Could militarized conservation ever be ecologically just?

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Social scientists and activists critique militarized conservation as socially unjust. They highlight displacements, dispossessions and human rights violations committed by armed conservation guards often in collaboration with government militaries. Much less work has addressed the question as to whether militarized conservation could ever deliver *ecojustice* – justice for nature. While the evidence is mixed and far from conclusive as to the ecological effectiveness of militarized conservation, there are examples of where coercive methods have contributed to successful conservation outcomes. Ultimately, the question as to whether militarized conservation can contribute to ecojustice depends on the extent to which: i) the nature being conserved is endangered; ii) human practices impose suffering on sentient non-human species; and iii) violence is part of the social settings in which conservation is implemented.

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Global commodity frontiers are expanding to feed consumer markets (Beckert *et al.*, 2021), pushing resource extraction into increasingly vital conservation spaces. This has taken a significant toll on ecosystems and biodiversity: rising needs for energy, food, and materials have led to a 69 per cent decline in average global wildlife populations from 1970 to 2018 (WWF, 2022). In some biodiversity hotspots, state governance is also weak, and a contested monopoly over violence prevails. Under these circumstances, non-state and state-armed actors frequently play a role in orchestrating the extraction of natural resources in violent frontier regions (Ramírez, 2023), posing further challenges to conservation.

In response to these threats, conservation authorities have in many instances embraced a militarized approach to conservation law enforcement – defined as, "the use of military and paramilitary (military-like) actors, techniques, technologies, and partnerships in the pursuit of conservation" (Lunstrum,

2014: 817). This can involve the militarization of park rangers themselves, collaborations between park rangers and national militaries, and/or the deployment of national militaries for conservation purposes (Day *et al.*, 2023). However, this coercive approach has faced extensive criticism from social scientists – and in particular those working in the discipline of political ecology. Their argument is that militarization inevitably leads to human rights abuses and the separation of local and indigenous communities from their customary lands. Looking at the issue from a primarily social justice standpoint, a group of influential political ecologists have gone as far as describe militarized conservation as "fundamentally unjust" (Duffy *et al.*, 2019: 67).

But how might we evaluate the ethical implications of militarized conservation from the perspective of ecocentrism: that is, from an ethical and ontological standpoint that sees nature as intrinsically valuable, rather than a resource made valuable solely through its utility to humans? In this article, I aim to make an initial contribution toward addressing this question, which has received surprisingly little attention to date. To do so, I focus on two key objectives. The first is practical and empirical: to evaluate the evidence as to whether militarized conservation delivers effective conservation outcomes. The second is essentially philosophical: to assess whether it could ever be 'ecologically just' to employ military force in the protection of biodiversity and ecosystems.

Critiques in social justice

A wide range of authors have analyzed militarized conservation from the perspectives of 'social' or 'environmental' justice. Before examining and assessing these critiques, it is necessary to clarify these ostensibly separate yet in fact closely related conceptions of justice. The term *social justice* typically refers to the fair treatment and equitable status of human beings within a society or nation. The term *environmental justice* is somewhat misleading, in that it does not refer to justice for the environment *per se* (Shoreman-Ouimet and Kopnina, 2015). Rather, environmental justice is a specific form of social justice that focusses on the equitable treatment of *humans in relation to environmental problems* (such as pollution, landscape degradation, and the distributive impacts of environmental policies, including the establishment of protected areas). In this way, both social and environmental justice differ from *ecojustice*, which is focussed on justice for nature itself.

When political ecologists study militarized conservation, they typically portray it as a source of social injustice (Duffy *et al.*, 2019). Numerous studies have illustrated how militarization leads to human rights abuses, including displacements, dispossessions, and violence against indigenous communities. The impacts are often unevenly distributed, with marginalized communities bearing a disproportionate burden. This unequal distribution is often seen as an issue of environmental racism, where specific populations encounter greater costs due to discriminatory environmental policies and practices (Ybarra, 2018). When deployed in conflictual regions where multiple armed actors are present, militarized conservation can exacerbate the structural

conditions at the root of armed mobilisations, violence and contentious politics (Verweijen and Marijnen, 2018). Militarized conservation can also serve as a pretext for resource grabbing, as powerful actors exploit natural resources under the guise of conservation.

