1. Introduction

1. OBJECTIVE AND RATIONALE

Protecting the Third Pole is the final book in a trilogy of authored works with Edward Elgar on international environmental law in Asia, following on from *Transboundary Environmental Governance in Asia*,[1] and *Environmental Regimes in Asian Subregions*.[2] It concludes an analytical review of current and prospective regional and subregional arrangements in the Asian context, focusing on the Third Pole. The Third Pole, the Hindu Kush Himalayas (HKH) and Tibetan Plateau are the notable focus of the transboundary governance of environmental protection (mainly from energy development) which is analysed in this third book. Although building on the foregoing volumes, this book goes beyond the previously considered regimes to consider the application and potential of current and additional multilateral, regional and customary arrangements of relevance to regulating energy issues to protect the Third Pole environment.

The Third Pole consists primarily of the high-altitude terrain of a number of countries connecting central, south, southeast and east Asia. The international rivers that originate on the Tibetan Plateau also flow to the sea, notably the Indus (Arabian Sea), Ganges and Brahmaputra (Bay of Bengal) and Mekong (South China Sea). The significance of, and relationship between, the governance arrangements of the high-altitude Third Pole states and states with low-altitude terrain – and/or inland and offshore waters – is hence an important consideration of this book and explains the relevance of the current arrangements in southeast Asia (notably for the Mekong). The Third Pole is concerned above all with effective cross-subregional[3] arrangements between

[1] Simon Marsden and Elizabeth Brandon, *Transboundary Environmental Governance in Asia: Practice and Prospects with the UNECE Agreements* (Edward Elgar Publishing, Cheltenham, 2015).

[2] Simon Marsden, *Environmental Regimes in Asian Subregions: China and the Third Pole* (Edward Elgar Publishing, Cheltenham, 2017).

[3] The Red Sea/Gulf of Aden regime has been referred to as a 'transcontinental' subregional regime; see Marsden, above n. 2, 53, since it crosses from southwest Asia to northeast Africa. Similarly, the Arctic Council has been referred to as a

each of the relevant states. This effectiveness is examined in this book in the context of the 'possibility' of international legal transplants,[4] some of which already apply, and others which could be used as precedents to improve on the present regulatory scheme.

The first book evaluated the important contribution of regional environmental law in Asia, specifically the United Nations Economic Commission for Europe (UNECE) agreements. While these apply primarily in Europe, they are also applied by certain Asian states because their UNECE membership entitles them to adopt, ratify and implement them; in addition the global reach of a few of these treaties since they were opened to all United Nations (UN) member states (notably for water and environmental impact assessment – EIA) confirms their international as well as regional significance. Because of this, their relevance for protecting the Third Pole is included in this third book. This is enhanced by the fact that international courts continue to recognise the global importance of water and EIA governance, in particular the International Court of Justice (ICJ) in 1997 (international rivers),[5] and in 2010 and 2015 (EIA).[6] The UNECE Water[7] and EIA Conventions[8] are therefore examined with other

'cross-regional' regime since its treaty arrangements apply to north America, Europe and Asia (Russia); see Simon Marsden, 'From the High North to the Roof of the World: Arctic Precedents for Third Pole Governance' (2016) 8 *The Yearbook of Polar Law* 56–75, at 57.

4 This is to balance the view that transplanting law is 'impossible'. See generally Pierre Legrand, 'The Impossibility of Legal Transplants' (1997) 4 *Maastricht Journal of European and Comparative Law* 111–124; and specifically in regard to international transplants and the energy/environment interface, Anatole Boute, 'The Impossible Transplant of the EU Emissions Trading Scheme: The Challenge of Energy Market Regulation' (2017) 6(1) *Transnational Environmental Law* 59–85.

5 *Case Concerning Gabčíkovo-Nagymaros Project (Hungary v. Slovakia)*, 25 September 1997, ICJ Reports 1997, 7 ('*Danube Dams*'). See also *Dispute over the Status and Use of the Waters of the Silala (Chile v. Bolivia)*, ICJ Application Instituting Proceedings 2016, http://www.icj-cij.org/files/case-related/162/19020.pdf, accessed 31/8/17.

