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5. Managing the tensions between a maximalist approach to environmental protection and anthropocentric peacebuilding

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1. INTRODUCTION – DEFINING THE PROBLEM

Imagine you are in a position to influence the building of a safe and prosperous economy during the transition from armed conflict. For example, you are in charge of forestry policies on the Malaysian section of the island of Borneo during and after the conflict over the Malaysian-Indonesian border on Borneo. Should you attempt to establish a preservationist ‘Peace Park’ along the border, clear cut the forest to maximize short-term revenue, or something in between?¹ How should you evaluate your options? Broadly put, you might take one of three archetypal approaches to the question of what to do about environmental preservation and natural resources during this transition (the first two anthropocentric, and the last ecocentric). First, you might pay no attention to ongoing ecosystem services² to the post-conflict community you are seeking to build, instead opting for rapid economic development through the unsustainable extraction of natural resources (perhaps framed as ‘peace dividends’). This might be called ‘environmentally unenlightened’ anthropocentric³ peacebuilding and would likely result in rapid depletion of extractable natural resources. Second, you might pay full attention to ecosystem services, and balance them against the value of extracting natural resources.⁴ This might be called ‘environmentally enlightened’ anthropocentric peacebuilding (or simply standard environmental peacebuilding) and would be less likely to result in an unsustainable harvest of natural resources. Third, you might value a non-human biotic ecosystem for its own sake, regardless of whether that ecosystem provides services to humans. This might be called ecocentric⁵ policymaking in the midst of a peacebuilding process, or simply ecocentric environmental peacebuilding. This might result in no extraction of natural

¹ For more on Peace Parks, see Jeffrey A. McNeely, ‘Conserving forest biodiversity in times of violent conflict’ (2003) 37(2) *Oryx* 142, 149.

² Ecosystem services are generally understood to be ‘the full range of benefits reflecting human well-being from ecosystems’. These benefits include food, water, timber, leisure, spiritual benefits, etc. Ken J. Wallace, ‘Classification of ecosystem services: problems and solutions’ (2007) 139(3-4) *Biological Conservation* 235, 235, 244. See generally, *Millennium Ecosystem Assessment: Ecosystems and Human Well-being: Biodiversity Synthesis* (World Resources Institute 2005).

³ Centred on human concerns. Originally coined in the 1860s in response to Darwin’s theory of evolution. See generally Elisa K. Campbell, ‘Beyond anthropocentrism’ (1983) 19(1) *Journal of the History of the Behavioral Sciences* 54.

⁴ See e.g., Frans J. Sijtsma, C. Martijn van der Heide, and Arjen van Hinsberg. ‘Beyond monetary measurement: How to evaluate projects and policies using the ecosystem services framework’ (2013) 32 *Environmental Science & Policy* 14.

⁵ Centred on ecological concerns.

resources. What factors, including international legal principles, inform your decision of which approach to take?

1.1 Purpose of the Chapter

This chapter has three primary purposes. First, it seeks to identify the tensions between a maximalist approach to environmental protection and anthropocentric peacebuilding. Second, it discusses how those tensions can be approached and managed. Third, it looks for ways in which an ecocentric perspective inherent to a maximalist approach to environmental protection may actually be helpful in building a just and sustainable peace.

This chapter is explicitly not about establishing the superiority of an ecocentric or anthropocentric approach in general or when applied to the particular issues that may arise in peacebuilding. Rather, by explicitly grappling with the tensions between these approaches, those pursuing environmental peacebuilding may meet with more success in meeting both environmental and peacebuilding goals than if those tensions are not recognized and explicitly managed.

Throughout this volume, the definition of environmental peacebuilding has been set as ‘the integration of natural resource management and environmental protection in conflict resolution and recovery strategies to prevent conflict relapse and to lay the foundations for sustainable peace and development’. The goals of environmental peacebuilding, thus defined, are laudable, but the limitations of this understanding of environmental peacebuilding are also worth noting. The benefits sought can be largely grouped into two categories: (1) preventing conflict relapse and making sustainable peace possible; and (2) laying the foundations for sustainable development. Both of these goals are anthropocentric. ‘Environmental’ amends the principal subject of discussion, peacebuilding. Grammatically and logically, under this definition, environmental concerns are more a means to achieve the end of improvement of the state of humankind than a primary end in and of itself. This is, again, not meant as a criticism – in many ways it is the strongest approach for environmental concerns to be considered at all in the contested space of peacebuilding. First and foremost, environmental concerns must be shown to be relevant to those making decisions during peacebuilding. Anthropocentrism is understandable as a default. But it is not the only option available.

1.2 Roadmap

With the purposes of the chapter defined, the problem can be addressed in three parts. The first section of the chapter will begin to map out the tensions between anthropocentrism and ecocentrism, particularly given the need for local legitimacy in peacebuilding. The second section discusses how ecocentric harm in the context of peacebuilding can be objectively measured, particularly in the areas of protecting wildlife, preserving local habitats, avoiding species extinction, and minimizing ocean acidification and atmospheric pollution. The third section will discuss potential ways to manage these tensions. It concludes with the value of ecocentrism to combat the tendency to overvalue short-term results in favour of inter-generational equity.

