Considering the 'Development' Potential of Property Rights in Response to Environmental Problems

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Abstract

There has increasingly been a shift in how property rights have been conceived in the context of environmental degradation. While property rights have traditionally focused on the right to exclude others from a particular resource and to provide a basis for the right to exploit certain resources, there has been a shift to a more malleable vision where these rights have developed or widened in response to environmental problems. This article argues that this shift has occurred owing to the needs presented by the 'heat' of environmental law, characterised by systemic complexity, scientific uncertainty and resource management. In this sense, the key tussle between property law and environmental law lies in their preoccupations between the notions of 'exploitation' and 'management', respectively. This article attempts to reconcile this apparent conflict and presents a more cohesive picture between these two bodies of law. It does so by responding to three questions – what, when and how – that is, what 'property rights' are; when they are needed or 'developed' in the context of environmental law; and, finally, the various forms in which they may be characterised, showing how they deal with the needs presented by environmental law. These various 'forms', it is argued, have the capacity to foster environmental protection in diverse ways, while also balancing property law's promises of the 'right to exclude and exploit'. In dealing with these questions, this article draws from various jurisdictions to illustrate the malleability of property rights as a site for environmental protection.

Keywords: Environmental Law and Property, Development of Property Rights, Property Rights and Natural Resource Management, Common Law and Environmental Problems .

1 Introduction

Traditionally, property rights have been seen as vehicles which allow persons to exploit their land and accompanying resources.[1] Central to the concept of property ownership are certain features that jurists and legal theorists have focused on: exclusion, control, enjoyment, disposition and exploitation.[2] Importantly, property rights have also been seen to be crystallised in their capacity to create enduring legal relationships.[3] However, with pressing environmental problems such as habitat destruction, biodiversity loss and changing climate, property rights have adapted, evolved and have been employed in novel ways to address claims concerning environmental protection.[4]

The aim of this article is to examine this shift or adaptive evolution of property rights in response to the demands of environmental protection. It seeks to present a cohesive understanding of the dynamic relationship between property law and environmental law – two regimes generally seen to be at odds due to their distinct preoccupations. Rather than viewing environmental law as a restriction on property rights,[5] this article advances the view that property rights can evolve from rigid entitlements to legal concepts aiding the enterprise of environmental law. In order to address this complex interrelation between property rights and environmental law, this article sets three foundational questions: *what*, *when* and *how*. These questions clarify *what* property rights are; *when* they are needed or developed to meet environmental needs; and *how* they are characterised in various forms to address the needs presented by environmental law.

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1 J. Waldron, 'What Is Private Property?', in J. Waldron (ed.), *The Right to Private Property* (1990), at 318.

2 See L. Rostill, 'The Pluralities of Property', 44 *Oxford Journal of Legal Studies* 733 (2024).

3 C.M. Rose, 'Crystals and Mud in Property Law', 40 *Stanford Law Review* 577 (1988).

4 H. Doremus, 'Climate Change and the Evolution of Property Rights', 1 *UC Irvine Law Review* 1091, at 1092 (2011); D. Grinlinton, 'The Intersection of Property Rights and Environmental Law',, 25 *Environmental Law Review* 202 (2023); B. France-Hudson, 'Surprisingly Social: Private Property and Environmental Management', 29 *Journal of Environmental Law* 101 (2017).

5 For instance, see *Lucas* v. *South Carolina Coastal Council* (1992), 505 U.S. 1003 (Scalia J. observing that an environmental regulation had the effect of denying 'all economically beneficial or productive use of land'); and also *MC Mehta* v. *Kamal Nath* (1997), 1 SCC 388 (where the Supreme Court of India, utilising the public trust doctrine, set aside a lease granted for the construction of a private resort which changed the course of the river Beas).

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Over the course of this article, these questions are answered by putting forth three contentions. First, that property rights indeed have demonstrated the capacity to develop beyond their traditional understandings. Second, it is argued that this development occurs in response to certain needs presented by environmental law. Third, that there are various forms in which such developments of property rights may be seen. These diverse forms, in turn, best address the needs that prompted their development. Ultimately, this article seeks to demonstrate that facilitating environmental protection is not necessarily achievable solely through the creation of new rights but that it could also be executed by reimagining existing rights.

In terms of methodology, this analysis draws on doctrinal methods and adopts a comparativist approach. Particularly, this article pays close attention to common law jurisdictions, with a brief engagement with the EU's market-based mechanisms. Borrowing from Jeremy Waldron's taxonomy of public, private and commons property,[6] this article provides a framework to showcase how property rights develop and how this development has responded to environmental concerns.

This article begins by attempting to define property rights and argues that, as a legal concept, property rights have proved to be malleable enough to suggest that they have the capacity to develop over time. The following section then considers when such development of property rights is needed and argues that this need can be best understood as a response to environmental problems.[7] Third, using a broad analytical framework, comprising of three property systems – private property, public property and commons property,[8] – this article demonstrates five different forms in which this development of property rights has emerged and how they deal with the needs presented by environmental problems. The term 'form' here is used to indicate the ways in which property rights appear in certain configurations across various national legal systems. This classification into *forms* is helpful for two reasons. First, these configurations represent distinct ways in which property rights manifest, contributing to the understanding of property systems as heterogeneous.[9] Second, this classification also aids a comparative perspective in understanding how similar environmental challenges are addressed through different property configurations across various national legal systems. The five forms highlighted are the constitutional right to property, the 'human right' to property, tort claims, market-based mechanisms and indigenous communities' land rights. Each form addressed in this section conforms to a specific kind of property system, and this section borrows from various jurisdictions (including the United Kingdom, the United States, India, the EU and other international human rights bodies) to showcase how these 'forms' manifest in *praxis*.

6 Waldron, above n. 1, at 326.
7 E. Fisher, B. Lange & Eloise Scotford, *Environmental Law: Text, Cases & Materials* (2nd ed. 2019), at 23.
8 Waldron, above n. 1, at 326.
9 See H. Dagan (ed.), 'Liberal Property', in *A Liberal Theory of Property* (2021), at 6.

2 Defining 'Property Rights'

Understanding the foundations and evolving definitions of property rights will lay the groundwork for analysing how these rights have expanded to incorporate environmental considerations within distinct legal systems. Traditionally, the areas of property, tort and contract have been seen as categorically distinct. This is largely attributable to the system of writs inherited from Roman Law.[10] A consequence of this distinction has been the fairly rigid classification of rights and duties, seen in the codification of separate legislations regulating the rights and duties under these categories. A consequence of this, as evidenced in various common law jurisdictions, has been the adoption of a closed number (numerus clauses) of property rights.[11] This suggests that either the closed list of property rights are rigid and crystallised[12] or that this closed list is 'difficult to enter'[13] – that is, for a right to be classified as a property right, it must meet a certain threshold.[14] However, notwithstanding the rigidity of this doctrinal classification, property rights are inherently 'plural, contestable, and dynamic',[15] which makes it difficult to precisely define them in any contained manner. Consequently, they can be conceptualised in different ways, and this is the merit of understanding its malleable nature.

