

Introduction

1.1 SETTING THE SCENE

The world is facing unprecedented environmental challenges. We have exceeded a number of critical planetary boundaries and are facing crises of climate change, biodiversity loss and pollution. Without an urgent change of course, we risk potentially catastrophic shifts in the systems that sustain human and non-human life on our planet. We have arrived at this point because of a historic attitude of entitlement towards Earth's natural resources and, more recently, a failure of political and economic processes to respond to a crescendo of warnings from the scientific community.

Collectively, our past and ongoing actions have set a trap for future generations. At best, they will bear the responsibility of repairing the environmental damage already wrought at the expense of pursuing other opportunities for their own flourishing. At worst, they face the prospect of a planet which cannot supply them with adequate and safe food, water and shelter and which is subjected to regular catastrophes of extreme weather, in a context of increased inequity, disease and conflict.

These profound environmental and social challenges have been a focus of human rights discourse for some time now, and the potential for environmental damage and destruction to affect human rights is plain to see. Climate change is the biggest threat to human rights the modern world has ever confronted, a multiplier of existing inequalities and vulnerabilities, and a potential existential danger if not tackled urgently. As our understanding of the natural world improves, guided by the knowledge of Indigenous peoples and enhanced by scientific endeavours, we have come to appreciate that all harm to the environment affects human rights.

Just as the climate crisis has presented an unprecedented problem for science, economics and politics, so too is it a massive challenge for human rights law. Twenty years ago, the first seeds of a climate movement based in human rights were planted with an Inuit petition to the Inter-American Commission on Human Rights. Enthusiasm for human rights-based approaches to climate change has gathered momentum, and we have seen climate litigation using human rights law in many jurisdictions. This trend has coincided with a growing recognition of environmental human rights, most recently by the UN General Assembly in its resolution on the right to a clean, healthy and sustainable environment.

However, it has taken some time for international law to catch up with the instinctive understanding that human rights and the environment are intricately linked. There have been cases where environmental conditions have been found to represent a breach of human rights, and some expert bodies have sought to articulate the relationships between human rights and the environment, but the protection of environmental rights at the international level is piecemeal at best. And, despite this progress, these legal frameworks have struggled to address environmental harm that is predicted to impact human rights in the future.

At the time of its inception, human rights law offered such immense potential to prevent the sorts of indignities and violence that the world had witnessed during the Second World War. Since then, we have seen countless examples of governments failing to live up to that optimistic vision of a world based on respect for inherent human dignity; yet through those times there has been a sense that human rights law at least had the language to express our collective admonition, if not also the tools to punish the wrongdoers and prevent future violations. Climate change has tested our faith in human rights, as we have seen governments and private companies knowingly act in ways that undermine human security, agency and dignity.

In trying to understand why international human rights law (IHRL) has come up short in dealing with long-term climate change, I have been drawn to the work of Dryzek and Pickering and their concept of ecological reflexivity.¹ The laws, institutions and processes of human rights have not been able to adapt to the environmental crisis that is unfolding, even though we can clearly see the way that environmental conditions and the ecological state of the planet impact on people's human rights. Human rights law needs more 'ecological reflexivity' – a capacity to adapt to ensure its ongoing relevance and usefulness as planetary conditions change.

¹ John S Dryzek and Jonathan Pickering, *The Politics of the Anthropocene* (Oxford University Press, 2018).

This book presents an account of the main reasons why IHRL has not adequately addressed the environmental threats facing future generations. These reasons go back to the original conceptualisation of IHRL as a framework for protecting citizens against the harmful excesses of their own governments. The early human rights treaties focused on restraining governmental power, with the addition of some positive expectations to advance the enjoyment of all human rights. The legal enforcement of these obligations remained limited. As the realities of environmental and climate impacts have emerged, IHRL has continued to adopt individualised, backwards-looking models of liability, instead of more forward-focused, collective and cooperative responsibilities. It remains constrained by outdated geographic and temporal limitations on state responsibilities.

Because state duties have been defined relative to their spheres of jurisdiction and control, human rights litigation was for a long time limited to cases brought by people against their own governments. There were some exceptions to this, but these were usually in circumstances where a person found themselves within the territory or under the control of a foreign state. There were occasional attempts to litigate a transboundary human rights impact, such as a shooting across an international border or foreign military activity, but these were only successful where it was shown that the state had exercised control resulting in a direct impact on the applicant's human rights.