2. TENSIONS

2.1 Tensions with Distributional Justice

There are many questions of equity raised by the confluence of environmental protection and peacebuilding. As discussed elsewhere in this volume (e.g., Ch. 3, Barral; Ch. 4, Morgera; Ch. 7, Roht-Arriaza; Ch. 14, Dam-de Jong; Ch. 16, Pertile and Faccio) the distributional consequences of natural resources management can have profound impacts on the durability and quality of a contested peace. These questions of distributional equity are a natural and fairly immediate place to bring the concerns of environmental protection and peacebuilding together in a harmonious way. For example, the profits from an extractive industry can be more equitably shared, while the negative externalities such as air or water pollution may be minimized or more equitably suffered. Rights to water, land use, or other ecosystem services may be negotiated and transformed.⁶

Distributional consequences of environmental protection and peacebuilding can be assessed through well-established theories of justice. John Rawls' theory of 'justice as fairness' asserts that policies should be chosen using a 'veil of ignorance' in which people do not know of their own partial interests, but instead approach choices pertaining to justice as objectively as possible.⁷ Following these principles, a Rawlsian approach to environmental peacebuilding would choose policies which would benefit those least advantaged. This holds out the hope for an optimal environmental peacebuilding solution: a single best solution, optimized for the least advantaged. Ecocentric approaches complicate this neat picture, if a maximalist approach to environmental preservation does not produce the best solution for the least advantaged. For example, the establishment of nature preserves can displace indigenous people, who can be the least advantaged people.⁸ If an ecocentric approach is not optimal for the least advantaged people, a Rawlsian approach to environmental peacebuilding would prohibit it.

From an anthropocentric perspective, it is natural to focus on satisfying immediate human needs as part of peacebuilding. One of the difficulties of a more maximalist environmental approach is that it may tend to reduce the harmony between environmental protection and peacebuilding, particularly in the short term. For example, a maximalist environmental approach may entail the reduction or elimination of extractive industries, which may in turn reduce options to negotiate a peace, to repair or rebuild a post-conflict society, and to address questions of distributional equity. While some ecosystem services, like clean water or protection from erosion, may be generally enjoyed, others like the harvest of game, fish, or lumber may be curtailed. In contrast, from a long-term perspective, at least to a point, the more maximalist the environmental approach, the more one might tend to serve the goals of inter-

⁶ See, e.g., the discussion of distributional justice and environmental devastation in Sierra Leone in Earl Conteh-Morgan, 'Peacebuilding and human security in postwar Sierra Leone' in Marda Mustapha and Joseph J. Bangura (eds), *Sierra Leone beyond the Lomé Peace Accord* (Palgrave Macmillan 2010) 133–44.

⁷ John Rawls, *A Theory of Justice* (Harvard University Press, 1971).

⁸ See e.g., Dominique Bikaba, 'Indigenous people and the Kahuzi-Biega National Park in the Democratic Republic of the Congo' in Kristen Walker Painemilla, *Indigenous Peoples and Conservation: From Rights to Resource Management* (Conservation International 2010); Albert Kwokwo Barume, *Heading Towards Extinction?: Indigenous Rights in Africa: The Case of the Twa of the Kahuzi-Biega National Park, Democratic Republic of Congo* (International Work Group for Indigenous Affairs 2000).

generational justice.⁹ By preserving natural resources today and reducing the damage caused by current generations to future generations, a more maximalist environmental approach may leave more natural ‘riches’ for those not yet able to assert their rights and interests, and fewer environmental liabilities.

From a truly ecocentric perspective, however, the intergenerational benefits of a strong environmental approach are beside the point, and potentially detrimental. When Aldo Leopold asserted his famous *Land Ethic*: ‘A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise’¹⁰ — a major part of his philosophy is that the biotic community is worth valuing in its own right. Future generations of humans are still human, and an equitable approach that takes fairness towards future humans into account still does not necessarily take non-humans and the natural world more generally into account for their own sake. One can imagine the complaint that if the goal is to ‘preserve the integrity, stability, and beauty of the biotic community’ in perpetuity, then no generation will be able to extract certain natural resources at the expense of the biotic community, at least not under a maximalist approach. What is the point, one might wonder (particularly if in a place of economic need of distributional inequity) of preserving natural resources now if future generations will likewise be expected to be deprived of their use? Ecocentrism was adopted by ‘deep ecologists’ in 1970 to emphasize their view that all life has inherent value.¹¹ They were not arguing that non-human life should be preserved for future exploitation, but for such life to be valued on its own terms.

2.2 Tensions Between Unconvertable Values

Decision-makers in peace processes may be faced with the possibility that what is best from an anthropocentric perspective is different from what is best from an ecocentric perspective. If the aim is to achieve a just and sustainable peace, the possibility of an ecocentric perspective means that the question must be asked ‘just and sustainable for whom’ — and that the answers to this question must include non-human life as a potential answer. This means that there may not be a single ‘best’ peacebuilding choice, or even a single best *environmental* peacebuilding solution to any situation.¹² Here, we can benefit from moral philosophers who have developed approaches to conflicting values. Amartya Sen’s distinction between optimal and maximal choices, where a maximal alternative need not be ‘best’ is helpful here.¹³ In *Reason and Justice: The Optimal and the Maximal*, Sen provides an example of optimal decision-making

⁹ Intergenerational justice is often claimed to be at the heart of most approaches to conservation. See e.g., Julia Puaschunder ‘Intergenerational equity’ in *Governance & Climate Justice* (Palgrave Macmillan, Cham 2020).

¹⁰ Aldo Leopold, ‘The land ethic’ in *A Sand County Almanac* (OUP 1949) 262.

¹¹ See generally Roderick Frazier Nash, *The Rights of Nature: A History of Environmental Ethics* (University of Wisconsin Press 1989).

¹² For additional examples of ethical conundrums from ecocentric and anthropocentric perspectives, see Katherine V. Kortenkamp and Colleen F. Moore ‘Ecocentrism and anthropocentrism: Moral reasoning about ecological commons dilemmas’ (2001) 21(3) *Journal of Environmental Psychology* 261.

¹³ Amartya Sen, ‘Reason and justice: The optimal and the maximal’ (2017) 92(1) *Philosophy* 5. Amartya Sen is likely the foremost scholar on subjective and objective public reasoning in the area of distributive justice. See e.g., Amartya Sen, *Collective Choice and Social Welfare* (Harvard University Press 2018); Amartya Sen, *The Idea of Justice* (Harvard University Press 2011) (particularly Part IV); Amartya Sen, *Development as Freedom* (Oxford Paperbacks 2001).

that can be usefully repurposed for the question of choices facing a decision-maker during the transition to peace who may have to choose between an anthropocentric and ecocentric approach.¹⁴ The example is worth quoting in full, as it cannot be much reduced without a loss of explanatory power.