Whilst the political ecology literature has undeniably enhanced our understanding of the adverse social justice impacts of militarization, it has been criticised for insufficiently accounting for the (often violent) socio-political contexts in which conservation authorities operate, where armed poachers present a dual risk to park guards and wildlife (Simpson and Pellegrini, 2023). Some of this research has been accused of having a "normative agenda to cast doubt on militarization's value" (Day *et al.*, 2023: 357) leading to theoretical overgeneralizations and the neglect of details that do not suit that agenda.

However, some more nuanced perspectives do exist that underscore the heterogeneous ways in which individuals residing in proximity to protected areas perceive coercive conservation. For example, in my own research around Kahuzi-Biega National Park in eastern Democratic Republic of Congo, findings revealed divergent opinions. While some people viewed park guards as sources of violence and insecurity, others, at specific junctures, regarded them as providers of basic law and order (Simpson and Pellegrini, 2023).

Nonetheless, the prevailing view among a large constituency of critical scholars and activists is that militarized conservation perpetuates social injustice. The proverbial elephant in the room, often left unexplored or only briefly touched upon, is whether militarized conservation can deliver ecojustice – justice for nature itself.

Is militarized conservation ecologically *effective*?

To understand whether militarized conservation could ever be considered ecologically just, it is necessary to determine whether it can protect environmental values. There is surprisingly little research on whether militarized conservation can deliver effective conservation outcomes – and the research that does exist provides rather mixed evidence.

Political ecologists caution against militarized approaches for focusing on the symptoms of poaching and other local resources uses, rather than addressing more structural drivers of environmental degradation (Duffy *et al.*, 2015). They see the latter as stemming from unsustainable consumption and growth, global inequalities and extractive development pathways. Militarization, they argue, could even be counterproductive to long-term conservation. This is because when conservation is perceived as unjust, it can incite local defiance against conservation regulations. Such defiance can both motivate and legitimize local people's involvement in environmentally destructive activities, such as poaching (Witter, 2021). However, these arguments are largely speculative. They do not demonstrate comparative evidence of conservation outcomes with and without militarized enforcement.

While to my knowledge no studies focus explicitly on the ecological effectiveness of militarized conservation, a number of studies have looked at

the effects of formally protected areas versus community governance in terms of reducing rates of tree and vegetation cover loss. Several studies reveal little discernible disparity between the two approaches (Hayes and Ostrom, 2005; Pfaff *et al.*, 2014). In one study, lands managed by Indigenous peoples were found to outperform protected areas in maintaining forest cover (Sze *et al.*, 2022). However, the positive impacts of formal protected areas cannot be discounted: a recent review concluded protected areas continue to achieve desirable results with respect to preserving species and habitats in a range of global environments (Zhang *et al.*, 2023).

When it comes to anti-poaching, the evidence suggests coercive enforcement can protect key species (especially large, charismatic mammals) and restore population numbers. In Tanzania's Serengeti National Park, heightened anti-poaching patrols since the late 1980s significantly reduced poaching and increased elephant and buffalo populations during the 1990s (Hilborn *et al.*, 2006). In northern Botswana, the Botswana Defence Force's involvement in anti-poaching activities played a crucial role in ending the poaching of megafauna (Mogomotsi and Madigele, 2017). Controversial 'shoot-to-kill' policies – the most extreme form of militarized conservation – have been shown to bolster the populations of key species (Messer, 2010). In the decade following the implementation of Zimbabwe's 'Operation Stronghold' shoot-to-kill policy in 1984, a nearly 50 per cent increase in the elephant population (from 44,000 to over 65,000) was recorded (Milliken *et al.*, 1993).