More recently, human rights case law and commentary have started to open up to the idea of extraterritorial obligations. Now, if a state's actions have a foreseeable impact on the rights of people in other countries, it is more likely that their human rights obligations will be engaged. However, despite this expansion of human rights duties into other geographic spaces, they remain limited in terms of time. For a state to be responsible for protecting against a future threat to human rights, it is usually necessary to show that the risk is specifically identifiable, directly linked to the state's actions and set to manifest imminently. It is still very difficult to establish that a state has a legal obligation to protect against long-term impacts on human rights. At the international level at least, litigation is not possible on behalf of future generations, even where there is strong evidence that their rights will be negatively affected by a state's actions.

This book is an attempt to chart a different course that might overcome this problem. It seeks to pinpoint the reasons why IHRL has difficulty addressing future environmental harm and then proposes a number of recommendations to help solve these problems. The barriers identified relate to the nature of states' obligations, to whom they are owed and what they require, as well as the issue of who can bring legal action to enforce IHRL. Further questions of how

an allegation might be proved and what causation looks like in the context of future human rights impacts are also addressed.

The analysis in the book concentrates on human rights litigation, rather than other forms of human rights advocacy, supervision or education. There are several reasons for this focus. To begin with, the limitations of IHRL have been born out of the interpretations of human rights courts and tribunals. Human rights cases are the setting where we have tested the limits of the law and are therefore a key space where new paths can be opened up. Amending international human rights treaties is a much more difficult undertaking but is arguably unnecessary if changes can evolve through judicial interpretation. Perhaps more importantly, the effectiveness of human rights laws is often judged through our ability to enforce them. If rights cannot be enforced against a government whose actions threaten their enjoyment, we might question the value of the laws that claim to protect those rights.

The discussion in this book also focuses on international law, rather than domestic or regional human rights law, although some lessons are taken from domestic and regional litigation. There are a few reasons for this. For one, IHRL sets the tone for national laws by imposing obligations on countries and establishing standards that governments are expected to meet. Adapting IHRL to include more future-focused duties should therefore serve as a driver of change at the local level. IHRL is also positioned as a last resort for enforcement when local mechanisms fail. Complaints to the human rights treaty bodies are available after the exhaustion of local remedies. IHRL is therefore the last chance to address a problem that can't be fixed elsewhere, so plugging the gaps in international law can be a way of safeguarding rights in the absence of domestic law. And finally, many of the issues that threaten the environmental rights of future generations are governed by international rules and regulations, such as the UN Framework Convention on Climate Change or the UN Convention on the Law of the Sea's regime for deep seabed mining, or influenced by principles of international environmental law. The book seeks to reach a deeper understanding of how these different sets of norms might interact and influence the rights of future generations.

With this in mind, the book attempts to understand and overcome the reasons why litigating future generations' human rights is so difficult in IHRL. By unpacking the specific aspects of human rights litigation that are sticking points for future generations' cases, we can then target these areas in seeking new approaches. The result is a number of suggested changes to the way we think about the building blocks of litigation, including jurisdiction, standing, admissibility, causation and proof. The book also suggests a revised approach to defining states' obligations, which is inspired by intergenerational equity and

informed by the precautionary principle and due diligence. The result is a set of duties and principles which, it is hoped, could make IHRL more future-focused and operationalise the general notion that states owe obligations to protect the rights of future generations. Before providing a short overview of the argument presented in the book, a few preliminary matters need to be clarified.

1.2 DEFINITION OF FUTURE GENERATIONS

One of the challenges of securing the rights of future generations has been the fact that for a long time we haven't had an agreed definition of who the term applies to. The means and effectiveness of protecting their rights will vary considerably depending on whether the class includes only unborn people or also extends to children. This can also influence whether we think it is necessary to protect future generations' rights at all.