Some have noted the importance of understanding property as a bundle of rights,[16] where the bundle represents the collection of individual rights with respect to owned resources. Not only does this feature prominently in property theory; it also has found its way in judicial reasoning. In *Kaiser* v. *United States*, for instance, the Supreme Court was quick to note (in a Blackstonian endorsement)[17] that the right to exclude others from one's property is indeed one of the 'most essential sticks in the bundle of rights that are commonly characterised as property'.[18]

Others have placed importance on the 'thingness' of property, where the physicality of the resource is central

10 S. Coyle and K. Morrow, *The Philosophical Foundations of Environmental Law: Property, Rights and Nature* (2004), at 2.
11 A. Burrows, *English Private Law* (2013), at 4.09.
12 See Rose, above n. 3.
13 Burrows, above n. 11, at 4.12.
14 *Ibid.* (citing Lord Wilberforce in *National Provincial Bank* v *Ainsworth* [1965] AC 174, HL: 'before a right or an interest can be admitted into the category of property … it must be definable, identifiable by third parties, capable in its nature of assumption by third parties, and have some degree of permanence or stability').
15 M. Davies, *Property: Meanings, Histories, Theories* (2007), at 17.
16 Waldron, above n. 1, at 315.
17 *Ibid.*, at 334.
18 *Kaiser Aetna* v. *United States*, 444 U.S. 164.

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to the relationship between people.[19] Such an understanding, for example, features prominently in cases concerning Article 8 of the ECHR where certain rights are triggered as a consequence of homeowners' ability to enjoy their property free from pollution, interference or adverse activity in the surrounding environment.[20] Here, the physicality of the property as a home or land is critical to establishing a legal right to enjoy the resource, as well as an infringement of the said right of enjoyment in case of interference. In fact, there has been a trend of 'greening' Article 8 in cases where victim status or legal standing of applicants before the ECtHR is often based on their proximity to the site of pollution.[21] In this context, the right to privacy has been interpreted in a manner that recognises the impacts of environmental pollution on individual well-being. While there exists no textual reference or doctrinal basis for reading environmental protection under Article 8, this has been brought within its purview through case law, emphasising of individuals enjoying their property free from harmful environmental effects.

We may also turn to a 'thicker' definition which focuses on the relationships that are generated by property rights. Grinlinton, for example, defines property rights as a 'collection of enforceable rights and correlative obligations concerning land and associated natural resources'.[22] This allows for an appreciation of the concept of property in terms of its capacity in creating determinable legal relationships. This is seen, for example, in cases such as *R* v. *Mott*,[23] where the UK Supreme Court was confronted with a proprietary claim in the form of a salmon fishing licence and the leaseholder's *right* to catch fish for commercial purposes. Correlated to this was a *duty* on the authorities to preserve this right of commercial fishing. Thus, upon the Court finding that over 95% of the benefit of the right was extinguished due to the imposition of catch limits, the authority's conditions were seen more akin to expropriation of his proprietary interest, and he was due compensation.[24]

A common thread underlying these various definitions is that the concept of 'property rights' is contested and there is a plurality associated with its understanding. Given this, I argue that this flexibility and plurality of property rights can instead be conceptualised in terms of their 'development'. This is broadly due to the case-driven nature of common law which has exhibited a piecemeal approach towards regulation.[25] The development of the principle of 'absolute' liability in Indian law is one such illustration. After the leak of methyl isocyanate from Union Carbide Corporation's factory in Bhopal, India (the 'Bhopal Gas Leak'), the principle of absolute liability seems to have been specifically carved out in a case immediately preceding the determination of liability in the Bhopal Gas Leak case. In 1989, in *MC Mehta* v. *UOI* (the 'Oleum Gas Leak' case),[26] Bhagwati J. gave his opinion concerning the leak of oleum gas from one of the units of Shriram Foods and Fertilizers. Importantly, the Oleum Gas Leak took place in December 1985, a year *after* the Bhopal Gas Leak in December 1984. Bhagwati J. is seen to lay the foundation of this principle through this case, with the presumable expectation that it would be later utilised by the bench deciding the Bhopal Gas Leak case.[27] The following excerpt from the Oleum Gas Leak case is worth reproducing, to illustrate common law's piecemeal development:

> We in India cannot hold our hands back and I venture to evolve a new principle of liability which English courts have not done. We have to *develop our own law and if we find that it is necessary to construct a new principle of liability* to deal with an unusual situation which has arisen and which is likely to arise in future on account of hazardous or inherently dangerous industries which are concomitant to an industrial economy, *there is no reason why we should hesitate to evolve such principle of liability merely because it has not been so done in England*. We are of the view that an enterprise which is engaged in a hazardous or inherently dangerous industry which poses a potential threat to the health and safety of the persons working in the factory and residing in the surrounding areas owes an absolute and nondelegable duty to the community to ensure that no harm results to anyone on account of hazardous or inherently dangerous nature of the activity which it has undertaken (emphasis added).[28]

Here, Bhagwati J. while creating a 'new principle of liability' showcases how the principle of strict liability, being insufficient, needed to develop to deal with hazardous and dangerous industries. It is interesting particularly because of the shifting attitude towards what constitutes a 'natural' use of property, and the development of the principle indicates a limitation on the exercise of these proprietary rights.[29] The overarching point made is that common law, while addressing environmental regulation, has only developed in an incremental manner. When and how this development has taken place is explored in Sections 3 and 4 of this article.

19 S. Blandy, S. Bright & S. Nield, 'The Dynamics of Enduring Property Relationships in Land', 81 *Modern Law Review* 85, at 92 (2018).

20 See *Budayeva & Ors* v. *Russia*, ECHR (2008) 15339/02; *López Ostra* v. *Spain* (1995) 20 EHRR 277.

21 I have previously written on this in a short blogpost, available at Mahima Balaji, Another 'Green Reading' of Art. 8 of the ECHR in *Pavlov & Others* v *Russia*' (Oxford Human Rights Hub, 29 November 2022), https://ohrh.law.ox.ac.uk/another-green-reading-of-article-8-of-the-echr-in-pavlov-others-v-russia/.

22 D. Grinlinton, 'The Functions of Rights of Property in Environmental Law', in D. Fisher (ed.), *Research Handbook on Fundamental Concepts of Environmental Law* (2016), at 394.

23 *R (on the application of Mott)* v. *Environment Agency*, UKSC (2018) 10.

24 *Ibid*., p. 37.

25 Coyle and Morrow, above n. 10, at 110.

26 1987 AIR 1086.