Consider a person, Ashraf, [...] who is considering the possibility of two terrible events, both of which a terrorist group has threatened to carry out. One threatened event – let us call it *x* – is the total destruction of the historic city of Nineveh (with, however, no one being killed), and the other – called *y* – involves the killing of a thousand people at a different spot (without any destruction of Nineveh). [...] If it turns out that he and his fellow anti-terrorists can prevent one of the two ghastly events, but not both, then his decision would have to be about choosing between *x* and *y*.

The point is not only that it is a difficult choice, nor that the considerations involved in the two alternatives are quite different: one is the prevention of the murder of a large number of people (a thousand in this example) and the other the preservation of a great historical sight which can be thought to be valuable in itself, but would also be hugely valued by a great many generations to come. The point rather is that we may have good reasons to give decisional priority in one direction, or alternatively in the other – a plurality of answers that need not be eliminated by what Rawls calls a ‘reflective equilibrium’. It may be quite acceptable, and yet not obligatory, that by the force of reasoning Ashraf will decide in favour of one of the alternatives, rejecting the other (for example, choosing to sacrifice a thousand human lives, for preventing the destruction of Nineveh).¹⁵

Sen provides the comparison between saving a large number of people (choice X) and preserving a valuable heritage (choice Y). It is not too difficult to imagine a comparable situation facing those choosing between ‘exploitation of a natural resource’ (choice X) and ‘preservation of a biotic community’ (choice Y). To take one example, after fighting over how to divide the island of Borneo in the 1960s, Indonesian and Malaysian decision-makers decided to increase the rate of deforestation (choice X).¹⁶ This increases economic development and can provide a short-term increase in local quality of life by supporting individual livelihoods to the detriment of what is not only a common concern of humanity, but something arguably valuable regardless of humanity’s regard for it. Other decision-makers have picked the opposite choice, creating so-called ‘Peace Parks’ on the sensitive and biologically rich frontier areas (choice Y).¹⁷ Choice X could be justified on anthropocentric economic development terms, while choice Y could be justified on preservationist terms. Sen introduces useful terms, contrasting the ‘optimal’ and the ‘maximal.’ An ‘optimal’ choice or result is one that is the ‘best’, whereas a ‘maximal’ choice or result is one that is ‘no less satisfactory than any other conclusion (an alternative that cannot be bettered)’. Using this formal definition, all optimal choices are maximal, but not all maximal choices have the unique quality of being optimal. While this may seem like an esoteric distinction useful in mathematics but not useful in the practical decisions of legal or policy professionals, Sen asserts this distinction is ‘absolutely central to the nature of substantive ethical arguments, including the assessment of the respective claims of alternative theories of justice’.¹⁸

Sen’s theory is helpful because there is no objective way to ‘convert’ lives and heritage. There is no a priori, universally-accepted optimal choice. One cannot be exchanged for

¹⁴ Sen (2017) (n 13).

¹⁵ *Ibid.* (n 13) 8–9.

¹⁶ McNeely (n 1), 148.

¹⁷ *Ibid.*, 149.

¹⁸ Sen (2017) (n 13) 7.

another in reality, nor is there any obvious way to set an ‘exchange rate’ — where all reasonable people would agree that one quantum of cultural heritage was worth more or less than, for example, one thousand lives. If there were such a universalizable ‘exchange rate’, there would be no real tension, merely a calculation. Sen’s analysis allows us to show that the tension is real, and irreducible.

2.3 Tensions of Local Legitimacy

One problem with an ecocentric approach is the potential lack of local legitimacy, which is extremely important in peacebuilding. This may be particularly acute when international law is brought to bear to restrict local choices. If for example, rapid deforestation to pay for rebuilding a shattered economy is deemed by a foreign lawyer to violate the obligation of states to conserve their own biodiversity under Article 1 of the 1992 Convention on Biological Diversity,¹⁹ this may be unpersuasive to local decision-makers and impacted communities. Unlike most areas of law applicable to peacebuilding²⁰ international environmental law can more frequently be legitimately interpreted in an ecocentric manner.²¹ An international lawyer who takes a condescending attitude towards local culture, laws, or needs is unlikely to have as much impact as someone who expresses why international law deviates from whatever local norms or practices are deemed fair and appropriate.²² An anthropocentric environmental peacebuilding explanation at least has the possibility of asserting that forests should be harvested sustainably for the benefit of future generations. In contrast, an ecocentric environmental peacebuilder is left with the task of explaining why forests should potentially never be cut down.

One theorist who is helpful in understanding local legitimacy and the creation of local meaning is John Dewey. Dewey argued that ‘Humanity cannot be content with a good which

¹⁹ Convention on Biological Diversity (opened for signature 5 June 1992, entered into force 29 December 1993) 1760 UNTS 69, recognizing the ‘intrinsic value of biological diversity’.

²⁰ Such areas of law that apply to peacebuilding include international human rights law, international criminal law, international humanitarian law, or general public international law. These are all clearly anthropocentric. The most ecocentric provision in core humanitarian law is probably Art. 35.3 of Additional Protocol I: ‘It is prohibited to employ methods or means of warfare which are intended, or may be expected, to cause widespread, long-term and severe damage to the natural environment.’ Protocol Additional to the Geneva Conventions of 12 August 1949 and relating to the Protection of Victims of International Armed Conflicts (Protocol I), 8 June 1977. More typical when the environmental concerns are expressed is the anthropocentric approach taken Art. 55 of Additional Protocol I:

1. Care shall be taken in warfare to protect the natural environment against widespread, long-term and severe damage. This protection includes a prohibition of the use of methods or means of warfare which are intended or may be expected to cause such damage to the natural environment and thereby to prejudice the health or survival of the population.
2. Attacks against the natural environment by way of reprisals are prohibited.