John Knox, former UN Special Rapporteur on the environment and human rights, has argued that we can address the impacts of climate change and other environmental harms on future generations if we work to secure the rights of all people who will be alive at a certain point in the future, say the year 2100. He argues we can do this by focusing on the rights of children today.² Others have argued that we can achieve intergenerational justice (including for generations not yet born) by working to improve children's enjoyment of human rights.³

While it's clear that children overlap with future generations, protecting future generations' rights is distinct from protecting children's rights for many reasons. As will be explained in Chapter 4, a key reason for distinguishing future generations from children is that children alive today do not necessarily have the same interests as people who will be born in the future. In relation to enforcement through litigation, relying on children to act as representatives of future generations is also problematic. Aoife Nolan has argued that amalgamating children's rights with future generations' rights could distort both sets of rights and the duties that go with them, undermining our efforts to advance rights for both groups.⁴ Aoife Daly has also argued

² John H Knox, 'Constructing the Human Right to a Healthy Environment' (2020) 16(1) *Annual Review of Law and Social Science* 79.

³ Karin Arts, 'Children's Rights and Climate Change' in Claire Fenton-Glynn (ed), *Children's Rights and Sustainable Development* (Cambridge University Press, 1st ed, 2019) 216.

⁴ Aoife Nolan, 'Children and Future Generations' Rights before the Courts: The Vexed Question of Definitions' (2024) 13(3) *Transnational Environmental Law* (in press); see also Aoife Nolan, 'Children's Rights and Climate Change at the UN Committee on the Rights of the Child: Pragmatism and Principle in *Sacchi v Argentina*', *EJIL: Talk!* (20 October 2021)

that children and future generations are distinct classes and that there is no overlap between the two and that future generations are those who are not yet born.⁵ The *Maastricht Principles on the Human Rights of Future Generations* similarly defines future generations as ‘those generations that do not yet exist but will exist and who will inherit the earth. Future generations include persons, groups and peoples’.⁶

Part of the difficulty in defining future generations is the fluidity of generations. Each generation overlaps with those which come before and after it, and there will be many differences in the needs, interests, capabilities and vulnerabilities of different groups between and within each generation. Consequently, we should be careful not to consider future generations as one single, abstract group. The *Maastricht Principles* address this in the Preamble, which says: ‘Human generations exist within an unbroken continuum that is continually renewed and redefined as untold new members join the living human community. Any treatment of human generations and their respective rights must recognize and reflect this continuum’.⁷

A similar approach was recently endorsed by the UN Committee on the Rights of the Child, in its General Comment on children’s rights and the environment. In addressing the relationship between children’s rights and the environment, the Committee recognised:

the principle of intergenerational equity and the interests of future generations . . . While the rights of children who are present on Earth require immediate urgent attention, the children constantly arriving are also entitled to the realization of their human rights to the maximum extent. Beyond their immediate obligations under the Convention with regard to the environment, States bear the responsibility for foreseeable environment-related threats arising as a result of their acts or omissions now, the full implications of which may not manifest for years or even decades.⁸

In keeping with this idea of a continuum of constantly arriving and renewing generations, this book does not place any temporal restrictions on the class of future generations. Instead, it defines them as persons who do not yet exist, but

<www.ejiltalk.org/childrens-rights-and-climate-change-at-the-un-committee-on-the-rights-of-the-child-pragmatism-and-principle-in-sacchi-v-argentina>.

⁵ Aoife Daly, ‘Climate Competence: Youth Climate Activism and Its Impact on International Human Rights Law’ (2022) 22(2) *Human Rights Law Review* 1.

⁶ ‘Maastricht Principles on the Human Rights of Future Generations’ 1 <www.ohchr.org/sites/default/files/documents/new-york/events/hr75-future-generations/Maastricht-Principles-on-The-Human-Rights-of-Future-Generations.pdf>.

⁷ Ibid Preamble, para III.

⁸ Committee on the Rights of the Child, ‘General Comment No. 26 (2023) on Children’s Rights and the Environment, with a Special Focus on Climate Change’ [11].

will exist in the future. There is no limit on how far into the future the definition extends, but it is noted that, as future people become more remote in time, the challenges of knowing and protecting their interests become more difficult. The definition encompasses both individual members of future generations and groups who will exist in the future, but does not view future generations as a collective themselves. Thus, it seeks to find ways to protect both individual and group rights of future generations.

It is important to note that 'future generations' is not intended to include embryos or foetuses. The choice to define future generations as persons who 'do not yet exist but will exist in the future' rather than 'unborn people' is a deliberate one to minimise any potential application to foetuses or distortion of future generations' rights into rights of unborn children. The recognition of the rights of people who will exist in the future does not imply a right for any currently unborn person to be born, and does not in any way override the right of women or people capable of becoming pregnant to make their own sexual and reproductive choices.