27 It is noteworthy that the bench in the *Oleum Gas Leak Case* in 1992 ultimately turned away from the *MC Mehta* principle in quantification of damages. See *Union Carbide Corporation* v. *Union of India*, AIR 1992 SC 248 [74].

28 *Ibid*., at 31.

29 See Coyle and Morrow, above n. 10, at 124.

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At this juncture, I must now clarify how 'development' itself is construed. This may broadly be on two fronts – through the creation of new rights and through a transformative reading of existing ones. First, the classical liberal vision of private property maintains at its core exclusion and exploitation while also promoting individual autonomy.[30] In this piece, the various 'forms' of property rights I consider – including fisheries quotas,[31] mining permits[32] and emission trading schemes (ETS)[33] – all maintain a similar 'core' concerning the right of exclusion. However, they all present novel ways of reimagining *exploitation*. I argue this to be a consequence of how they are creations of new rights concerning regulation with respect to access or control in existing objects or resources to better manage resource scarcity.[34]

A second way of thinking about 'development' can be in a sense beyond the creation of new rights in existing objects/resources. Instead, it can also be seen via a transformative reading of existing rights and concepts already conferred by the law. Such a 'transformative' reading of existing rights is seen specifically in the context of the constitutional right to property, human rights, tort claims and indigenous communities' land rights. Both ways, however, are hinged on an understanding that property rights are malleable, which makes it a suitable device for environmental law.

3 Property Rights as a Response to Environmental Problems

Identifying the circumstances that necessitate the development of property rights is crucial to understanding their role in aiding the enterprise of environmental law. In this context, it would be helpful to begin this section with the simple question: *when* is the development of property rights needed? The previous section of this article focused on the development potential of property rights, with a specific reference to the nature of common law. However, there is an argument to be made concerning the very relationship between property rights and environmental law, which can be seen as interactive and evolving.[35] For this section, there are two themes that this article suggests which play an important role in conceptualising when property rights develop. The first borrows from the economic narrative of the evolution of property rights towards greater private ownership, particularly that property rights develop when they are needed and in the form that fits their need.[36] The second suggests that the very nature of environmental law as 'hot' law,[37] being in a constant state of flux, serves as an important factor for the development of property rights.

A useful starting point to explore the relationship between environmental problems and property rights is to take an illustration – namely, Hardin's famous description of the tragedy of the commons.[38] Using the example of a common pasture available to all and owned by none, he highlights the individual drive to maximise self-interest and utilise the pasture where the costs (despite the unequal usage) are distributed fairly evenly. In the case of commons, each individual attempts maximising their own benefit by intensifying their use of the pasture, typically by adding more grazing animals. There is little regard to the 'common' nature of the resource, and the cost associated with the resulting depletion is borne by all users. This distribution of costs diminishes the incentive for any one user to exercise restraint with respect to their utilisation of the resource, as each individual anticipates that others will bear the burden of degradation. The cumulative impact of these individual actions leads to overgrazing and depletion of the common pasture as the combined demand exceeds its regenerative capacity. Consequently, the tragedy is inevitable unless property rights are considered to control access to the resource.[39]

This evolution of property rights, as articulated by Demsetz,[40] suggests that property rights emerge and adapt in response to societal needs. This is particularly relevant in the context of environmental problems where there exists a risk of resource depletion. Here, the theory implies that property rights develop as a means to address the inefficiencies of common ownership – highlighted in the description of the tragedy of the commons above. In sum, where a resource is scarce or at the risk of depletion, if the benefits of controlled access outweigh the costs, property rights are likely to be established as a solution to prevent overuse.[41] This malleability of property rights is both helpful and necessary while considering their utility for understanding environmental impacts of resource use.

Yet, as Doremus highlights, this evolution is not solely driven by economic efficiency. Rather, it is shaped by a complex landscape of socio-political factors.[42] Importantly, legal change in practice is slow and intentional, and law favours stability.[43] Notably where property

30 France-Hudson, above n. 4, at 107; Fisher, Lange, & Scotford, above n. 7, at 63.
31 Mott, above n. 23.
32 Section 17 of the National Planning Policy Framework (concerning the grant of permission for mining extraction).
33 EU Council Directive 2003/87; France-Hudson, above n. 4.
34 Fisher, Lange & Scotford, above n. 7, at 63.
35 E. Scotford and R. Walsh, 'The Symbiosis of Property and English Environmental Law – Property Rights in a Public Law Context', 76 *Modern Law Review* 1010, at 1011 (2013).
36 H. Demsetz, 'Toward a Theory of Property Rights', 57 *The American Economic Review* 347 (1967); Doremus, above n. 4.
37 See E. Fisher, 'Environmental Law as "Hot" Law', 25 *Journal of Environmental Law* 347, at 351 (2013).
38 G. Hardin, 'The Tragedy of the Commons', 162 *Science* 1243, at 1244 (1968).
39 *Ibid.*, at 1245.
40 Demsetz, above n. 36; ('property rights arise when it becomes economic for those affected by externalities to internalize benefits and costs').
41 Doremus, above n. 4, at 1095.
42 *Ibid.*, at 1099.
43 *Ibid.*, at 1105.

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rights are concerned, as noted earlier, there is a preference for numerus clauses (or a closed number) of property rights.[44] This doctrinal structure is a notable feature of common law jurisdictions, where general tendency has been a preference for doctrinal rigidity associated with property rights. As observed by Lord Brougham, 'Great detriment would arise and much confusion of rights if parties were allowed to invent new modes of holding and enjoying real property.'[45]

This rigidity of property rights in common law tradition could also be traced back to the colonial codification exercise. In India, for instance, Balganesh notes that rigidity was very much the intention of the colonial codification project concerning the Transfer of Property Act, 1882, which sought to render the law clearly ascertainable to judges.[46] He attributes the same to the 'crystallisation' strategy, where the focus was adopting 'tightly worded rules', stifling incremental development of the law, thereby freezing it.[47]

In response to this rigidity, particularly concerning codification and the role of legislatures in creating property rights, Doremus identifies that courts play a pivotal role in either blocking or facilitating the adaptation of property rights. It is suggested that they must be slow to 'freeze' property rights by limiting their adjustment.[48] Here, the second theme offered by this article is relevant, which suggests that the unique nature of environmental problems raises pertinent questions for the body of property law, which serves as an important factor in facilitating the latter's development.

Environmental problems are characterised by their systemic complexity, ability to cross boundaries (both conceptually and jurisdictionally), and their 'collective' nature.[49] In *Neubauer et al*. v. *Germany*,[50] the German Constitutional Court observed these elements in assessing climate change as an environmental problem and considered the interests of varied generations, the role of multiple actors and the jurisdictional scope of the Court due to trans-boundary pollution and harm.[51] In this sense, environmental law is 'hot' law,[52] in that it deals with 'hot' situations that are characterised by significant contestation of rights, frames and even ways of how the world is understood. Simply put, environmental law is in a constant state of flux, in its dealings with environmental problems.[53] Given this, I argue that the needs presented by environmental problems are one of the factors that have led to the development of property rights.