6 *Pulp Mills on the River Uruguay (Argentina v. Uruguay)*, 20 April 2010, ICJ Reports 2010 ('*Pulp Mills*'); *Certain Activities Carried out by Nicaragua in the Border Area (Costa Rica v. Nicaragua)* and *Construction of a Road in Costa Rica along the San Juan River (Nicaragua v. Costa Rica)*, Joined Cases, 16 December 2015, ICJ Reports 2015 ('*Certain Activities/Construction of a Road*'); for the 2015 case, note in particular Separate Opinion of Judge Bhandari, paras 32–40.

7 Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Helsinki, 17 March 1992) 1936 UNTS 269, in force 6 October 1996 ('Water Convention').

8 Convention on Environmental Impact Assessment in a Transboundary Context (Espoo, 25 February 1991) 1989 UNTS 309, in force 10 September 1997 ('EIA Convention').

relevant – and in some instances (e.g. customary international law) currently applicable – measures in Chapters 6 (Rivers) and 5 (EIA).[9]

The second book evaluated environmental agreements across the Asian subregions and focused on energy issues of significance to those subregions together with the role of China, a Third Pole state because the location of the Tibetan Plateau is now (controversially to some) a part of China. It considered China's potential role in any future regime, based on its experience with the other subregional agreements (as member, dialogue partner or investor), compliance with international law, and its connections with its neighbours in the region. Significantly, the second book also previewed the potential for a new regime for Third Pole energy and environmental governance. However, as this second book was based primarily on the nine Asian subregional agreements analysed across southwest, central, southeast, and south and east Asia, it was concluded that there was a need to also look to other agreements in other parts of the world to realise this potential.

Additionally, as this second book was also focused on China, which was closely involved in various aspects of governance and in some instances was found wanting, it was concluded also to be necessary to consider the role of the other states in the Third Pole, particularly India because of its size and influence. Although the role of India (or indeed other relevant states) is not examined in the same detail as that of China in the previous book, the strength of India in the regional cooperation mechanism, the South Asian Association for Regional Cooperation (SAARC), is indicative of its importance in south Asia, the subregion in which the overwhelming majority of the Third Pole states are found.[10] SAARC is considered in more detail in this book therefore, partly in recognition of India's strong role there,[11] and also because it holds potential to lead on any international environmental regime developed for the Third Pole.

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[9] See generally Simon Marsden, 'The Helsinki Water Convention: Implementation and Compliance in Asia' (2015) 20(2) *Nordic Environmental Law Journal* 119–129; and Simon Marsden, 'Developing Agreements for Transboundary Environmental Impact Assessment and Strategic Environmental Assessment in Asia', in Robin Warner and Simon Marsden (eds), *Transboundary Environmental Governance: Inland, Coastal and Marine Perspectives* (Ashgate, Farnham, 2012) 141–164.

[10] SAARC member states are Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka.

[11] Note Dipanjan Roy Chaudhury, 'SAARC Membership: India Blocks China's Entry for the Time Being', *The Economic Times*, 2 December 2014. Besides China, the USA, Japan, South Korea, Iran, Myanmar, Mauritius, Australia and the EU are SAARC observers. SAARC had earlier decided to explore the possibility of elevating the observers to the status of dialogue partners. However, this was blocked by India, and SAARC decided on a five-year moratorium on elevating observers to new dialogue partner status. See Asit Ranjan Misra and Elizabeth Roche, 'SAARC to Review

In considering future research directions, the findings of the second book therefore recommended analysing other global legal precedents that may assist regime building, whether of an international, regional or subregional nature.[12] This third book has this focus and considers both transplanting international laws and also the institutional frameworks on which successful operation depends. Regarding the current application (the international conservation, or biodiversity conventions[13]), or potential for others to be 'transplanted' (the regional European–Asian UNECE agreements[14] and Council of Europe (CoE) agreements[15]), or subregional (European mountain agreements[16]), it emphasised the need to consider these very carefully.

