what it takes to safeguard African wildlife.

As Packer explained before the pandemic, parks like Serengeti survive because they are visited by hundreds of thousands of people annually, along with generous donations that the Frankfurt Zoological Society has been making since the 1950s. There, as well as some other notable parks like Botswana's Okavango Delta or Kenya's Maasai Mara Game Reserve, wildlife successfully pays its own way, evidenced by both species abundance and richness.

The same might even be argued in the case of some hunting outfits that, aside from not overhunting their stock, can well afford and are even willing to pay out of pocket for the exorbitant costs associated with habitat management, necessary scientific and other ecological research, rangers, wildlife veterinarians, rent fees, and accommodation upkeep. Some of Namibia's communal conservancies, championed by conservationists like the late Garth Owen-Smith, are one example of success in the face of several colossal failures, as are Mozambique's Gorongosa National Park and the Save Valley and Bubye Valley conservancies in Zimbabwe.

These organizations are few and far between, however, and on a continent where much of the political modus operandi consists of enriching one's personal pocket while securing a place in the upper echelons of power, transparency and accountability are mere window dressing.

Non-consumptive tourism cannot sustain African wildlife conservation on its own

### The camera crowd

Like hunting, Packer is not convinced that photo tourism is the most optimal method of conserving wildlife. While this may ruffle more than a few feathers, it is undeniable that in many cases only small percentages of tourist cash goes toward measurable conservation efforts. What is set aside, meanwhile, cannot fully address the needs of African people living with the threat of lions and leopards at their door, nor does it adequately cover community

health programs, local employment, clean water initiatives, education, sustainability, or other basic human necessities.

At the same time, the fragility of nature is not always considered as high-end hotels and lodges are constructed with little regard to their ecological impact. Swarms of buses armed to the teeth with camera-toting tourists, meanwhile, often busy themselves chasing endangered cheetahs around the plains to get the perfect shot, ignorant or indifferent to the consequences. It's hunting of a different sort, but the collateral damage can be just as negatively impactful as any improperly run hunting establishment with less of a carbon footprint.

That photo tourism helps conservation a great deal remains undeniable, and its demise would deal a significant blow to Africa's wildlife. But like the hunting industry, there are cases of gross mismanagement, ecological degradation at the hands and feet of the khaki-wearing masses, and very little going back to local communities or the conservation apparatus in general.

Mostly, tourism, though undoubtedly bringing in more revenue than hunting, still cannot fill the enormous financial gap to keep these last bastions of African wilderness from becoming crop fields or cattle pastures. That most African governments can barely afford to subsidize them either is noteworthy in that these pristine areas are even set aside at all, though the shortage of financing leaves a significant amount of remaining wild spaces out in the cold.

There is no United Nations World Heritage Site or natural area rich with ecosystem services that can withstand the prospect of a more immediate financially viable option for any African nation. No aesthetically pleasing stretch of wilderness can hold up against the immense pressures of human need just beyond its borders and buffer zones. Oil prospecting in the Okavango, a railway line cutting up Nairobi National Park, and building a hydroelectric dam in the Selous are just three in a series of similar cases.

It's no surprise either that many local people living well below the poverty line remain baffled at tourists from Europe or elsewhere in the developed world who come to see their animals, yet seemingly shrug off the milieu of rural 21st Century Africa, where some of the most basic necessities for life are scant, and where lions still kill people.

While tourists, armchair activists with immense privilege, and wealthy celebrities like Jimmy Kimmel with a proclivity for insincere theatrics may perish the thought of lion extinction, it remains questionable if they could ever empathize with those impoverished souls who've lost a loved one or watched helplessly while their crops are eaten by a herd of elephants, especially when considering that those same people do not share their living spaces with what science author David Quammen terms as "alpha predators." As Quammen wrote in his 2003 book *Monster of God: The Man-Eating Predator in the Jungles of History and the Mind*, "one shouldn't declaim glibly about the value of alpha predators without also acknowledging their costs; and that one can't weigh the costs apart from the crucial matter of those who pay those costs."