However, in understanding why property rights develop in response to environmental problems (and the various forms it takes), it is important to preface such a discussion by first outlining how environmental law shapes understandings of property rights and its capacity to do so. I argue that this is largely for two related reasons. The first is direct and it involves turning to the content of environmental law which is largely administrative in nature.[54] Several fields, such as nature conservation,[55] the regulation of toxic chemicals,[56] or even the grant of clearances for 'polluting' activities,[57] involve questions of administrative regulation. These regimes involve deliberative choices concerning environmental problems and land-use (including natural resource management), directly also implicating proprietary interests.

Second, the legally interdisciplinary nature of environmental law implicates public and private law doctrines which interact with environmental regulations in complex ways,[58] including determining what a 'productive' use of land entails. Notably, jurisdictions with their diverse legal cultures often give colour to understanding how these doctrines may supplement or contradict each other.[59] In the case of *Lucas* v. *South Carolina Coastal Council*,[60] for example, the US Supreme Court was primarily concerned with what an 'economically beneficial' use of land constitutes and whether a deprivation of such a benefit would constitute a 'taking' in contravention to the petitioner's rights.[61] Importantly, the case focused on South Carolina's Beachfront Management Act that sought to preserve the ecosystem of the beach and preserve the stability of the coastal environment.[62] This restricted Lucas' land-use rights, and, importantly, Scalia J.'s majority opinion highlights important intersections between environmental problems and private property.

The primary issue for the majority was that the petitioner was rendered without 'productive options' due to environmental regulations. Important was Scalia J.'s concern that the ecological model presented a 'heightened risk that *private* property [would be] pressed into some form of *public service* under the guise of mitigating serious public harm' (emphasis added).[63] Thus, the Court canonised a 'pro-property' vision which limited the eco-

44 Burrows, above n. 11.
45 *Ibid.* (citing *Keppel* v. *Bailey* 39 ER 1042).
46 S. Balganesh, 'Codifying the Common Law of Property in India: Crystallization and Standardization as Strategies of Constraint', 63 *The American Journal of Comparative Law* 33, at 34 (2015).
47 *Ibid*., 37.
48 Doremus, above n. 4, at 1122; see also Stevens J. (dissent) in Lucas, above n. 5.
49 Fisher, Lange & Scotford, above n. 7, at 25-33.
50 *Neubauer et al*. v. *Germany* [FCC] (Case No. BvR 2656/18/1, BvR 78/20/1, BvR 96/20/1, BvR 288/20).
51 *Ibid.*
52 See Fisher, above n. 37, at 351.
53 *Ibid*., at 347.
54 *Ibid*., at 1014.
55 *TVA* v. *Hill*, 437 US 153 (1978).
56 *Corrosion Proof Fittings* v. *EPA*, 947 F.2d 1201 (5th Cir. 1991).
57 *Krishi Vigyan Arogya Sanstha* v. *MoEF* (NGT) Appeal No. 7/2011.
58 Scotford and Walsh, above n. 35, at 1014-1015.
59 See E. Fisher, 'Sciences, Environmental Laws, and Legal Cultures: Fostering Collective Epistemic Responsibility', 33 *Journal of Environmental Law* 1, at 12 (2021) (the term *legal culture* here denotes 'norms, rules, institutions, and the interaction between them').
60 Lucas, above n. 5.
61 *Ibid*., 1017.
62 *Ibid*., Stevens J. (dissent), 1070.
63 *Ibid*., Scalia J, 1018.

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logical model's threats to industry and 'independence'.[64] While the majority's outcome in *Lucas* falls short of highlighting the 'development' of private property, it nevertheless is relevant for highlighting precisely what this article seeks to debunk – the notion that the bodies of environmental law and property rights are incompatible due to their varying preoccupations. Instead, it is argued that *Lucas* showcases how the relationship between the spheres of environmental law and property rights are 'symbiotic',[65] in the sense that they equally complement each other.

This transformative vision can be seen in Stevens J.'s dissent in *Lucas* as he departs from the traditional construction of property rights employed by the majority.[66] Instead, he pushed for a re-imagination of property rights via a more dynamic interpretation of what 'productive' or 'ecologically beneficial use' of property could be. He argued that the majority's categorical approach would 'greatly hamper the efforts of local officials and planners [who deal] with increasingly complex problems' concerning environmental regulation.[67] More importantly, such an approach would 'freeze' the law concerning the rights and uses of property and would not allow for accommodation in response to changes in circumstances.[68] This hesitance of 'freezing' property rights and Stevens J.'s concerns exemplifies the vision that property rights can develop when they are needed and particularly in response environmental problems.[69]

Finally, the interrelationship between environmental law and property rights may also be seen from a richer perspective, where it has been suggested that modern environmental law finds its philosophical basis in the relationship between property, rights and nature.[70] This suggests that the very principles underlying property are inherently connected to environmental concerns. This goes a step further beyond merely appreciating the role of property rights as regulating the use of natural resources. Instead, such an account suggests that the preoccupations of the body of property law are fundamentally environmental.[71] While the scope of this article does not directly examine the content of property law or the philosophical basis of environmental law, it is worth noting that there is an affinity between these two areas of law, which might otherwise be perceived as categorically distinct. The following section of this article illustrates the same by highlighting some of the various *forms* in which property rights have developed to better address environmental problems.

64 J. Cannon, *Environment in the Balance: The Green Movement and the Supreme Court* (2015), 226-30, at 215.
65 Scotford and Walsh, above n. 35, at 1011.
66 Cannon, above n. 64, at 228.
67 Lucas, above n. 5, Stevens J. [125].
68 *Ibid.*, at 121-2.
69 See Doremus, above n. 4, at 1094.
70 Coyle and Morrow, above n. 10, at 215.
71 *Ibid.*

4 Various Forms of Property Rights

Building on the foundation of the development of property rights in response to environmental problems, in this section I lay my third suggestion and showcase how property rights indeed develop in various 'forms' that fit the needs of environmental problems. Specifically, I highlight the different ways in which property rights have been conceptualised in relation to environmental law and demonstrate this by illustrating five forms: (i) the constitutional right to property; (ii) the human right to property, specifically in the form of Article 1, Protocol I of the ECHR (A1P1); (iii) in the form of tort claims such as nuisance and strict liability; (iv) as market-based mechanisms; and, finally (v) in terms of indigenous communities' rights to their land.

To effectively illustrate this, the broad analytical framework adopted in the classification under this section comprises of three categories of property systems: private property, collective (or public) property and commons property.[72] Each form addressed in this section conforms to a specific kind of property system. This framework is a useful classificatory tool to understand the various 'forms' of property rights that this section engages with. This is primarily because each of these forms implicates questions of regulation of resources in various ways. To understand the relevance of these forms for environmental law, it is then necessary to identify the property system to which these forms relate. While this article ultimately focuses on the forms themselves, understanding the underlying property systems provides a foundational lens for analysing the regulatory dynamics associated with these forms.