²¹ See e.g., UN General Assembly, World Charter for Nature, 28 October 1982, A/RES/37/7: ‘Every form of life is unique, warranting respect regardless of its worth to man, and, to accord other organisms such recognition, man must be guided by a moral code of action.’

²² This logic and language is persuasively argued with respect to international criminal law in Mirjan Damaška, ‘What is the point of international criminal justice’ (2008) 83 *Chicago-Kent Law Review* 329, 349.

is procured from without, however high and otherwise complete that good.’²³ He warned against trying to impose values from on high, arguing that there existed a ‘necessity for the participation of every mature human being in formation of the values that regulate the living of men together’²⁴ and further:

The very fact of exclusion from participation is a subtle form of suppression. It gives individuals no opportunity to reflect and decide upon what is good for them. Others who are supposed to be wiser and who in any case have more power decide the question for them and also decide the methods and means by which subjects may arrive at the enjoyment of what is good for them. This form of coercion and suppression is more subtle and more effective than is overt intimidation and restraint.²⁵

This is a powerful argument, but it poses a problem for an ecocentric approach. The implicit value structure of ecocentrism is that the needs and desires of a human community are not the only values to be considered. International environmental lawyers may have neither intimidation nor restraint, and if they attempt to exclude local communities from participation, they may find the law wholly unenforced. Indeed, international environmental law principles have long emphasized local participation as critical for effective participation of the environment.²⁶ Even within the universe of ecocentric desideratum, local communities may value particular landscapes, species, living communities, or even particular organisms in a way that can be honoured and harnessed by the broader international environmental community. What is needed for the potential peacebuilder who values a biotic community for its own sake is an argument that may be persuasive to communities who do not already presently ascribe to some version of Aldo Leopold’s *Land Ethic*. Two possible arguments to keep that possibility alive are mentioned in the fourth part of this chapter, ecocentric optionality and identity. Before proceeding to those arguments, however, the following part of the chapter addresses a fundamental problem of measuring ecocentric harm in a way that can address a wide variety of environmental harms and can be discussed in a relatively universal way.

²³ John Dewey, *The Ethics of Democracy* (1888), in 1 Early Works of John Dewey 228, reprinted in Debra Morris and Ian Shapiro (eds), *John Dewey, The Political Writings* (Hackett Publishing 1993) 49, 61.

²⁴ John Dewey, *The Later Works of John Dewey, Volume 7, 1925–1953: 1932, Ethics*. (SIU Press 2008) 217.

²⁵ *Ibid.*, 218.

²⁶ Principle 10 of the Rio Declaration states in pertinent part: ‘Environmental issues are best handled with participation of all concerned citizens, at the relevant level.’ *Rio Declaration on Environment and Development*, Report of the United Nations Conference on Environment and Development, Rio de Janeiro. 12 August 1992. A/CONF.151/26 vol. 1. See also Convention on Access to Information, Public Participation and Decision-Making and Access to Justice in Environmental Matters (adopted on 25 June 1998, entered into force on 30 October 2001) 2161 UNTS 447, 38 ILM 517 (1999) (Aarhus Convention) (Particularly Art. 6, Public Participation in Decisions on Specific Activities; Art. 7, Public Participation Concerning Plans, Programmes and Policies Relating to the Environment; and Art. 8, Public Participation During the Preparation of Executive Regulations and/or Generally Applicable Legally Binding Normative Instruments) available at <https://unece.org/DAM/env/pp/documents/cep43e.pdf> accessed 20 December 2021; Regional Agreement on Access to Information, Public Participation and Justice in Environmental Matters in Latin America and the Caribbean (adopted 4 March 2018, entered into force 22 April 2021) UN ECLAC, UNTC C.N.195.2018.TREATIES-XXVII.18 (Escazú Agreement).

3. OBJECTIVELY MEASURING ECOCENTRIC HARM THROUGH REFERENCE TO TIME

In international environmental law, a critical question is the evaluation of transboundary harm. The normal evaluation of transboundary harm can tend to be anthropocentric, that is, it measures harm from the perspective of humans and legal entities.²⁷ Harm is often measured in terms of the economic cost of returning to the status quo ante, if that is possible, or the loss of ecosystem services to humans.²⁸ The harms caused by the loss of a non-human organism, a species that has no direct economic benefit, a landscape or an ecosystem are hard to measure under this metric.

Reasonable people may make different evaluations of non-economic harms. This has been a difficulty from the beginning of the effort to preserve the natural world from economic exploitation. Take this description of the mountains in California from John Muir, an influential early American naturalist:

And the dawn and sunrises of these mountain days—the rose light creeping higher among the stars, the changing to daffodil yellow, the level beams bursting forth, streaming across the ridges, touching pine after pine, awakening and warming all the mighty host to do gladly their shining day’s work. The great sun-gold noons, the alabaster cloud-mountains, the landscape beaming with consciousness like the face of a god. The sunsets, when the trees stood hushed awaiting their good-night blessings. Divine, enduring, unwastable wealth.²⁹

Muir led the fight to preserve the natural environment of the Sierra Nevadas with mixed success. He described the natural world as ‘wealth,’ but if his poetic language left the reader unmoved, it was hard to use his descriptions of the natural world to objectively measure the harm that would be caused by, for example, damming Hetch Hetchy Valley, a development effort Muir tried and failed to stop, or, for examples germane to peacekeeping, the deforestation in post-conflict Republic of Congo, Borneo, or Cambodia. What may be extremely valuable to a naturalist in the woods may be less valuable to those in the city who want water or an impoverished community in the aftermath of war or atrocity.

This is not to minimize the problems with measuring harm from a purely anthropocentric perspective. Cultural Heritage Law is rife with difficulties of preserving and valuing unconvertable goods, and this is entirely within an anthropocentric framework. Asking whether John Muir or a Californian city-dweller can come to a consensus as to the value of the Hetch Hetchy Valley is still to remain within an anthropocentric framework. Measuring harm from a purely ecocentric position is not well-resolved.