## Fences, corridors, and financing

For Craig Packer, if there's any truth to be gleaned from the protracted crucible of African wildlife conservation, it is that fences can, where appropriate, provide a means by which humans can tend to human business, while animals can live in a state of wild to semi wildness, a far better alternative than total annihilation should many African parks and reserves be left without some sort of protective barrier.

Add to this that most African nations cannot afford these majestic parks set aside for their wildlife and it becomes ever clearer that the only way to ensure their survival is if the developed world does more than provide tourism dollars, hunting fees, and proclamations of righteous indignation on social media over which methodology is preferable.

"I was there long enough to see the human population more than triple along that boundary," Packer told me, describing the continued encroachment on the Serengeti. "Why not put a fence around some of these places? People are the ones that have to live with these dangerous animals. And they resent it. They resent the fact that it's the government's elephants, it's the government's wildebeest. All of this is causing them harm and they have no agency at all. Many of them want physical barriers. I've seen people trying to build their own fences, even inside some of the protected areas."

Packer's argument largely fell on deaf ears, however, because, per his understanding, conservationist fundraising in many parts of East Africa depends largely on selling the concept of virgin wilderness. His response to that type of marketing reflected his ability to see the truth of the situation, let alone the significantly bigger picture.

"I explained to them that there is no virgin wilderness anymore. They're selling a myth. People want to give the Serengeti money because it conjures up this romantic vision of Karen Blixen and Denys Finch Hatton like it's the 1890s again. It's crazy. Meanwhile, there's wildebeest being poached, there's so many people complaining about elephants destroying their crops, they're poisoning the elephants for destroying their crops, and the human population is growing, quadrupling again by the end of this century.

"At some point, the human pressure is going to be too overwhelming. That's when conservationists are thinking about putting a fence in. But why not now? Why wait? Again, people don't appear to react to a threat, they react to a crisis. At least it feels that way. People only react once there's a specific incident, like a Cecil or a railway being put through the Serengeti. But what about the chronic long term stuff? Why not start now?"

Yet while Packer remains an outspoken advocate of fences, citing South Africa, which not only fenced every public and private reserve but also restored formerly degraded habitats, sceptics are arguing that the same approach elsewhere could come with its own set of

problems. Adequate gene flow is one issue, particularly for migratory animals and other species requiring large territories.

Though he never came out against the concept of fences directly, the late big cat biologist, a former scientist for the Wildlife Conservation Society, and former head of Panthera, Dr Alan Rabinowitz, once referred to islands of protected areas around the world as megazoos, where humans surround communities of different plant and animal species.

During his life, Rabinowitz sought to connect protected areas with wildlife corridors, even in and among human-dominated landscapes, a concept which would ensure genetic variation by way of population dispersal for threatened and endangered keystone species of big cats like Siberian tigers, Asiatic leopards, and America's jaguar. Without gene flow, species populations run the risk of being wiped out by the effects of inbreeding, diseases like canine distemper, or genetic bottleneck by becoming static satellite inhabitants.

The problem with human-wildlife coexistence and corridors in Africa, however, goes back to Packer's apt description of human-wildlife conflict, which correlates strongly with larger species' size and dietary requirements. Lions, leopards and hyenas that are continually being pressed in by people will continue their unwitting assault on livestock, village dogs, and the occasional person. Elephants, clever as they are, eventually find ways to get at even the most pachyderm-proof subsistence crops. When frustrated enough, people eventually swap tolerance for snares, poison, spears, and guns.

Packer is well aware that not every park or reserve can be fenced given the reasons listed but still believes that it is required given the current climate of population projection and anger toward wildlife for doing what comes naturally.

"I've been working with some people, trying to figure out where would be the ideal place to put fences," he said, "especially around lion and elephant habitat because those are the two species that cause the greatest harm. You want to protect people against them, which has the delightful byproduct of making it more difficult for poachers to cause problems for the lions and elephants.

"What I'm trying to do is explain to those who really hate fences is that there are several wildlife areas that still have migrations. That's completely fine. But in some areas you are

just going to have to have fences. People want to be safe. Without some sort of barrier, these conflicts are just going to intensify."