The reason for this is the likely contextual constraints on the effectiveness of implementation and compliance. The underlying theory of 'legal transplants' was hence also raised as important for detailed consideration;[17] as such, this provides the framework for this third book. This is considered with respect to

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Observer Status Only After Five Years', 9 February 2015, livemint online, https://www.livemint.com/Politics/japiR4cqvcSW9HgIbxUuxO/Saarc-to-review-observer-status-only-after-five-years.html, accessed 9/9/18.

[12] Marsden, above n. 2, 236–237.

[13] Chapter 3 of this book focuses on the major global and regional agreements for World Heritage, Wetlands and Landscapes; agreements for Biodiversity, Migratory Species, Trade in Endangered Species, and Nature Conservation are focused on in Chapter 4. Note the trend to cluster multilateral agreements in international environmental law, see e.g. José Velázquez Gomar, 'Environmental Policy Integration among Multilateral Environmental Agreements: The Case of Biodiversity' (2016) 16 *International Environmental Agreements: Politics, Law and Economics* 525–541; Richard Caddell, 'The Integration of Multilateral Environmental Agreements: Lessons from the Biodiversity-Related Conventions' (2012) 22(1) *Yearbook of International Environmental Law* 37–75; Veit Koester, 'The Five Global Biodiversity-Related Conventions: A Stocktaking' (2002) 11(1) *Review of European Community and International Environmental Law* 96–103; and Dave Pritchard, 'International Biodiversity-Related Treaties and Impact Assessment – How Can They Help Each Other?' (2005) 23(1) *Impact Assessment and Project Appraisal* 7–16.

[14] See Marsden and Brandon, above n. 1. Note that these are another example of clustering agreements; see Wiek Schrage, Keith Bull and Albena Karadjova, 'Environmental Legal Instruments in the UNECE Region' (2007) 18(1) *Yearbook of International Environmental Law* 3–31.

[15] European Landscape Convention (Florence, 20 October 2000) ETS 176, in force 1 March 2004; and Convention on the Conservation of European Wildlife and Natural Habitats (Bern, 19 September 1979) 1284 UNTS 209, in force 1 June 1982.

[16] Alpine Convention (Salzburg, 7 November 1991) OJEU L 61/31, in force 6 March 1995; and Framework Convention on the Protection and Sustainable Development of the Carpathians (Kiev, 22 May 2003) IUCN TRE-001374, in force 4 January 2006.

[17] Alan Watson, *Legal Transplants: An Approach to Comparative Law* (Edinburgh University Press, Edinburgh, 1974).

both the international law that may currently apply (Chapters 3 and 4) or the potential for other regional or subregional arrangements (Chapters 5, 6 and 7), to be introduced as precedents for the Third Pole. It is also considered with regard to the current or prospective institutional arrangements that will be needed to take forward and administer any new regime (Chapter 2).

Together with the Mekong in southeast Asia, and other international rivers of south Asia, the situation in central Asia is again highlighted in this third book.[18] The reason is to emphasise that central Asia forms much of the western border of the Third Pole, and southeast Asia is effectively the eastern frontier; in southeast Asia Myanmar is also a member of the International Centre for Integrated Mountain Development (ICIMOD), which is focused on protection of the HKH subregion. Because of these connections, both subregions also have international rivers which originate in the Third Pole and are negatively affected by dam-building operations. Both central Asia and southeast Asia also have comprehensive agreements which, while not in force, cover the full range of environmental issues that need protecting in the Third Pole.[19] Whether transplanting international law may assist the developing governance of the Third Pole is a question that relates to both existing governance – which may have been or be failing – and new arrangements.

2. FOCUS, CONTENT, LIMITATIONS AND STRUCTURE

Other than the multilateral conservation treaties and customary international law currently applicable, arrangements that are currently in force for the Third Pole directly are largely bilateral in nature. While the environmental agreements in the Asian subregions – such as the Mekong Agreement,[20] Indus

[18] Concerning the former, see Marsden, above n. 2, 100–109; for the latter, see Simon Marsden, 'Biodiversity Conservation of the Third Pole: Potential Lessons from the Mekong River Basin' (2017) 1(2) *Chinese Journal of Environmental Law* 229–255.