The Maastricht Principles make a similar point, explaining that:

Nothing in these Principles recognises any rights of human embryos or foetuses to be born nor does it recognise an obligation on any individual to give birth to another. These Principles may not be construed as accepting any interferences with the bodily autonomy of women girls, and others who can become pregnant, including their actions and decisions around pregnancy or abortion and other sexual and reproductive health and rights.⁹

Thus, this book looks for ways to meaningfully protect the human rights of people who will exist in the future, while accepting that future people are constantly arriving in the present, and without distinguishing between different groups of future people.

1.3 RATIONALE FOR PROTECTING FUTURE GENERATIONS' ENVIRONMENTAL RIGHTS

The argument which runs through this book begins from the premise that IHRL should protect the environmental rights of future generations. It presents several reasons for this, beginning with the fact that there are many environmental problems that have serious long-term effects on human rights. As the case studies in this book will illustrate, many of the greatest environmental problems facing the world are rightly understood as human rights

⁹ Ibid 4(c).

problems as well. Because the environmental damage is long-term, so too is the human rights impact.

For example, climate change threatens a wide range of human rights. This has been acknowledged for over a decade now, with the UN High Commissioner for Human Rights recognising the human rights risks of climate change as early as 2009.¹⁰ A large body of work has identified the impacts of climate change on human rights and the role of human rights law in addressing this global problem.¹¹ Rising temperatures due to climate change will increase future generations' exposure to extreme weather events like bushfires and floods, impact on their food and water security, and put them at risk of new and exacerbated health problems. It is clear, therefore, that future generations will be forced to deal with the long-term human rights consequences of present-day environmental decision-making.

What is more, the risks and burdens facing future generations become increasingly serious the longer we delay taking action, due to the ways in which climate change 'feeds itself' through exponentially worsening feedback loops and the potential of reaching critical planetary tipping points.¹² The fact that future generations will suffer interferences with their human rights as a result of climate change is recognised as a significant intergenerational injustice, which is exacerbated by the fact that future generations have had no role in causing the problem and have no voice in deciding on laws and policies to address it.¹³

¹⁰ Office of the High Commissioner for Human Rights, *Report of the Office of the United Nations High Commissioner for Human Rights on the Relationship between Climate Change and Human Rights* (15 January 2009).

¹¹ Meinhard Doelle, 'Climate Change and Human Rights: The Role of the International Human Rights in Motivating States to Take Climate Change Seriously' (2004) 1(2) *Macquarie Journal of International and Comparative Environmental Law* 179; John Knox, 'Climate Change and Human Rights Law' (2009) 50 *Virginia Journal of International Law* 163; John H Knox, 'Linking Human Rights and Climate Change at the United Nations' (2009) 33 *Harvard Environmental Law Review* 477; Ole Pedersen, 'Climate Change and Human Rights: Amicable or Arrested Development?' (2010) 1(2) *Journal of Human Rights and the Environment* 236; Sumudu Atapattu, *Human Rights Approaches to Climate Change* (Routledge, 2016); Bridget Lewis, *Environmental Human Rights and Climate Change: Current Status and Future Prospects* (Springer, 2018); Ottavio Quirico and Mouloud Boumghar (eds), *Climate Change and Human Rights* (Routledge, 2015).

¹² For a helpful discussion of the justice implications of these feedback loops, see Henry Shue, *The Pivotal Generation: Why We Have a Moral Responsibility to Slow Climate Change Right Now* (Princeton University Press, 2021).

¹³ Bridget Lewis, 'The Rights of Future Generations within the Post-Paris Climate Regime' (2018) 7(1) *Transnational Environmental Law* 69; Bridget Lewis, 'Human Rights Duties towards Future Generations and the Potential for Achieving Climate Justice' (2016) 34(3) *Netherlands Quarterly of Human Rights* 206.