The evidence above may be discomfiting for many academics and activists in the conservation field. Despite its negative impacts on human rights in many cases, militarized conservation appears to be able to, on occasion, deliver effective environmental protection. This does not imply it is always the optimal approach or ever socially just. However, it does raise the question of whether it could ever be ecologically just – a topic I will now explore.

Is militarized conservation ecologically *just*?

A longstanding debate in environmental ethics considers whether nature is made valuable only through the value it has for human beings, or whether nature is intrinsically valuable (Shoreman-Ouimet and Kopnina, 2015). Taking the first – anthropocentric – approach tends to lead to an ethical focus on social justice for human beings in relation to the environment. In contrast, the second approach is ecocentric and leads to a focus on ecojustice.

According to the anthropocentric view, the militarization of conservation would be ethically assessed solely in terms of its impact on human beings. From a consequentialist perspective this assessment would take the form of weighing the human benefits of a militarized approach against the human harms it might cause, while from a deontological perspective it might involve examining whether militarized conservation breaches obligations that states have towards their citizens. There are of course myriad reasons why the protection of ecosystems and biodiversity is beneficial to humans: nature plays a vital role in supplying essential elements like food, animal feed, energy, medicines, genetic resources, and various materials crucial for maintaining

physical health and cultural values (Pascual *et al.*, 2017). However, if in the process of protecting nature human beings are directly harmed, or even killed, then, at least from an anthropocentric position, militarized conservation could be seen as a source of injustice – as has been argued (Duffy *et al.*, 2019).

When we look at this debate through an ecocentric aperture, a different set of questions come into view. If non-human nature has intrinsic value, could it ever be justifiable to use military, indeed lethal, force to prevent human beings from destroying that nature? If we are willing to use coercive force to stop humans killing other humans – even to stop humans stealing from other humans! – then should the same logic not apply to the prevention of harm to non-human nature? Of course, these are very complex questions, the answers for which are likely to be context-dependent, over which reasonable people could disagree.

On this subject, the political ecologist Roderick Neumann (2004: 815) argues that a "moral justification for shoot-on-sight orders, and the treatment of biodiversity conservation as the conduct of war more generally, cannot be demonstrated within the various philosophical approaches to environmental ethics". He argues that these policies, and the violence they entail, are normalized through a morally spurious rhetoric that pits "amoral and brutal" poachers against "intelligent and social" wild animals (2004: 833). In contrast, other commentators argue that military force can, in certain circumstances, be justified to prevent harms to nature and the extinction of species (McCann, 2017).

In this contribution to the debate, I do not seek to dispute that there are cases where militarized conservation is a source of injustice for human beings or the environment. My goal instead is to explore whether there might be circumstances under which militarised conservation *could* serve as a source of ecological justice. I suggest that there are at least three such circumstances.

1. Where species or ecosystems become critically endangered

Where species or ecosystems become increasingly scarce but hold high commercial value, there exists a strong incentive to engage in poaching or destructive resource extraction. The consequences of such activities can be drastic. The population of the critically endangered eastern lowland gorilla has plummeted by 50 per cent, decreasing from approximately 16,900 individuals in the mid-1990s to around 6,800 individuals in 2016, primarily due to poaching (Plumptre *et al.*, 2021). Furthermore, ecosystems like the Amazon Rainforest exposed to mining, logging and threats from extractive commodity frontiers are on the brink of collapse.

In situations where non-coercive conservation methods prove insufficient to protect critically endangered species or ecosystems facing annihilation, militarized interventions may be viewed as justifiable as a last resort. In other words, the closer a species or ecosystem is to extinction, the greater the urgency to conserve, thereby warranting a militarized approach. This viewpoint is even echoed by Neumann (2004: 821) – otherwise a staunch opponent of militarized conservation – who concedes that taking human lives

to protect biodiversity could be justified when a species is threatened "to the point that the loss of any individual or group of individuals directly and immediately lessens the chances that the species will survive". However, this argument would still hinge on the effectiveness of militarized conservation, which, as discussed, must be evaluated case-by-case rather than assumed a priori.