[19] See Framework Convention on Environmental Protection for Sustainable Development in Central Asia (Ashgabat, 22 November 2006) IUCN TRE-143806, not in force; and Agreement on the Conservation of Nature and Natural Resources (Kuala Lumpur, 9 July 1985) IUCN TRE-000820, not in force.

[20] Agreement on Cooperation for the Sustainable Development of the Mekong River Basin (Chiang Rai, 5 April 1995) 2069 UNTS 3, in force 5 April 1995.

Waters Treaty,[21] or provisions for the Aral Sea[22] – are examples of current relevant governance, the inadequacies of these as uncovered in the second book suggested the need to examine international legal provisions outside Asia. Similarly, it has become clear that where regional or treaty-based institutional arrangements are underperforming for whatever reason – notably in terms of failing to regulating energy development effectively to ensure environmental protection – there is also a need to examine how these may be improved, and/or what alternatives may exist to them.

Drawing on these first two books, which considered essentially European measures applied in Asia on one hand, and the particular arrangements for each of the Asian subregions on the other, this third book is focused specifically upon the Third Pole, although European precedents are again a major focus for this. As the second book showed, with the exception of the arrangements not in force for central and southeast Asia,[23] unlike the other Asian subregions, the Third Pole is without a significant transboundary regime. As indicated, it is, however, governed by the international or (potentially) European landscape and conservation conventions (Chapters 3 and 4) and customary international law for EIA and international watercourses (Chapters 5 and 6); customary international law also applies throughout the globe and therefore is analysed in this book also for the Third Pole. The potential of the two regional EIA and Water treaties, which was a key part of the analysis of the first book, is also analysed for specific application in the Third Pole in this book.

Finally, in addition to the European Landscape and Nature Conservation precedents analysed in Chapters 3 and 4, and the European Mountain precedents evaluated in Chapter 7, arrangements at the other poles (the Arctic and Antarctic) are furthermore analysed throughout (particularly in Chapters 2, 3, 4 and 5). Although there are considerable differences between the Third Pole and the other two poles, some rules that apply in those other contexts are considered especially significant for this book because of their provisions for EIA and protected areas.[24] Notably, the potential influence of the Arctic Council

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[21] Indus Waters Treaty between the Government of India and the Government of Pakistan (Karachi, 19 September 1960) 419 UNTS 126, in force 1 January 1961. See Hamid Sarfraz, 'Revisiting the 1960 Indus Waters Treaty' (2013) 38(2) *Water International* 204–216.

[22] See e.g. Agreement about the Status of the International Fund for Saving the Aral Sea (Ashgabat, 9 April 1999) unreported. For a full list of relevant agreements, see Marsden, above n. 2, 101–109, and 103, fn. 90 in particular.

[23] Above n. 19.

[24] In particular the Protocol on Environmental Protection to the Antarctic Treaty (Madrid, 4 October 1991) 30 ILM 1455 (1991), in force 14 January 1998; and the Arctic Environmental Protection Strategy, 30 ILM 1624 (1991); both of these coincidentally initiated environmental protection of the First and Second Poles respectively.

(AC) is also evaluated as an institutional transplant, with one of its three agreements considered particularly relevant to the Third Pole in enhancing the scientific cooperation which is needed as the basis for any future regime.[25]

In considering the range of options that international legal transplants can provide, Chapter 2 first considers the example of SAARC, an organisation which, as highlighted, currently contains most of the Third Pole states.[26] The AC is the second example reviewed, a forum which has significant experience of polar issues and in contributing to and promoting international agreements.[27] The AC is also noteworthy because of the involvement of Third Pole states as AC observers, which may in turn bring initiative for change in the Third Pole region.[28]

The institutional arrangements of SAARC and the AC are considered significant because of their potential to either initiate, host or contribute to developing governance of the Third Pole. Because of the emphasis on the HKH, Tibetan Plateau and associated subregions (in central and southeast Asia) upon protection from hydroelectric development, the importance of this distinguishes the Third Pole from the other poles. Like the Antarctic, Arctic international law is therefore not a specific focus of this book; nonetheless, the rules governing protected areas and EIA in the other poles are discussed because their application in these sensitive areas may nonetheless hold lessons for the Third Pole.