First is the private property system, which is hinged on understanding control over material resources which are seen to *belong* to particular individuals.[73] This encompasses two forms: (i) the constitutional right to property and (ii) the human right to property. Here, the object of regulation remains the individual's private property. Second, the collective property system refers to a system where collective interests of the society (or 'public interest') are taken into account to determine the rules of access and use of material resources.[74] The form of tort claims is based on such a system of property where the focus of regulating resources is hinged on public interest or public interest civil litigation (for instance, in the cases of nuisance), enjoyment and access. Finally, the system of common property is distinct from public property in the sense that the interests of the collective have no special status vis-à-vis the particular resource.[75] Consequently, the rules governing access to a material resource are organised on the basis that each

72 See Waldron, above n. 1, for more on this classification.
73 *Ibid.*, at 327.
74 *Ibid.*, at 328.
75 *Ibid.*, at 329.

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resource is principally available to *every* member in a fair manner. The forms of market-based mechanisms and indigenous' communities' land rights are based on such a property system that is seen to regulate the commons.

While these distinctions are helpful from a classificatory perspective as they demonstrate how property systems influence the development of property rights forms, the distinctions also aid in understanding the regulatory logic of a particular property form. For instance, understanding whether a particular form arises from a private property system which focuses on individual entitlements, or a commons property system, which emphasises equitable access and sustainability, provides an insight into how these forms may address specific environmental challenges.

That said, this article does not espouse a rigid distinction of proprietary rights based on which 'system' they relate to. Nor do I suggest that the 'public', 'private' or 'commons' systems do not intersect. For example, market-based mechanisms, rooted in the common property system, may incorporate elements of private property. Similarly, tort claims, focusing on public interest, may also simultaneously protect individual entitlements. Consequently, as will be demonstrated in this section, the focus is on the forms themselves (as opposed to the system) and how they have developed to cater to environmental problems. This may be in the two manners discussed earlier: through a transformative reading of existing rights, or via the creation of new rights in existing objects or resources.

4.1 Constitutional Right to Property

The first notable form of property rights manifests in the constitutional basis of the right to property or the right to property as a fundamental right. Here, the contents of the right to property are largely influenced by specific legal, political and historical contexts within the domestic sphere of individual States. For example, the South African Constitution recognises for all its citizens the right to adequate housing,[76] in addition to ensuring that no law permits the arbitrary deprivation of property.[77] This right, however, is distinguished across jurisdictions, and, notably, the link between constitutional cases and climate change is characterised by its legal diversity,[78] with some jurisdictions such as India altogether abandoning the right to property as a fundamental right.[79] Nevertheless, it is generally agreed that property rights are constitutionally important.[80] While the evaluation of the merits of such a form and its relevance to environmental law is not directly within the scope of this article, it is relevant to note that the development of property rights has also arisen in contexts where the 'old' constitutional provisions have given way for a reading of 'new' processes and legal claims.

In *Neubauer*,[81] this aspect of reading the 'new' in the 'old' is brought to light in a significant way. Here, a constitutional complaint was brought by several youths where the primary challenge concerned the Federal Climate Protection Act's (the *Bundesklimaschutzgesetz*) lack of provisions for reduced targets. This, it was argued, violated inter alia their fundamental right to property (Art. 14[1]).[82] Specifically, it was contested that climate change can result in damage to property, and this implicated the state's duty to protect against the harmful impacts of unmitigated climate change risks, which may make settlements uninhabitable. Here, the complainants drew a link between the importance of property and the creation of a stable community, and they found basis in arguing that Article 14(1) afforded protection to 'social environments that have matured to the point of being communities'. This view reasoned that the loss of property would simultaneously be accompanied by a loss of stable community ties within the local environment.[83]

While the Court finally observed that there is significant leeway for legislators to strike an appropriate balance between the interests of property owners and those concerning stringent climate action, it is significant that the Court acknowledged the link between the constitutional right to property and climate change in the first instance.[84] This cements the notion of the malleability of property rights which are otherwise traditionally only understood in terms of 'exclusion' of others from a particular resource.[85] Here, there instead seems to be an acceptance that property rights and their 'private' nature nevertheless pave the way for the right to enjoy a stable community – which is fundamentally public and which also challenges the idea of these being categorically distinct. Even beyond this, a point worth mentioning is the parties' interpretation of existing statutes and constitutional doctrine (the 'old') to make claims in their litigation processes concerning climate change (the 'new').[86]

As Fisher highlights, there is value in considering the 'heat' of environmental law, and, in order to understand the area, we cannot move forward unless we take a hard look backward and reflect on the landscape.[87] This includes taking into account existing rights and legal pasts as important resources for present and future rea-

76 E. Cooke, *Land Law* (3rd ed., 2020), at 11.
77 Section 25, Constitution of South Africa, 1996 (Bill of Rights).
78 C. Warnock and B.J. Preston, 'Climate Change, Fundamental Rights, and Statutory Interpretation', 35 *Journal of Environmental Law* 47, 5 (2023).
79 The Constitution (Forty-fourth Amendment) Act, 1978 (India); and see generally, N. Wahi, 'Property', in S. Choudhry, M. Khosla & P. Bhanu Mehta (eds.), *The Oxford Handbook of the Indian Constitution* (2016), at 959.
80 C. Voigt and Z. Makuch, 'Courts and the Environment: An Introduction', in C. Voigt and Z. Makuch (eds.), *Courts and the Environment* (2018) 70.
81 *Ibid.*
82 *Ibid.*, at 60.
83 *Ibid.*, at 171.
84 Warnock and Preston, above n. 78, at 5.
85 For example, Kaiser, above n. 18; Waldron, above n. 1.
86 *Ibid.*
87 Fisher, above n. 37.

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soning.[88] In this context, while the court appears to have deferred to legislative sensibilities, it would be difficult to adapt to climate change if current property holders only enjoy rigid rights which cannot be adjusted.[89] This is a recurring issue that is worth taking account of while considering the various other 'forms' of property rights in their responses to environmental problems.

4.2 The Human Right to Property

For this section, I primarily consider A1P1 and the ECHR to address the human right to property and the development of property rights. While the Convention is not, for the large part, about property itself,[90] this 'form' (much like the constitutional right to property) relates to the regulation of private property – that is, where the focus remains on regulating the resource that *belongs* to an individual.