Neither method—fence nor migratory corridor—is ideal, nor is one necessarily better than the other. Considering that Africa's human population shows no signs of slowing down its upward trajectory, fences may ultimately be the only way of ensuring that no more wild habitat is transformed. Migratory corridors, meanwhile, can connect protected areas such as transboundary parks that, if properly demarcated, would ensure that wildlife communities can migrate and breed successfully. Conservancies, meanwhile, can foster more involvement in conservation at the local level.

Beyond this, and concerning both conservation financing and the denouement of Africa's tangled wildlife saga, the debate over sport hunting and photo tourism, the argument between two idealistic extremes, two sides of the same worn-out coin, is well beyond its expiration date.

Does sport hunting need reform and greater oversight? Absolutely. Should sport hunting be completely banned? Only if people are willing to lose more wilderness and wildlife in the process. For anti and pro-hunter alike, this is more of a moral argument than a scientific one, an argument that can be viewed from different angles. The better question, the more scientific one, is where is hunting hurting conservation and where is it truly helping? What does the data say? Sadly, few people are willing to move beyond personal feelings and predetermined bias, to give critical thought and scientific findings a chance.

From the looks of things, hunting may eventually go the way of the dodo, or it may survive in some lesser form. That should be for Africa's people to decide, not social media activists, not Hollywood, and not animal rights institutions with huge bank accounts used to purchase public influence. If sport hunting eventually succumbs, the concerned collective must either prepare alternate solutions soon or accept the loss of more prime habitat, more flora, and more fauna. If sport hunting continues, there will remain those who continue supporting it, while there will be those who will always condemn it.

Ultimately, such arguments are no longer relevant, not when considering the many more urgent challenges being faced as the clock runs out. Whether by rifle scope or telephoto

lens, tourism in its totality can only do so much on a continent so rich in natural resources yet so economically fragile.

Only by acknowledging the shortcomings of these two answers to Africa's big conservation question does the revelation of the adage "thinking outside the box" become painstakingly clear. Kenya's Lion Guardians, its Ewaso Lion Project, Zimbabwe's Long Shield Lion Guardians, and Zambia's Bio Carbon Partners are starting points for grassroots solutions. Similar programs need to be incorporated, more novel approaches sought out.

While international help will always be necessary, history has shown that foreign aid alone has never created any long-lasting change on the African continent. The African people are the only ones that can truly chart their own future. The outside world, meanwhile, if it insists on assisting with wildlife conservation, must start considering new ways it might offset Africa's financial deficit. Craig Packer has espoused this for some time. It is now time for those who truly care as much about a future for Africa's wildlife to do the same.

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### **Comments**



#### 07/09/2021

I have tried to write this piece many times. Well done - the best I have seen of a really complex topic.



08/09/2021

Great article, well done for bringing together a number of issues and threads that all contribute to this complex topic. The only thing I miss is the issue of rights for local communities. Many people seem to think that Namibia's success was based on a sparse human population - i.e. that conservation was basically inevitable in such a landscape, so it isn't surprising that they've managed some success. But that isn't what it was based on at all, since north-eastern Namibia is just as densely populated as southern Zambia over the river, or south-eastern Angola. The golden ingredient is giving local communities real decision-making power over their resources. This doesn't magically fix everything, but it gives the people with the real, long-term skin in the game a management role. In Tanzania, management of wildlife seems to be extremely centralised - the government decides what happens where, and ultimately collects all of the fees associated with both hunting or tourism, with a few side benefits trickling down to neighbouring communities. This leaves the system highly vulnerable to corruption - the decisions lie with people who have no long-term connection with the land they are managing, and who don't really care if things are done correctly and/or sustainably. Local communities are certainly not immune to corruption, but if one local elite starts selling more than agreed by the whole community, it doesn't take long for everyone else to smell a rat. The scale at which things occur makes corrective measures quicker and when things do go wrong, it is not the entire country's biodiversity at stake. Things like fences are technical fixes that may work in some places, but the longterm fixes are political - the devolution of rights to the lowest appropriate scale. Getting governments to loosen some of their grip on resources is not easy, but if they don't, they will have no resources left to exploit in the near future.

#### 09/09/2021

Very good, well balanced article. I think the bottom line is that both hunting and photo journalism can benefit conservation in different contexts but both need to be managed appropriately and backed up by good data.



09/09/2021

Thank you Michael for this excellent article!