At the end of the second book, the relevance of non-UNECE European legal transplants for the Third Pole – in particular the 'mountain-based' precedents of the Alpine and Carpathian treaties were furthermore suggested.[29] Together with the CoE Landscape and Nature Conservation[30] treaties, this indicates the continuing relevance of European-based legal approaches, as with the

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[25] See Agreement on Enhancing International Arctic Scientific Cooperation (Fairbanks, 11 May 2017) unreported, in force 23 May 2018. Membership is limited to AC states as with the other two AC agreements, Canada, Denmark, Finland, Iceland, Norway, Russia, Sweden, and the USA. See https://oaarchive.arctic-council.org/handle/11374/1916, accessed 17/8/18.

[26] China is the principal exception, although as defined below, the two upstream central Asian states of Kyrgyzstan and Tajikistan also have claims to be Third Pole states, suggesting they should also be involved in governance of the region.

[27] See generally Marsden (2016), above n. 3.

[28] The relationship between member states and observers in SAARC has already been noted at n. 11 above. The AC – which also does not have dialogue partner status – has, however, developed rules for observer states, which may be useful for SAARC in its own deliberations. See https://arctic-council.org/index.php/en/about-us/arctic-council/observers, accessed 17/8/2018.

[29] Above n. 16.

[30] Above n. 15.

UNECE agreements (notably for Water and EIA), to Asia.[31] This new book therefore analyses the potential for these as legal transplants and also analyses other valuable multilateral precedents to the regional-based (UNECE) and subregional-based (Asian) agreements considered in both of the previous books. It reviews these alongside other agreements with a mountain and rivers focus that are particularly relevant to the Third Pole, including the major global treaties with a biodiversity/conservation perspective for protecting areas and species. In addition, the customary international law of international watercourses and EIA is furthermore evaluated as it is of application even when there are no binding treaty obligations.

This book therefore primarily analyses the potential for international environmental law and international watercourse law precedents – or 'transplants' in comparative law terminology – to aid the development of an international environmental regime for the Third Pole. Some of these – and in particular the UNECE Water and EIA agreements considered in Chapters 6 and 5 – are already binding for the Asian states that are UNECE members. However, other than in the central Asian periphery to the Third Pole (Kyrgyzstan and Tajikistan), none of these are 'core' Third Pole states, which would either be located entirely in the HKH (Nepal and Bhutan) or partly located there (primarily Afghanistan, Pakistan, India and – on the Tibetan Plateau – China). Alternatively, as indicated, these UNECE agreements can now potentially be binding because they are open to all UN member states and hence particularly useful due to their relative ease of application.

Both agreements add important content to the customary international law obligations in relation to international rivers, and particularly EIA, for which only the principle has to date been accepted by the ICJ. Other legal precedents – particularly the aforementioned European Landscape, Nature Conservation, Alpine and Carpathian examples – are entirely new. While apart from the Landscape Convention (which is, like the UNECE agreements mentioned, also globally open to UN member states), it is not suggested that they are either capable of adoption or ratification by the Third Pole states; they can, however, indicate how a relatively comprehensive regime for such areas could theoretically be developed for the Third Pole.

The limitations of this third book must, however, be emphasised because of the very broad range of matters that require international legal protection in the region.[32] Beyond international environmental law and international water-

[31] See e.g. Jona Razzaque, *Environmental Governance in Europe and Asia: A Comparative Study of Institutional and Legislative Frameworks* (Routledge, Abingdon, 2013).