Environmental protection and human rights have a complicated relationship,[91] and the core of this tussle relates to the fundamentally anthropocentric framing of human rights law. While the merits of this relationship are of interestingly scholarly debate, it is not directly within the purview of this article. However, there are a few cursory points to be made. The first is that human rights are indeed prioritised for human benefit. When this is considered in contexts such as climate change, which comes with loss of ecosystems and life, viewing the environment in terms of its instrumentality for human life is myopic. Nevertheless, human rights, and particularly international human rights law (IHRL), are increasingly being used as an avenue to advocate for climate justice.[92] The most compelling justification is that climate change as a phenomenon (and arguably environmental harms, more generally as well) interferes with the enjoyment of several human rights. Thus, where the most important human rights treaties themselves do not refer to environmental protection, there has been a derivation of norms from existing protected rights that deal with its preservation.[93]

Related to this is the fact that IHRL itself is grounded in principles of equality and non-discrimination. In the context of climate change impact for populations with pre-existing inequalities, or those subject to discrimination, the risk of harm is particularly high.[94] Thus, complainants would also benefit from the body of IHRL jurisprudence that is couched in guarantees of equality and non-discrimination, particularly where their interests are adversely affected consequent to their varied socioeconomic backgrounds. As Pillay argues, for example, states must, 'irrespective of resource constraints, guarantee the principles of equality and non-discrimination in access to all economic, social and cultural rights'.[95] Hence, while acknowledging the complexity associated with turning to the body of human rights law for environmental justice, there is nevertheless merit in considering deprivation (particularly in the context of property rights) and how this may be balanced according to the needs of environmental law.

In this context, A1P1 provides that no person shall be deprived of their possessions and is entitled to their 'peaceful enjoyment'. However, the provision does not limit the State from enforcing laws that may 'control' the use of property for the purposes of general interest. In this context, courts are often concerned with the determination of what constitutes 'control' for the purposes of the provision and the payment of compensation as a consequence of deprivation.[96] Given that environmental law is often concerned with the vulnerability of ecological resources, it is important to note that A1P1 and judicial interpretation associated with the same have been amenable to change in response to varying environmental circumstances.[97]

For example, in *Trailer and Marina*,[98] the Court considered an A1P1 challenge in the context of a regulatory amendment concerning nature conservation due to which compensation was no longer payable for the claimant's stretch of canal that was designated as a Site of Special Scientific Interest. Such a challenge was rejected for two reasons – first, the Court noted that in the context of nature conservation, the exercise of executive discretion should be given significant weight, particularly where compensation is involved.[99] Second, the Court also noted the regulation itself pursued an objective that was in 'public interest' within the A1P1 exception.[100] Thus, the 'development' of property rights in the form of A1P1 allows for its development in the context of both the evolving environmental circumstances and the shifting legislative responses to better address these circumstances.

Furthermore, beyond A1P1, the right to property and its 'thingness' in the context of human rights may also be used to demand a certain level of environmental quali-

88 *Ibid.*; Warnock and Preston, above n. 78, at 2.
89 Doremus, above n. 4, at 1105.
90 Cooke, above n. 76.
91 See S. Bogojević and R. Rayfuse, 'Environmental Rights in Europe and Beyond: Setting the Scene', in S. Bogojević and R. Rayfuse (eds.), *Environmental Rights in Europe and Beyond: Swedish Studies in European Law* (2018) 13.
92 A few recent cases include *Ioane Teitiota* v. *New Zealand*, CCPR/C/127/D/2728/2016; *Sacchi et al.* v. *Argentina et al.*, CRC/C/88/D/104/2019; *Billy et al.* v. *Australia*, CCPR/C/135/D/3624/2019.
93 J.H. Knox, 'Climate Change and Human Rights Law', 50 *Virginia Journal of International Law* 163, 168 (2009).
94 CEDAW, CESCR, CMW, CRC, CRPD, 'Joint Statement on Human Rights and Climate Change' (*OHCHR*, 16 September 2019), https://www.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=24998 (last visited 4 February 2025) para. 3.
95 Art. 2(1) ICESCR; A.G. Pillay, 'Economic, Social and Cultural Rights and Climate Change', in Oliver Christian Ruppel, Christian Roschmann and Katharina Ruppel-Schlichting (eds.), *Climate change: International Law and Global Governance* (2013), 252. The theme of resource constraints is later also discussed in the context of the *Ratlam* v. *Varichand* case in this piece, under 'Tort Claims'.
96 See Mott, above n. 23.
97 Scotford and Walsh, above n. 35, at 1035.
98 *R (Trailer and Marina Ltd)* v. *Secretary of State for the Environment, Food & Rural Affairs, English Nature* [2004] EWCA Civ 1580.
99 *Ibid.*, at 46.
100 *Ibid.*, at 60.

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ty.[101] This often relates to cases concerning the respect for private and family life.[102] In *López Ostra*, the ECtHR noted that the fumes from a waste treatment plant near the applicant's residence impaired their quality of life. Importantly, the Court observed that in case of 'severe environmental pollution', individuals may be prevented from enjoying their homes in ways that adversely affect their rights under Article 8.[103] The central point in this case was the Court's willingness to bring environmental issues within the fold of Article 8. This is a fundamentally liberal interest that allows one to enjoy their home,[104] and it indicates a transformative reading (or development) of a proprietary interest that improves environmental conditions via the use of human rights as a regulatory tool.

4.3 Tort Claims

In this section, it is argued that tort claims play an important role in both private property rights and environmental conditions, placing limits on the exercise of property rights as well as demanding a certain level of environmental quality in case of degradation or pollution. In case of the former, the role of strict liability as elucidated in *Rylands* v. *Fletcher*[105] highlights the limits placed on private property and the ability to 'enjoy' property to the detriment of the environment. Here, the principle makes liable a person in case they keep on their land 'anything likely to do mischief [and] if it escapes'.[106] This has widely been utilised in the context of damage caused by sewage effluent, fire and so on.[107] Importantly, tort claims are also based on an important element of public interest with respect to resource management and regulation. Thus, the enjoyment of private property has been subject to limitations concerning environmental harms, using a doctrine that has since developed from the 1860s, once again highlighting the value of reflecting on the 'old' and legal pasts to better inform present and future reasoning.[108]

Property also allows for fostering environmental protection using tort claims. The case of *Saúl* v. *RWE*,[109] for example, concerned the role of RWE (a German multinational company) in contributing to climate-induced damage in the Andes. However, the grounds for the case were based on a nuisance claim under §1004 BGB in German Civil Law which allows a property owner to require the disturber to remove 'interferences'. Here, the Higher Regional Court of Hamm found the company liable for damages based on this nuisance provision. As such, it is the Court's re-imagination of age-old nuisance law that allowed for a proprietary interest to be used as a basis for recognising RWE's contribution to climate-related damage surrounding Lake Palcacocha.