Our responses to climate change also raise issues with respect to future generations' environmental rights. For instance, decisions about how to transition to renewable energy involve many choices about where to build wind and solar farms, the outcome of which can have long-term environmental impacts if not properly regulated. 'Green' technologies like solar panels and electric vehicles require critical minerals which are in increasing demand, triggering a new mining boom even as fossil fuel extraction decreases. A new frontier for such exploration is the deep seabed, where deposits of rare earth elements could be exploited to capitalise on this growing market. The process of extracting minerals from the seabed could threaten the marine life which lives there – ecosystems about which relatively little is known – and disturb sediments with unknown consequences for water quality and sea life more broadly. The desire to cut energy-based emissions also raises the prospect of greater reliance on nuclear energy as an alternative to fossil fuels, with associated concerns about the location of facilities and the management of waste products.

Geoengineering, the deliberate manipulation of the Earth's systems, has been on the table for some time as a possible strategy for counteracting anthropogenic climate change.¹⁴ The possibility of 'fixing' climate change through technology has obvious appeal. Furthermore, most of the scientific modelling of pathways that could succeed in keeping global warming within the agreed limit of 2°C assumes that some form of 'negative emissions' technology like carbon capture and storage is going to be employed.¹⁵ It is therefore very likely that decisions will be made in the near future to pursue or scale up various geoengineering strategies.

While geoengineering promises to help us avoid the dangers of climate change, it also presents its own risks and uncertainties. Geoengineering might have significant negative impacts on atmospheric, geologic and marine systems, with possibly severe consequences for future generations. Once we have committed to a particular geoengineering strategy, the consequences of failure or sudden deactivation of that technology could be extremely serious.¹⁶

¹⁴ Royal Society (Great Britain), *Geoengineering the Climate: Science, Governance and Uncertainty* (The Royal Society, 2009).

¹⁵ Katherine Calvin et al, *Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change (Summary for Policymakers)* (Intergovernmental Panel on Climate Change (IPCC), 25 July 2023) 22–23.

¹⁶ Andy Parker and Peter J Irvine, 'The Risk of Termination Shock from Solar Geoengineering' (2018) 6(3) *Earth's Future* 456.

There are other risks associated with the technology options we choose. Decisions about which technologies we research, field-test and scale up, the locations of those activities and the ways in which they will be monitored and regulated create the potential for path dependence and lock-in, which may foreclose other options for future generations.¹⁷ Once locked in, the challenge to maintain the chosen technology and prevent potential catastrophe from ‘termination shock’ will fall to future generations. The application of human rights law to decisions regarding geoengineering therefore deserves greater consideration.

Alongside the climate crises, the planet is on the brink of an extinction disaster, with biodiversity loss occurring at an increasing rate. There are many separate but compounding causes for this, including habitat loss and fragmentation, over-exploitation through hunting and fishing, pollution and climate change. Because of the interconnectedness of ecosystems, the decline or loss of one species can have drastic ramifications for other related species.

Biodiversity loss must also be understood as a human rights issue. The protection of biodiversity has instrumental value for the enjoyment of a wide range of rights. We need only consider the importance of insect pollinators for the survival of agricultural industries to recognise the key role which these species play in our economies and in ensuring food security. The emerging theory of One Health also explains the critical role which biodiversity plays for human health. It has been defined as:

An integrated, unifying approach that aims to sustainably balance and optimize the health of people, animals and ecosystems. It recognizes the health of humans, domestic and wild animals, plants, and the wider environment (including ecosystems) are closely linked and inter-dependent.¹⁸

Beyond this instrumental value that biodiversity has for particular human rights, the inherent value of the non-human world is increasingly understood to have significance within human rights. Many jurisdictions now recognise more ecocentric versions of the right to a healthy environment, through which the well-being of the environment itself must be protected, not just its role in advancing human well-being. For Indigenous peoples, certain species and ecosystems can have important cultural and spiritual value, such that a loss of biodiversity has direct impacts on the well-being of both individuals and

¹⁷ Catriona McKinnon, ‘Sleepwalking into Lock-in? Avoiding Wrongs to Future People in the Governance of Solar Radiation Management Research’ [2018] *Environmental Politics* 1.

¹⁸ ‘Joint Tripartite (FAO, OIE, WHO) and UNEP Statement: Tripartite and UNEP Support OHHLEP’s Definition of “One Health”’.

communities. The widespread threats to biodiversity can therefore be understood as a significant threat to human rights as well.

Once we accept that these environmental problems are also human rights problems, responding to them adequately requires that we recognise and address their human rights consequences. And because these environmental problems are long-term issues, our human rights-based responses must also address the human rights consequences for future generations.