[32] For the breadth of issues applying to each of the poles, see Falk Huettmann, 'Yet Another: But This Time Realistic, Polar Synthesis, Meta-Analysis, and Outlook:

course law, therefore, the book makes only passing mention of the challenges that must also be addressed via international climate change law (e.g. impacts of melting snow and ice),[33] international disaster law (e.g. impacts from earthquakes and floods),[34] and international human rights law (in particular protection of cultural and Indigenous rights).[35] In addition, although this is clear from the subtitle of this book, analysis of the domestic law of the Third Pole states is not covered, and alternative mechanisms for protection (notably 'wild law'[36]) are also not dealt with despite synergies between ecology and religion being of potential benefit to law makers in gaining support for change.[37]

Whether traditional anthropocentric law may be considered effective to protect the Third Pole or not is nonetheless important, although the international law focus of this book does not extend to detailed consideration of this;[38] ecocentric approaches, particularly 'wild law', may hence provide another option. In summary, in relation to international rivers and transfrontier mountains, this can mean giving legal personality to hold polluters to account, which

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Protecting Ice, Snow, People, Species, Habitats, and Global Temperatures for Good?', in Falk Huettmann (ed), *Protection of the Three Poles* (Springer, Japan, 2012) 265–330.

[33] E.g. the United Nations Framework Convention on Climate Change (Rio de Janeiro, 9 May 1992) 1771 UNTS 107, in force 21 March 1994. See e.g. R Barry and E Hall-McKim, *Polar Environments and Global Change* (Cambridge University Press, Cambridge, 2018), in particular 339–377, which is specifically focused on the Third Pole.

[34] E.g. the Sendai Framework for Disaster Risk Reduction 2015–2030, adopted by the Third United Nations World Conference on Disaster Risk Reduction, and endorsed by the General Assembly in its resolution 69/283 of 3 June 2015.

[35] E.g. the United Nations Declaration on the Rights of Indigenous Peoples, GA Res 61/295, UNGA OR, 61st Sess, Supp No 49, UN Doc A/RES/61/295 (2007) 4, 32. Relating human rights with climate change, see also Kirsten Davies, Sam Adelman, Anna Grear, Catherine Iorns Magallanes, Tom Kerns and S Ravi Rajan, 'The Declaration on Human Rights and Climate Change: A New Legal Tool for Global Policy Change' (2017) 8(2) *Journal of Human Rights and the Environment* 217–253.

[36] See e.g. Cormac Cullinan, *Wild Law: A Manifesto for Earth Justice* (Green Books, Totnes, 2011); Michelle Maloney and Peter Burdon (eds), *Wild Law – In Practice* (Routledge, Abingdon, 2014); Klaus Bosselmann and Prue Taylor (eds), *Ecological Approaches to Environmental Law* (Edward Elgar Publishing, Cheltenham, 2017).

[37] For an Asian example, see David Gosling, *Religion and Ecology in Southeast Asia* (Routledge, Abingdon, 2001).

[38] The exception is the Harmony with Nature UNGA Resolution of 2017; see UN/GA Resolution (A/RES/72/223), Harmony with Nature, adopted 20 December 2017, UN Doc A/Res/72/223 (2018). This gives the mandate to the President of the GA to host the Interactive Dialogue of the GA on Harmony with Nature to Commemorate International Mother Earth Day. For background, see Jane Gleeson-White, 'It's Only Natural: The Push to Give Rivers, Mountains and Forests Legal Rights' *The Guardian*, 1 April 2018.

has been recognised by recent jurisprudence in New Zealand[39] and India.[40] It can also consider whether constitutional recognition of the environment can improve governance.[41] Maloney comments that one of the 'greatest strengths' of wild law:

> … is its ability to combine a rational critique of some of our oldest Western legal and governance structures, with a very new worldview that, while built on modern scientific knowledge, also links to a less rational, more emotive call to return to a sacred appreciation of the Earth and the Earth Community.[42]

For the purposes of this book, however, and to indicate how transplanting international law may be 'possible', Chapter 2 reviews the comparative law scholarship in connection with legal transplants. Together with effectiveness theories from law and other disciplines, in particular international relations and environmental management (the former having been reviewed in the second book),[43] the theory of legal transplants therefore informs the potential for international legal borrowing that is at the heart of this third book. The relevance of these effectiveness theories is that they are also concerned with the key determinant of context, which many legal scholars argue limits the potential of legal transplants.