There similarly have been several cases in India as well, concerning fostering environmental protection where there exists a nexus with private property. This is particularly with respect to environmental harms in the context of emissions and pollutants by industries.[110] In *Ratlam* v. *Varichand*,[111] for example, the Supreme Court of India dealt with the issue of factories discharging pollutants in the municipal corporation of Ratlam. Due to the area having no proper drainage system, there was an accumulation of 'dirty and stinking water', as well as a rise in the number of mosquitos in the region, affecting human health.[112] Krishna Iyer J. remarked that it was the 'principal duty' of the municipal council to ensure sanitation and health as a priority.[113] Importantly, it was not open to these authorities to cite a lack of financial resources as a justification for failing to provide public conveniences, as these were aimed at securing 'decency and dignity [which were] non-negotiable facets of human rights'.[114] The key argument being made here is that these cases highlight how the legal nature of private nuisance has undergone a process of evolution that is both careful and thoughtful to respond to environmental problems such as climate change and environmental degradation, which is often riddled with multiple parties, scientific uncertainty and socio-political and economic conflicts.[115]

4.4 Market-Based Mechanisms

While considering the 'development' of property rights from traditional land-related conceptions, the use of market-based mechanisms in the form of ETS or quotas appears to be a more novel form. Market-based mechanisms themselves are a broad regulatory concept that comprises diverse strategies. These may range from taxes, charges or trading schemes.[116] One such example is the use of fishing quotas, where entitlements (usually in the form of a licence) are conferred to manage fish stock. Section 13 of the New Zealand Fisheries Act, for in-

101 Fisher, Lange & Scotford, above n. 7, at 69.
102 See *Hatton* v. *UK* [2003] ECHR 338 and *Fadeyava* v. *Russia* [2005] ECHR 376.
103 Ostra, above n. 20, at 51.
104 O.W. Pedersen, 'The Ties That Bind: The Environment, the European Convention on Human Rights and the Rule of Law', 16 *European Public Law* 571, at 587 (2010).
105 *Rylands* v. *Fletcher* [1868] UKHL 1.
106 *Ibid.*
107 Grinlinton, above n. 22, referring to *Smeaton* v. *Ilford Corp* [1954] Ch 450, and *Cruise* v. *Niessen* (1977) 76 DLR (3d) 343.
108 E. Fisher, 'Going Backward, Looking Forward: An Essay on How to Think about Law Reform in Ecologically Precarious Times', 30 *New Zealand Universities Law Review* 111 (2022).
109 *Saúl Luciano Lliuya* v. *RWE AG*, Case No. 2 O 285/15 Essen Regional Court.
110 See, for example, *State of Madhya Pradesh* v. *Kedia Leather and Liquor Ltd* (2003) 7 SCC 389; *B. Venkatappa* v. *B. Lovis* AIR 1986 AP 239 (both concern the use of nuisance and environmental harms).
111 1980, 4 SCC 162.
112 *Ibid.*, at 6.
113 *Ibid*, at 15.
114 *Ibid.*
115 E. Fisher, *Environmental Law: A Very Short Introduction* (2017) 51-6.
116 S. Bogojević, 'Environmental (Property) Rights in Market-based Management', in S. Bogojević and R. Rayfuse (eds.), *Environmental Rights in Europe and Beyond: Swedish Studies in European Law* (2018), at 113. See also, S. Bogojević, *Emissions Trading Schemes: Markets, States and Law* (2013), for a more detailed engagement with the legal complexities and use of emission trading schemes as a regulatory strategy; see also, J. Milne, 'Environmental Taxation', in E. Lees and J.E. Viñuales (eds.), *Oxford Handbook of Comparative Environmental Law* (2019), for an interesting discussion on environmental taxation within the family of market-based mechanisms as a distinctive policy instrument.

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stance, specifies that a 'total allowable catch' for a particular fish stock shall be set for each fishing year by the Minister, and Section 89 confers a proprietary interest by clarifying that fishing shall only be authorised by 'fishing permits', which allows the taking of stock subject to the quota management system detailed in the Act.[117]

The imposition of such quotas was also considered by the UK Supreme Court in *Mott* where the Environmental Agency imposed a 'catch limit' on salmon, which impacted the licence-holder's rights. Lord Carnwath detailed the proprietary nature of the right to fish granted to Mr Mott in this case due to successive leases to fish salmon from 1975 (a period of over 35 years when the case was instituted), and, as a tenant of the lease, they were not to 'assign, let or part with the fishery during the term of the lease'.[118] There are two important points to note concerning the plaintiff's proprietary interest in this case.

First is the reference to the Court of Appeal's decision, and the emphasis on a 'balanced consideration' of the applicant's right to livelihood, which had an undue impact on his property rights.[119] Lord Carnwath was careful to emphasise the 'exceptional' nature of the case due to its severity and disproportion on the plaintiff.[120] This is perhaps to underscore the limited circumstances in which judges may interfere with environmental controls of national authorities, which does not depart from a deferential approach to cases where fair balance was a factor involved in the authorities' decisions. This is consistent with the argument that property rights evolve, as it has been suggested that courts must be slow to 'freeze' property rights by erecting barriers to legal change.[121] Second was the Court's finding of the legal concept of property rights to be fluid enough to refrain from a rigid categorisation of the measure as either 'deprivation' or 'control'.[122] Instead, it was sufficient to find a violation of the proprietary right and the disproportionate impact of the same on the plaintiff, which similarly does not rigidise private property but rather allows its use for environmental management and for goals beyond individual wealth maximisation.[123]

Another illustration is the greenhouse gas (GHG) trading system. In 1960, Coase argued for the creation of a bargaining system where factors of production are to be thought of as 'rights' and where the right to do something with a harmful effect (such as pollution) is thought of as a factor of production which can be traded freely.[124] Hence, within such a system, the right to clean air versus the right to pollute are seen as competing interests, as opposed to clashing claims.[125] This mechanism is similarly seen in the EU Council Directive 2003/87, wherein operators are required to possess a valid permit as per Article 4, without which industries would not be permitted to undertake 'any activity … resulting in emissions'. ETS consequently then allows for consumption of GHGs to be at a safe level[126] to ensure that the EU may fulfil its obligations under the Kyoto Protocol.[127] Pertinently, a traditional property rights 'framing' of ETS is absent due to the nature of EU constitutional law, specifically the principle of subsidiarity, concerning areas of shared competence (here, being the environment). Consequently, the question of the legal definition of emissions as a new form of 'property right' is delegated to Member States.[128] Nevertheless, environmental regulation through this market-based mechanism presents a novel form of understanding how the tradability of emissions (irrespective of whether a distinct property right has been created) showcases development with respect to how States have tackled the environmental problem of air pollution.

An important point to make at this juncture is that unlike constitutional configurations of the right to property, the use of these market-based mechanisms is distinct. This article previously considered two ways in which 'development' of property rights may be construed – by a transformative reading of existing rights or by the creation of new rights in objects/resources. Market-based mechanisms fall into the latter category. Indeed, the fishing quota in the case of *Mott* above clarifies that there is a creation of a proprietary right in salmon fish stock which licence-holders may exploit. Hence, it is only because of the existence of such a licence (or the creation of the new proprietary right) that the natural resource can be better managed. Such market-based mechanisms and their regulatory form are consistent with a commons property system, which seeks to ensure that each resource is available to *every* member alike,[129] where the objective is to regulate 'commons' resources – be it in the form of fisheries or of clean air.