In this section, I propose one overarching way to objectively measure the cost of such non-economic harms (or the non-economic cost of such harms, if the economic component is already present and measurable). In short, my proposal is to focus on time for the natural world to recover, rather than some abstract measure of intrinsic worth or conversion to an economic

²⁷ For an excellent summary of how transboundary harm is largely anthropocentric, see Jason Rudall, *Compensation for Environmental Damage Under International Law* (Routledge 2020). He notes that while there are some discussions of the ‘intrinsic’ value of nature (p 103), the efforts to quantify these values generally collapse into an anthropocentric evaluation.

²⁸ *Ibid.*, 105, 106.

²⁹ John Muir, *My First Summer in the Sierra* (Houghton Mifflin, 1911).

measurement. While a variety of measures could and have been employed depending upon the unit of analysis,³⁰ using time for recovery as the basic concept that unites assessment of environmental harms at different scales allows the problem to be discussed in a relatively universal way.

To elaborate, one way to measure a non-economic harm would be the time it would take to restore the situation to a reasonable approximation of the status quo ante. One advantage of this method is that it can be applied to a wide variety of harms, as will be discussed below regarding wildlife populations, local habitats, species, climate, and ocean acidification. This is tied to the concept of ecocentric optionality explored in the fourth section. For each set of harms, the question is asked: if the choice to harm the natural world is later deemed in error, how reversible is the choice? This is the essence of the idea of optionality. It can be better expanded by amplifying the concept across a few categories of harm. Accordingly, the next few subsections will amplify the concept focused on the separate harms of preservation of wildlife populations, preservation of local habitats, species-specific preservation, local ecosystem preservation, ocean acidification, global atmospheric pollution, and feedback loops.

3.1 Preservation of Wildlife Populations or Local Habitats

Let us return to a typical environmental dilemma in a transition from armed conflict to peace, namely whether a natural resource should be developed at the expense of wildlife.³¹ To further simplify the analysis, assume the natural resource extraction would have negligible impacts on the risk of species extinction, ecosystem collapse, ocean acidification, or atmospheric pollution — all harms considered below.

How reversible is the choice to harm wildlife populations in any particular scenario? How much time would it take for a wildlife population to recover from a particular course of conduct? These are the types of questions that need to be asked to make an objective, time-based evaluation of the harm caused to wildlife populations. So, for example, an analysis that shows that selectively logged forests recovered more quickly than clear-cut forests,³² allows an objective ecocentric analysis of comparative harm that does not require a demonstration of value to humans. Frequently a larger area selectively logged will require less time to recover than a smaller area that is clear-cut.³³ To take another example, refugee encampments created as a result of armed conflict are often associated with severe environmental degradation.³⁴ Failure to swiftly address refugee encampments may result in widespread deforestation and erosion, as the result of slash-and-burn agriculture and the overharvesting of vegetation and game for

³⁰ For an example of the varieties of measurement of ecological diversity, see Anne E. Magurran, *Ecological Diversity and its Measurement* (Princeton University Press 1988).

³¹ Wildlife in this context is given the wider definition of a collective noun relating to non-domesticated species of plants, animals, and other biota (not limited to animals). See Michael B. Usher, 'Wildlife conservation evaluation: attributes, criteria and values' in Michael B. Usher, *Wildlife Conservation Evaluation* (Springer 1986) 4.

³² E.g., Han Xu et al. 'Partial recovery of a tropical rain forest a half-century after clear-cut and selective logging' (2015) 52.4 *Journal of Applied Ecology* 1044.

³³ Ibid.

³⁴ Joseph P. Dudley et al. 'Effects of war and civil strife on wildlife and wildlife habitats' (2002) 16(2) *Conservation Biology* 319, 326.

fuel, forage, and construction materials.³⁵ An objective way to measure the ecocentric costs of a delay in addressing refugee encampments would be to estimate the amount of additional time a non-human population or a territory would take to recover from the damage caused by that delay. This is not to say that there is no damage, no loss, in a population that has been largely destroyed and then recovered, or in a lessening of biodiversity that was subsequently ‘repaired’ by speciation. Rather it is simply a way to compare varied damages in a relatively objective ecocentric manner.

3.2 Species-specific Preservation and Local Ecosystem Preservation

Some more severe ecological damages do not seem to fit well into the model described above. A species, once extinct, is gone forever, barring speculative future technologies. An ecosystem, once collapsed, may never be rebuilt in the same form, particularly if species within it have gone extinct. So how can such harms be objectively assessed from an ecocentric perspective? This is most likely to happen in what John Charles Kunich has called a ‘hotspot.’³⁶ A hotspot is a region that contains a high number of endemic plant species (.5 per cent of the total global vascular plant species, roughly 1,500 endemic species), a significant extent of endemism and diversity among non-fish vertebrates, as well as already having lost at least 70 per cent of its original primary natural vegetation cover.³⁷ When approximately half of the civilian population from Rwanda fled to camps with the Republic of Congo, approximately 860,000 were encamped in the vicinity of Virunga National Park, with another 332,000 near Kahuzi Biega National Park in the Democratic Republic of Congo.³⁸ A small population of the rare Grauer’s gorilla (*Gorilla beringei graueri*) in the Kahuzi Biega National Park was threatened by poor protection after armed conflict.³⁹ Conservationists believe populations of gorillas and elephants in the area are at risk of extirpation.⁴⁰ Armed conflicts have had a detrimental effect on tropical forests in Papua New Guinea, Indonesia, Indochina, Myanmar, Sri Lanka, Central Africa, the Amazon, Colombia, Central America, and New Caledonia, and the transitions to peace can be even more damaging.⁴¹

If the choice to harm the natural world is later deemed in error, how reversible is the choice? How reversible is the choice to risk extinction of species or ecosystem collapse in any particular scenario?