The effectiveness of area and species protection and EIA therefore are also dependent upon context, as Chapters 3, 4 and 5 will in particular highlight. Considering the importance of context to effectiveness in other disciplines (notably environmental planning and management) therefore contributes to understanding the validity of these claims. Relevant, selected multilateral, regional and subregional 'transplants' – especially those indicated above – are therefore evaluated for content and context, in particular for their potential application to the Third Pole.

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[39] Eleanor Ainge Roy, 'New Zealand River Granted Same Legal Rights as Human Being' *The Guardian*, 16 March 2017; also Eleanor Ainge Roy, 'New Zealand Gives Mount Taranaki Same Legal Rights as a Person' *The Guardian*, 22 December 2017.

[40] See Erin L O'Donnell, 'At the Intersection of the Sacred and the Legal: Rights for Nature in Uttarakhand, India' (2017) 30(1) *Journal of Environmental Law* 135–144; and Michael Safi, 'Ganges and Yamuna Rivers Granted Same Legal Rights as Human Beings' *The Guardian*, 21 March 2017.

[41] See Susana Borràs, 'New Transitions from Human Rights to the Environment to the Rights of Nature' (2016) 5(1) *Transnational Environmental Law* 113–143.

[42] Michelle Maloney, 'Ecological Limits, Planetary Boundaries and Earth Jurisprudence', in Maloney and Burdon, above n. 36, 185.

[43] Marsden, above n. 2, at 13 and 17. For the latter, consider the effectiveness of EIA; see Thomas Fischer (ed), *Environmental Assessment: Critical Concepts in Built Environment* (Routledge, Abingdon, 2015) volume 4, chapters 54–72.

The structure of the remaining part of this chapter is as follows. In the context of protecting the Third Pole, section 3 summarises above all the environment and energy challenges faced by the Third Pole, in particular the environmental significance of large dams and growing tourism development. Section 3.1 first considers the importance of large dams in relation to hydroelectric energy development, and for the latter the role played by the guidelines produced by the World Commission on Dams in 2000. Section 3.2 then considers in more detail the environmental significance of tourism development, examining the idea of a 'Third Pole National Park',[44] currently under consideration by the Chinese government. The rationale for such a national park – or indeed parks, as there may be several – is then analysed, emphasising the importance of context for legal borrowing.

In section 4, the sustainable development tensions between the demands for energy exploitation and tourism development on one hand, and support for environmental protection and the needs of local communities (whose livelihoods depend upon its protection) on the other are reviewed. This section analyses the importance of sustainable development to the discourse on the energy–environment conflict, specifically in relation to the implications of large dam construction and operation. Section 5 then considers the role of the 'energy trilemma' in the Third Pole and its relationship with the dimensions of sustainable development. Section 6 outlines the research question and approach that inform the direction of the book. Finally, section 7 briefly outlines the content of each of the following chapters.

3. WHAT IS THE THIRD POLE, AND WHY PROTECT IT?

In brief, the 'Third Pole' is Asia's terrestrial cryosphere, it contains 'more snow and ice than anywhere outside the [north and south] polar regions'.[45] It is 'high altitude' compared with the Arctic (the 'First Pole') and Antarctic (the 'Second Pole'), which are 'high latitude'; unlike both, and just north of

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[44] See Simon Marsden, 'China's "Third Pole" National Park; Wilderness Protection or Tourism Development?', presentation to the 10th Polar Law Symposium 2017, *Global and Local Governance of the Poles: Law, Policy and the Promotion of Cooperation*, Arctic Centre, University of Lapland, Rovaniemi, 13–14 November 2017.