4.5 Indigenous Communities' Rights to Land

The relationship that indigenous communities share with their land is a pivotal aspect of Aboriginal laws' core values as there is deep significance and meaning that is derived from the land.[130] Indigenous groups do not have a mandate to consent to the destruction of the natural world,[131] and indigenous communities often act

117 Section 92(1)(a)(i) of the New Zealand Fisheries Act, 1996.
118 Mott, above n. 23, at 3.
119 *Ibid*., at 23.
120 *Ibid*., at 37.
121 Doremus, above n. 4, at 1122; see also Stevens J. (dissent) in Lucas, above n. 5.
122 *Ibid*., at 25.
123 France-Hudson, above n. 4, at 121.
124 R.H. Coase, 'The Problem of Social Cost', 3 *Journal of Law and Economics* 1-44 (October 1960).
125 S. Bogojević, above n. 116, at 105.
126 France-Hudson, above n. 4, at 124.
127 EU Council Directive, above n. 33, at 5.
128 Bogojević, above n. 116, at 128-30.
129 Waldron, above n. 1, at 329.
130 I. Watson, 'Aboriginal Relationships to the Natural World: Colonial "Protection" of Human Rights and the Environment', 9 *Journal of Human Rights and the Environment* 119, at 121 (2018).
131 *Ibid*., at 125.

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as custodians and stewards of nature.[132] This has been similarly reflected in the UN Declaration on the Rights of Indigenous Peoples (UNDRIP), where Article 29(1) provides the right of indigenous peoples to 'conservation and protection of the environment and the productive capacity of their lands'. Furthermore, the Declaration provides that there must be 'consultation and cooperation in good faith' with indigenous peoples prior to approving projects affecting their lands or other resources.[133]

Given this, Watson argues for the need to return to Aboriginal authority concerning the natural world to ensure for a sustainable future 'for all life forms on earth'.[134] Her vision advocates for a different form of 'property rights', one that is removed from private or public law doctrines but still is one that leads to environmental protection. This is primarily due to her rejection of the colonial rebranding of the natural world as 'property'. Thus, the form of property rights Watson highlights, and the one subscribed to by indigenous groups, is hinged on neither ownership nor exploitation,[135] but, rather, it is to be viewed as a system in which humans must harmoniously coexist.[136]

Furthermore, Aboriginal laws see an inherent *communal* dimension associated with property or, rather, are a form relating to a commons property system. For example, in *Yakye Axa*,[137] the Inter-American Court of Human Rights considered the clash between the individual and collective nature of property rights, finding that the members of the indigenous group were especially vulnerable because their 'manner of life … including their close relationship with the land' was distinguished from Western culture.[138] Importantly, this was seen to include a collective dimension concerning property rights which was exercisable by the group, as opposed to an individual interest that is being safeguarded by the law. This also relates to the primary focus of these communities' understanding of ecological conservation, which stems from their 'relationship' with the land (as opposed to a 'right to property').[139] This is unlike cases such as *Lucas* where the focus was largely on the 'productive' use of land and the petitioner's individual rights in the context of South Carolina's Beachfront Management Act which impacted his ability to 'develop' the land.[140]

132 See J. Gilbert, 'The Rights of Nature, Indigenous Peoples and International Human Rights Law: From Dichotomies to Synergies', 13 *Journal of Human Rights and the Environment* 399 (2022).
133 Art. 32, UNDRIP.
134 Watson, above n. 130, at 140.
135 See Waldron, above n. 1, at 334.
136 Art. 71 of the Ecuador Constitution (*pacha mama).*
137 *Yakye Axa* v. *Paraguay (Merits*), Inter-Am. Ct. H.R. (ser. C) No 125 (2005).
138 *Ibid*., at 163.
139 This is confirmed by the text of the UNDRIP, wherein several articles make repeated references to land, territories and resources of indigenous persons (see Art. 8[2][b], Art. 10, Art. 25 and Art. 26, UNDRIP). Interestingly, the term 'property' makes only two appearances in the context of religious and spiritual property (Art. 11[2]) and intellectual property (Art. 31[1]).
140 Lucas, above n. 5, at 1020.

5 Conclusion

This article has sought to emphasise the symbolism and affinity between property rights and environmental law, which is characterised by an interactive and evolving relationship.[141] In this regard, I have argued three things: first, the legal concept of property rights has proved to be fluid, indicating their capacity to develop. Second, this development can occur in response to certain needs presented by environmental problems and their complexity. Finally, these developments can be seen in various 'forms' across various legal systems that best respond to the needs of environmental law. Each of these 'forms' represents some 'development' from the classical liberal vision of property rights to better respond to environmental problems and facilitate environmental protection.

The framework adopted by this article proposes that each of these distinct forms relates to a broader analytical system of 'property' as a whole – be it private property, public property or commons property. Notwithstanding the same, these 'forms' relate to a vision of the development of property rights in two ways. First, they allow for the creation of new proprietary rights in existing objects and natural resources. Notably, this is evidenced in the form of EU's ETS, fishery quotas and other market-based mechanisms concerning natural resource regulation. This piece also explores instances where these forms represent a transformative reading of existing property rights across both public and private law. Second, and in contrast, the uses of constitutional law, tort law and human rights law are illustrations of how the existing 'right to property' has undergone a thoughtful evolution to respond to the needs of environmental problems. Even beyond this, there are visions of property where the protection of ecological and natural resources is at the very core of these systems. Indigenous communities' land rights, for example, are a jurisprudence that instead focuses on the harmonious coexistence of humans in the natural environment.

Through these forms, drawing from different jurisdictions, the key aim of this article has been to shed light on a more unified perspective of the two regimes which are generally seen to be at odds due to their different preoccupations, notably because the body of environmental law *is* about restrictions and limitations on the use of property. In fact, the 'development' of property law, as suggested in this piece, might be unsurprising to some, particularly when it comes to the very nature of modern environmental law. It has already been suggested that there is a sophisticated philosophical foundation for environmental law, in the common law, relating to property and tort.[142] While this article has dabbled with this idea in earlier sections, the focus of this piece was slightly distinct. At its core, this article has aimed to

141 Scotford and Walsh, above n. 35, at 1011.
142 Coyle and Morrow, above n. 10, at 3.

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show an interactive and evolving relationship between environmental law and property law, as opposed to identifying a basis of environmental law in property. The goal of this article has been to show that the voyage of discovering new frameworks of environmental protection is not necessarily about new laws but also about having new eyes.[143]

143 See A. Verghese, *The Covenant of Water* (2023).

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