This book also argues that IHRL must address future generations' environmental rights because it is just and right to do so. The intrinsic link between human rights and justice is at the foundation of modern human rights law, reflected in fundamental concepts of universality, equality and non-discrimination. If this commitment to equality and justice is to mean anything in the context of environmental rights, human rights protections should extend to future generations, given the very serious ways in which their rights will be impacted by future environmental harms. It is also appropriate that IHRL reflects the broad perspectives of the people and communities that it seeks to protect. This entails a need to be open to non-Western and Indigenous perspectives regarding intergenerational responsibility. Failing to do so would conflict with the ideas of equality and justice that human rights law claims to uphold. For these various reasons, the book argues that IHRL should protect the environmental rights of future generations.

1.4 THE SHORTCOMINGS OF EXISTING LAW

There are several reasons, however, why IHRL fails to meet this expectation. These flow from both the way that rights and duties are defined, as well as the rules and procedures through which they are enforced. One of the chief reasons for international human rights law's inability to address the rights of future generations is its use of imminence as a defining factor of states' obligations. Imminence is used in three different ways, though these are not entirely distinct and often bleed into one another.

First, imminence has a role in determining standing to bring a complaint under most international and regional human rights laws. In most systems, a person can bring a claim to a human rights body if they have been affected by an act or omission that has an actual or imminent impact on their rights. If the impact on their rights is more remote, they will not normally be considered a victim and will lack standing to bring a complaint.

The second sense in which imminence has been applied is in relation to positive duties of states to protect human rights. This is most relevant in relation to rights like the right to life, which imposes both negative and

positive duties on states. States have a negative duty not to kill or cause people's deaths, but also a positive duty to address life-threatening conditions by taking appropriate protective steps. However, this positive duty has been interpreted to apply only when threats to life are imminent.¹⁹ This is intended to place some limits on what states are expected to do, but it has had the effect that some threats to life, though they may be foreseeable or even likely, are deemed not to require a response from the state.²⁰

A third role that imminence has played in human rights law is in relation to causation. To establish that a state has violated its legal obligations, it is usually necessary to show that the negative human rights impact was caused by the state's act or omission. This is usually simple enough where harm has already occurred, but becomes more challenging where the harm is anticipated to occur in the future. Again, imminence has been used as the standard here. Courts can be satisfied that a causal link exists between an act and its imminent consequences. However, cases alleging more distant harm have been unsuccessful because courts have concluded that there is time for an intervening act to occur which might sever the causal chain.²¹

To further complicate matters, the meaning of imminence is not consistent, nor is the weight given to it across these three areas. It is often conflated with ideas of immediacy or directness, which focus on the specificity of an impact rather than its timeframe. A human rights breach that is expected to affect an identified individual will usually be easier to litigate than one whose victims cannot yet be known. The foreseeability of a future impact is also critical, but again this can be interpreted differently in terms of whether knowledge must be objective or subjective, specific or general. In some cases, general knowledge of foreseeable danger can be enough to trigger a state's duties, without a need to know the specifics of when or how that danger will materialise.²²

Despite these variations in the way imminence has been defined and applied, it has remained a consistent presence in international and regional human rights litigation. Any claim that seeks to address human rights impacts

¹⁹ *Osman v the United Kingdom* [1998] Eur Court HR 23452/94.

²⁰ For a very useful analysis of imminence and positive duties, see Justine Bell-James and Briana Collins, 'Human Rights and Climate Change Litigation: Should Temporal Imminence Form Part of Positive Rights Obligations?' (2022) 13(1) *Journal of Human Rights and the Environment* 212.

²¹ *Ioane Teitiota v New Zealand* [2019] Human Rights Committee Communication No 2728/2016.

²² See e.g. *Öneryildiz v Turkey* [2004] Eur Court HR [GC] 27785/10.

for future generations will be confronted with challenges in terms of establishing standing, relevant state duties and causal connections.