2. Where humans impose excessive suffering on non-human nature

Human beings are not the only species that can experience suffering. Large mammals such as dolphins, chimpanzees and elephants are capable of complex social processes including play, creative behaviour and problem solving abilities. They are also able to experience pain, fear and loneliness in ways that are comparable to humans. From an ecocentric position, militarized conservation could potentially be seen to be justifiable when deployed to prevent or reduce harms done to sentient and conscious species that have the capacity to suffer.

Many countries have laws which prohibit the harmful treatment of domestic animals. In the UK, for instance, there are laws to prevent the unnecessary suffering, mutilation and poisoning of animals and livestock. When broken, these laws can result in fines and even substantial prison sentences (see https://www.gov.uk/guidance/animal-welfare). Yet, across the world every year vast numbers of wild animals are massacred in ways that produce untold suffering. For example, more than 1,200 whales were killed in the year 2022 (see https://www.statista.com/statistics/264842/number-of-whales-killed-worldwide/), frequently with harpoons fitted with grenades. In Africa, approximately 20,000 elephants are shot and killed for their tusks every year (see https://www.worldwildlife.org/species/elephant). The distress practices like this cause to large mammals is little understood, let alone considered in debates over the justness of militarized conservation. If it is acceptable to occasionally resort to violence to protect human beings from suffering, could the same be true for other sentient species?

3. Where the landscape in which conservation takes place is already violent

In many world regions, conservation is taking place under conditions of armed conflict and violent extraction. In parts of Central Africa, for instance, not only local communities but also non-state armed groups have infiltrated protected areas to poach animals and establish mines (Simpson and Pellegrini, 2023). In such extreme cases, military intervention may be the only effective means of conservation law enforcement and deterrence.

Here, the Brazilian Amazon represents a case in point: during Jair Bolsonaro's presidency, illegal mining and cattle ranching operations surged within protected areas and Indigenous territories in the Brazilian Amazon. This resulted in the loss of a forest area equivalent to the size of Belgium (Ramírez and Cárdenas, 2024). Since 2023, the new administration of Luiz Inácio Lula da Silva has taken harsh measures against land grabbers: paramilitary operations

have been executed to expel illegal miners and ranchers (Watts, 2023). These operations contributed to a 50 per cent reduction in deforestation in in 2023 compared to 2022, marking the lowest level since 2018 (Reuters, 2024). While law enforcement was not the only policy, it is unlikely that such a reduction would have been possible without military force.

Conclusion

Militarized conservation has been widely (and rightly) criticized for perpetrating injustice against human beings. Much less work explores whether it has the potential to deliver justice for other-than-human nature. I conclude that the evidence as to whether coercive methods can deliver conservation is mixed. On the one hand, data suggests that at an aggregate level enforced protected areas tend to deliver conservation outcomes no better than community or Indigenous managed territories. Yet, on the other hand, there are specific cases where the application of military force, including shoot-to-kill policies, has contributed significantly to the protection and restoration of species and ecosystems.

At the same time, it is important to emphasise that neither ecocentrism nor ecojustice view human beings as less valuable than other-than-human nature, or as without rights (Shoreman-Ouimet and Kopnina, 2015). To the contrary, the ecocentric perspective views human beings as part of nature, which comprises all ecosystems and biodiversity, as well as the intricate connections between humans and the environment. Hence, conservation approaches that impose excessively negative impacts on human populations (considering that human populations are a part of nature) could still be seen as ecologically unjust, even while delivering positive outcomes for certain other species.

However, given it can at times prevent the destruction of nature – at least in the short-term – it would be simplistic to discount military force altogether. I tentatively conclude that the ecological justness – much like the social justness – of militarized conservation is context-dependent. Ultimately, the question as to whether militarized conservation can deliver justice for nature depends on the degree to which i) the nature that is being conserved is critically endangered; ii) human practices impose suffering on sentient non-human species; and iii) violence is already part of the social settings in which conservation is taking place.

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