One way to look at this question is to look at speciation. While an extinct species is extremely unlikely to ever be replaced exactly, new species can emerge over a great deal of time. Thus, to measure the reversibility of a choice to risk extinction, one might look at what one might be called ‘speciation years harm.’ The basic idea of speciation years harm is tied to the idea of the years it would take to regenerate a species in the same genus. It can be thought

³⁵ Ibid.

³⁶ John Charles Kunich ‘World Heritage In Danger In The Hotspots’ (2003) 78 *Indiana Law Journal* 619.

³⁷ Ibid., 620–21; Russell A. Mittermeier and others, *Hotspots: Earth’s Biologically Richest and Most Endangered Terrestrial Ecoregions* (CEMEX, SA, Agrupación Sierra Madre, SC, 1999); Thor Hanson and others, ‘Warfare in biodiversity hotspots’ (2009) 23.3 *Conservation Biology* 578, 579.

³⁸ Dudley (n 34) 326.

³⁹ Hanson (n 37) 585.

⁴⁰ Ibid.

⁴¹ McNeely (n 16) 1.

of as a function of two underlying variables, anticipated speciation rate and increased extinction risk. Anticipated speciation rate would be defined as the speciation rate within a genus, that is, the average years it would take for a new species to arrive within this genus in the future. Increased extinction risk is the increased risk of extinction per species in a fixed time frame. Together these concepts can provide an objective method.

While trying to reduce an objective method to a mathematical formula may not be helpful for all readers, for others it is the clearest method of expressing an idea. For the former, simply focus on the core ideas of ‘how long would it take for the system to recover to a former level of biodiversity given an average rate of recovery’ or simply ‘how much time that was “invested” into the natural world to create the current level of diversity will be lost’? For the latter, consider the following:

BOX 5.1 PROPOSED FORMULA FOR MEASURING OBJECTIVE ECOCENTRIC HARM

- AnticipatedSpeciationRate(‘ASR’) = Speciation rate within a genus (Average years it would take for a new species to arrive within this genus in the future)
- IncreasedExtinctionRisk(‘IER’) = Increased risk of extinction per species in fixed timeframe
- SpeciationYearsHarm(‘SYH’) = The sum of all harms across n species, or $\Sigma[1\dots n]$ (AnticipatedSpeciationRate(n)*IncreasedExtinctionRisk(n))

Or in short

$$SYH = \Sigma[1\dots n](ASR(n) * IER(n))$$

To provide some highly stylized examples:

- An action that increases the chance of an ant species from going extinct by 1% if AnticipatedSpeciationRate is 10,000 means $SYH = 10,000 * .01 = 100$
- An action that increases the chance of a gorilla species from going extinct by 1% if AnticipatedSpeciationRate is 100,000,000 means $SYH = 100,000,000 * .01 = 1,000,000$
- An action that increases the chance of 100 ant species from going extinct by 1% if AnticipatedSpeciationRate is 10,000 means

$$SYH = \Sigma[1\dots 100](10,000 * .01) = 10,000$$

This novel measurement technique would allow an objective (if approximate) measurement of the essential question — if the community in the future wants to restore the situation to the status quo ante, how much time would it cost them? Or from a less anthropocentric perspective, if the biotic community has intrinsic value, how long would it take to recover? The harm caused by extinction or ecosystem collapse is layered on top of the harm to particular populations of wildlife not driven to extinction. This is a helpful question to be able to objectively answer when discussing identity and ecocentric optionality in the fourth section of this chapter.

3.3 Ocean Acidification, Global Atmospheric Pollution, and Feedback Loops

One can go further, and consider global environmental problems such as ocean acidification and global atmospheric pollution that can be impacted by choices made during the transition from armed conflict to peace. To take one example, deforestation during the transition from armed conflict does not only impact local wildlife populations, risk extinction, or threaten collapse of ecosystems, but also contributes to the climate crisis and ocean acidification by both causing the emission of greenhouse gasses and reducing the capacity of the forest to serve as a carbon sink. The change in climate is projected to have severe effects on humans, and along with local environmental destruction is widely expected to be a continued and accelerated driver of future conflict, which in turn will likely increase further environmental destruction.⁴² The ecocentric perspective takes note of this feedback loop not because of the continued armed conflict and human suffering, but because of the continued destruction of the biotic community.

Again, the question can be asked at the global level, if the choice to harm the natural world is later deemed in error, how reversible is the choice? Here, the answer is obviously complex and highly dependent on future human action. Further, it is layered on top of earlier considerations of extinction, ecosystem collapse, wildlife population depletion, and local habitat destruction. As the scale of environmental destruction increases, the equations suggested above might have to be modified to include the destruction of larger biological categories of wildlife (e.g., genus, family) which will take orders of magnitude longer to replace. Because of the diffuse causality and global scale of this level of ecological destruction, appeals to avoid such actions as deforestation or avoiding carbon-intensive industrialization and electrification may not be very persuasive to local decision-makers during the transition to peace. For this, most extreme level of environmental devastation, the need to manage the tensions between ecocentrism and anthropocentrism is greater than ever.

4. POTENTIAL WAYS TO MANAGE TENSIONS

4.1 Introducing Ecocentric Optionality and Identity

As indicated at the outset, the purpose of this chapter is not to argue for or against an anthropocentric or ecocentric approach to decisions that impact ecosystems during peacebuilding. Nor is the aim precisely to pose anthropocentrism and ecocentrism as thesis and antithesis in the context of environmental peacebuilding, in hopes of producing a synthesis. They are, in some respects, irreconcilable. Choices must be made between different values. I would like to indicate two ways that I will explore below in which the different approaches can be considered together with integrity, and with an eye towards considering the choices that may be made between anthropocentrism and ecocentrism in the future. Those ways are (1) presently valuing ecocentric optionality for future generations, and (2) valuing the biotic community not in terms of economic or economically-translatable goods, but in terms of collective identity.

⁴² See e.g., Dudley (n 34) 324 for models of the positive feedback loop between the destruction of wildlife habitats and armed conflict.