IHRL is also limited by the way it has approached environmental rights, which is typically through an anthropocentric rather than ecocentric framing. The development of environmental rights in IHRL has mostly been through a process of ‘greening’ existing rights, rather than recognising a standalone right to an environment of any particular quality. Thus, we have a body of case law which has found violations of rights to life, to private and family life, to an adequate standard of living or to health based on environmental harm.²³ In recent years, the United Nations General Assembly has recognised the right to a clean, healthy and sustainable environment.²⁴ However, the resolution does not recognise a standalone right to an environment of a particular quality, but instead articulates the essential interdependence of human rights and the environment. In doing so, the resolution does not create any new obligations for states. Indeed, as a General Assembly resolution it can only ever have persuasive force at best and cannot create legally binding duties.

This anthropocentric framing of the right to a healthy environment, through which the environment is protected because of its instrumental value in supporting other human rights and not for its own sake, limits its potential use for future generations. As noted earlier, human rights cases generally take the form of claims about specific, direct harms to identifiable individuals. They are more difficult to make out when the harm is more remote or diffuse. A right which protected the environment for its own sake would arguably be easier to apply in a future-oriented way, since a breach could be based on foreseeable environmental harm, even if the ‘human’ consequences of that harm were more difficult to predict.

1.5 A NEW APPROACH

This book proposes a new approach which aims to tackle both the substantive and procedural challenges in upholding environmental rights for future

²³ See John H Knox, ‘Greening Human Rights’, *openDemocracy* (14 July 2015) <www.opendemocracy.net/en/openglobalrights-openpage/greening-human-rights>; Bridget Lewis, ‘Environmental Rights or a Right to the Environment?: Exploring the Nexus between Human Rights and Environmental Protection’ (2012) 8 *Macquarie Journal of Comparative and International Environmental Law* 36; Karrie Wolfe, ‘Greening the International Human Rights Sphere? Environmental Rights and the Draft Declaration of Principles on Human Rights and the Environment’ (2003) 9(1) *Appeal: Review of Current Law and Law Reform* 45.

²⁴ United Nations General Assembly, ‘Resolution 76/300: The Human Right to a Clean, Healthy and Sustainable Environment’.

generations. It offers a new theory of intergenerational responsibility for environmental rights which is tailored to IHRL and oriented towards protecting future generations' rights. This is informed by various theories of intergenerational equity and justice, as well as the worldviews of Indigenous peoples and non-Western thinking about rights and duties. In particular, it integrates the work of Edith Brown Weiss by joining intergenerational equity with the tripartite duties to respect, protect and fulfil human rights within international law. This new model also incorporates the precautionary principle and concept of due diligence to push for a more protective, proactive interpretation of states' obligations. This, it is argued, helps to give content to states' duties to prevent harm to future generations where the risks are foreseeable.

To enable the legal enforcement of these more future-oriented duties, the proposed reforms start by recognising that future generations are holders of human rights, both individually and collectively, and that they possess the full range of rights that any person living today enjoys. The conditions upon which state duties will be engaged are inspired by recent work around extraterritorial duties: where a state exercises control over an activity which is likely to impact on future generations' rights, the state will owe duties with respect to those rights, provided that the impact was foreseeable to the state at the time it exercised that control. The model also includes provision for standing via representative claims, so that future generations' rights can be legally protected.

The final section of the book then presents three case studies which road-test this approach. First, it looks at two forms of unconventional resource extraction – fracking and deep seabed mining. The second case study looks in detail at climate change and our responses to it, considering the potential future impacts of decarbonisation, geoengineering and adaptation activities, as well as the harms of global warming itself. The third case study considers the implications of nuclear energy for future generations' environmental rights and investigates how the proposed new approach might apply to nuclear cases.

Each case study is an example of a current activity that creates risks for future generations, but each also presents slightly different issues. This helps to illustrate the strengths and potential weaknesses of the proposed new model and shows how legal arguments might need to be framed in litigation on behalf of future generations. Together, they help us to envision what might be achieved through a reformed version of IHRL based on intergenerational responsibility.

There are endless ways in which our actions today can and will impact on the ability of future generations to enjoy their human rights. Even with the

best available science and the best of intentions, it's inevitable that we will still make decisions – either knowingly or unwittingly – that have negative consequences for them. However, we can limit the dangers of this by at least ensuring that our human rights laws do not allow those negative consequences purely because they will occur in the future. This book seeks to acknowledge that we owe duties to protect the rights of future generations, and proposes a way of legally enforcing those duties. By doing so, it hopes to bring future generations' environmental rights into focus and to elevate them in state decision-making so that they can no longer be ignored.