4.2 Considering Ecocentric Harm and Optionality: Justifying the Precautionary Principle by Honouring Future Value Choices

Even if no participants in peacebuilding ascribe to an ecocentric perspective, they may recognize that future generations, or even simply themselves in the future, may make different value decisions. People can and usually do value the option of making a choice in the future. The freedom to make the decision to value the biotic community for its own sake is itself a thing that can be valued, even if that freedom is not exercised on behalf of valuing the biotic community for its own sake. Thus, for example, preserving a species that has no economic (or other anthropocentric) value makes a certain amount of sense even for decision-makers that are purely anthropocentric provided they also value the freedom for future decision-makers to value that species. That freedom to choose an ecocentric approach to environmental preservation in the future is what I am calling ecocentric optionality. It is, perhaps, the best argument that could be made for difficult sacrifices of present economic improvement and distributional equity even if the natural world being preserved is, in fact, never going to be exploited for the direct benefit of the local community.

Thus, before the choice is made to clear cut a forested area during the transition to peace (or some other environmentally destructive act) the argument can be made that a decision-maker should consider the reversibility of the decision. Environmental preservation protects wildlife, habitats, species, ecosystems, and the entire biosphere, but more than that, it preserves the option to deem the biotic community to be of intrinsic worth. Once cut down, the forest takes time to regrow. The harms described above can be measured and quantified, or at least approximated, if the existence of the biotic community is given intrinsic worth. If a decision-maker is not presently convinced of the intrinsic worth of the biotic community, however, (s)he may at least value the option to reverse the damage done in the future in case, in the future, it is deemed to have value.

This emphasis on optionality fits well with another important principle in environmental law: the precautionary principle. The 'precautionary principle' or 'precautionary approach' or 'principle of precautionary action' has been variously defined over time,⁴³ but one way to briefly state it is that 'a substance or activity posing a threat to the environment is prevented from adversely affecting the environment, even if there is no conclusive scientific proof linking that particular substance or activity to environmental damage'.⁴⁴ Both the precautionary principle and an emphasis on ecocentric optionality are conservative in the sense of being cautious about risk. The precautionary principle is conservative about risk to the environment, even without certain causality. Ecocentric optionality is conservative about the risk that current collective anthropocentric evaluations will be deemed incorrect by future generations and valuing the option for correction.

⁴³ James E. Hickey Jr and Vern R. Walker, 'Refining the precautionary principle in international environmental law' (1994) 14 *Virginia Environmental Law Journal* 423.

⁴⁴ James Cameron and Juli Abouchar, 'The precautionary principle: a fundamental principle of law and policy for the protection of the global environment' (1991) 14 *Boston College International and Comparative Law Review* 1, 2.

4.3 Considering Ecocentric Harm and Identity

As for identity, it is worth noting that peacebuilding is in many ways a function of collective identity. Armed conflict is a collective endeavour, and the transitioning from armed conflict to peace is not done by atomized individuals, but by armed groups and/or the communities that control them. Collective identities can be constructed around any number of ideas or mythologies, but one central mode of identity formation is the distinctiveness of the particular territory on which the community lives. One aspect of unique territory is biodiversity and the local ecosystems within a territory. Loss of biodiversity or the collapse of ecosystems, then, potentially threatens not only the quantifiable ecosystem services but the identity of the community that associates itself with a particular territory. An ‘imagined community’⁴⁵ is not only tied to the community’s mythological past and dreamt of future in relationship with members of the community, but also with an association with the ecosystems of the past and an imagined future that is pleasing and unique. There is a way in which an ecocentric view of environmental preservation may mesh with the underlying insight of peace theorists that a sustainable peace needs not only peacebuilding that is averting armed conflict (negative peace), but a vision of the future worth building towards (positive peace).⁴⁶ Imagining that greater community, where the natural world is viewed as a good in and of itself and not merely as a means to an end, potentially provides both sides of a conflict with a shared objective. Preserving the natural world for future generations and for itself can become something worth striving towards.

Ecocentric and anthropocentric approaches to environmental peacebuilding have, at some level, irreducible tensions, but that is not to say there is no possibility for some degree of synthesis. Most famously, Leopold described his core concept of the land ethic not solely as a preservation of wildlife, but of a combined community: ‘The land ethic simply enlarges the boundaries of the community to include soils, waters, plants, and animals, or collectively: the land.’⁴⁷ Leopold’s solution for how to compel an interest in the natural world is for humans to identify with it. This is consonant with the work of the other theorists referenced. Amartya Sen’s view of development entails creating the conditions for all people to develop their fullest possible range of capabilities and chosen values.⁴⁸ Isaiah Berlin stated in his 1988 address *The Pursuit of the Ideal*, ‘[C]ollisions of values are of the essence of what they are and what we are.’⁴⁹ He was asserting that the different choices made by cultures are expressions of

⁴⁵ Benedict Anderson’s concept of nations as imagined community (Benedict Anderson, *Imagined Communities* (Routledge 2006)) and Eric Hobsbawm’s idea of traditions as an invention (Eric J. Hobsbawm and Ranger Terence, *The Invention of Tradition* (CUP 1983)) are central to current studies of nationalism and collective identity.

⁴⁶ The concepts of ‘negative’ and ‘positive’ peace were developed by Johan Galtung in his seminal 1964 article: Johan Galtung, ‘An Editorial’ (1964) 1(1) *Journal of Peace Research* 1. For more on Galtung’s work on structural analysis of peace, see also Johan Galtung ‘Violence, peace and peace research’ (1969) 6(3) *Journal of Peace Research* 167; Johan Galtung, ‘Social cosmology and the concept of peace’ (1981) 17(2) *Journal of Peace Research* 183; Johan Galtung, ‘Twenty-five years of peace research: ten challenges and some responses’ (1985) 22(2) *Journal of Peace Research* 141; Johan Galtung, ‘Cultural violence’ (1990) 27(3) *Journal of Peace Research* 291.

⁴⁷ Aldo Leopold, *A Sand Country Almanac and Sketches Here and There* (OUP 1949) 203.

⁴⁸ Sen, 1999 (n 14).

⁴⁹ Isaiah Berlin, ‘The pursuit of the ideal’ in *The Crooked Timber of Humanity: Chapters in the history of ideas* (Princeton University Press 2013).

collective identity. Tensions between viewpoints, collisions between values — these are not avoidable, and should not be evaded. But an identity that includes the land and the greater biotic community that lives upon it is always an option.

4.4 An Example of Ecocentric Harm, Optionality, and Identity in Practice?

As discussed in the section *supra* ‘Tensions with Distributional Justice,’ some efforts to protect nature by clearing indigenous people from nature preserves are in direct conflict with other values, such as distributional equity. Where present, paying particular attention to the value choices of actual indigenous people can help bridge the divide between abstract ecocentric and abstract anthropocentric approaches. The approach taken by Colombia’s peace jurisdiction (Jurisdicción Especial para la Paz) in recognizing the territories of two indigenous peoples as victims of the civil war is an interesting example of ecocentric harm, optionality, and identity in practice.

To take one example, in the *Acreditación de víctimas colectivas* of 17 January 2020,⁵⁰ the magistrate rules the ‘gran territorio Nasa de la Cxhab Wala Kiwe’ (the territory of the Nasa people) to be a victim in the case.⁵¹ Here we are not talking about granting, say, a river legal personality in the abstract, but a response to the motion of one group of indigenous to recognize the harm done to their land in a particular proceeding. The procedural rationale comes from needing to recognize the totality of wartime harm done to the indigenous people which cannot be accomplished without taking into account their relationship to the territory in question and the non-human inhabitants of the territory. Here it is not ecocentric harm in isolation from the harm done to particular human communities, but rather ecocentric harm made cognizable by the Colombian legal system precisely because a particular community (that the Colombian legal system is legally obliged to respect) itself identifies with and intrinsically values the natural world. The critical rationale builds on the previous, similar ruling stating: ‘*Por lo anterior, debe reconocerse, tal como se hizo en el Auto SRVBIT – 079 del 12 de noviembre de 2019 ‘la inescindibilidad del territorio y el pueblo que lo habita’, lo cual genera una interdependencia que ‘obliga a la Justicia Transicional a reconocerlos como víctimas del conflicto armado’.*’ (Therefore, it must be recognized, as was done in the SRVBIT Order - 079 of November 12, 2019 ‘the inseparability of the territory and the people that inhabit it’, which generates an interdependence that ‘forces [this court] to recognize them as victims of the armed conflict’).⁵²

Here, the role of ecocentric harm and identity is central. The court cannot ignore ecocentric harm without disregarding the identification the Nasa people have with the territory of Cxhab Wala Kiwe. The court must either take the (at least to a degree) ecocentric value system of the Nasa people into account or diminish the full participation of the Nasa people in the transitional justice process. Because of the ecocentric value system, the people and territory are ‘inseparabilidad’ (inseparable). They both must be recognized as victims of the armed conflict. To build peace, wartime harms to both must be taken into account.

⁵⁰ Acreditación de víctimas colectivas, 2020 SRVR 002 car, 17 January 2020, available at www.coljuristas.org/observatorio_jep/documentos/documento.php?id=142 accessed 14 March 2023.

⁵¹ *Ibid.*, 26.

⁵² *Ibid.*

This does not require the entire Colombian legal system to adopt an ecocentric approach to the exclusion of an anthropocentric approach. Indeed, many actors within the Colombian Transitional Justice system may not share the value system of the indigenous people participating, but taking steps to preserve the natural world at least preserves the option of it being valued by those most connected to it.

5. CONCLUSION: THE VALUE OF ECOCENTRISM FOR INTERGENERATIONAL AND INTERCOMMUNAL EQUITY

In this chapter, I set out anthropocentrism and ecocentrism as contrasting approaches to environmental peacebuilding. I concluded that it is impossible to fully unify these approaches. However, in the third part of this chapter, I described two methods of managing the irreducible tension between anthropocentrism and ecocentrism: appealing to optionality and identity. Both methods emphasize the long-term, building on the central metric of time espoused in the second part of this chapter. One benefit of emphasizing the intrinsic value of the biotic community is specifically this potential to expand the temporal scope of concern during peacebuilding.

A rational, ethical, anthropocentric decision-maker may not need appeals to ecocentric values to take a long-term, intergenerational approach to peacebuilding. But it is also understandable why many engaged in constructing a tentative peace in the aftermath of armed conflict would prioritize short-term needs. One virtue of emphasizing the value of preserving wildlife, habitat, species preservation, and our shared ecosystem and biosphere during these fragile periods is that the inherent scope of these concerns tends to be longer-term. This feeds into the approach in international law to be concerned with intergenerational equity, particularly with respect to climate change.⁵³ It also recognizes that different communities may have differing systems with respect to the intrinsic value of the natural world. Fundamentally, peacebuilding must be concerned with reconciling the different value choices of different communities. Further, peacebuilding must preserve the options for future communities to continue to build societies of opportunity, where that opportunity is defined by the people themselves. Avoiding the destruction inherent in a return to armed conflict and preventing the devastation to the biotic community that too often flows from a purely anthropocentric-approach — these require more than a horror at what can be lost. At its best, environmental peacebuilding should be a profoundly creative act, where, following Leopold, Sen, and Berlin, the boundaries of concern are expanded, both in time and in biological scope.

⁵³ See e.g., Edith Brown Weiss, 'Climate change, intergenerational equity, and international law' (2007) 9 *Vermont Journal of Environmental Law* 615; Brett M. Frischmann, 'Some thoughts on shortsightedness and intergenerational equity' (2004) 36 *Loyola University Chicago Law Journal* 457; James C. Wood, 'Intergenerational equity and climate change' (1995) 8 *Georgetown International Environmental Law Review* 293.