[45] ICIMOD, 2017 http://www.icimod.org/?q=3487, accessed 18/8/17. For illustrations of the issues of relevance, three websites are particularly useful: https://www.internationalrivers.org/, accessed 9/11/18 (see strengthening standards section); https://www.thethirdpole.net/en/, accessed 9/11/18 (see regional cooperation section); and http://www.tpe.ac.cn/index.jsp, accessed 9/11/18.

the Tropic of Cancer, it also contains significant biodiversity.[46] The Third Pole has more in common with the Arctic than the Antarctic as many people are present, including Indigenous and minority groups; there are also numerous watercourses, many transboundary. Geographically, Asian international rivers furthermore have Arctic connections,[47] and politically and legally there are major opportunities to learn from Arctic governance.[48]

Chettri et al, however, highlight three key points of difference between the Third Pole and the First and Second Poles: significant population, climatic differences and rich biodiversity;[49] as indicated, the biodiversity makes it worthy of particular attention.[50] Another important difference is the earthquake-prone nature of the subregion, with major incidents in Nepal in 2014, and Afghanistan and Pakistan in 2015.[51] While new scientific developments may aid future predictions,[52] it is also now recognised that while most earthquakes are triggered by natural causes, man-made earthquakes ('induced seismicity') due to mining, dam building and fracking have also resulted, and are becoming more common.[53] This is a major concern given the pro-development focus of China in the subregion, and is supported by scientific claims, for example, that dam building led to the Sichuan earthquake in 2008.[54]

Because of the defining emphasis on snow and ice, protection of the mountains and high country is particularly important; climate change has, however,

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[46] Falk Huettmann, 'Introduction: Why Three Poles and Why Protect Them?', in Falk Huettmann (ed), *Protection of the Three Poles* (Springer, Japan, 2012) 16.

[47] Marsden (2015), above n. 9.

[48] Marsden (2016), above n. 3; Timo Koivurova, Paula Kankaanpaa and Adam Stępien, 'Innovative Environmental Protection: Lessons from the Arctic' (2015) 27 *Journal of Environmental Law* 285–311.

[49] Nakul Chettri, Arun Shrestha, Zhaoli Yan, Birendra Bajracharya, Eklabya Sharma and Hua Ouyang, '"Real World" Protection for the Third Pole and its People', in Falk Huettmann (ed), *Protection of the Three Poles* (Springer, Japan, 2012) 113, 114–115.

[50] Marsden (2017), above n. 18.

[51] See Soutik Biswas, 'Nepal Earthquake: How India and China Vie for Influence' *BBC News*, 28 April 2014; Jon Boone, 'Afghanistan and Pakistan Earthquake Death Toll Will Rise, Say Officials' *The Guardian*, 27 October 2015.

[52] Kees Vuik, 'Is it Finally Possible to Predict Earthquakes?' *The Guardian*, 20 May 2015.

[53] Richard Lovett, 'Man-Made Earthquakes Cause Seismic Rumblings' *Cosmos Magazine*, 24 March 2014.

[54] Malcolm Moore, 'Chinese Earthquake May Have Been Man-Made, Say Scientists' *The Telegraph*, 2 February 2009.

reduced glacial coverage,[55] impacting riverine hydrology.[56] Of the mountains, the Himalayas/Tibetan Plateau are most significant; the former including the Hindu Kush from central Asia to Kashmir at the Pakistani–Indian border, and with Tibet geographically constituting a large part of China.[57] The Third Pole extends to the northwest to include the Tien Shan of Kyrgyzstan, Kazakhstan, Uzbekistan and Xinjiang (China), and the Pamir of Tajikistan; it also includes the Karakoram of Afghanistan and Pakistan, and the Kunlun bordering the Tibetan Plateau.

Given their role as 'Water Towers of Asia' ('Himalayan Asia'), existing research has focused on international rivers; these include the Indus, Ganges and Brahmaputra originating on the Tibetan Plateau.[58] In addition to climate change, air pollution is also melting Third Pole glaciers,[59] impacting watercourses;[60] mega hydroelectric dams also affect the quality and quantity of the water, biodiversity and livelihoods.[61] Whether reaching the Aral Sea in central Asia, the Indian Ocean off Bangladesh or the South China Sea off Vietnam, protecting the health and flows of these rivers is an essential part of maintaining the greater Third Pole ecosystem.

The Third Pole consists wholly or partly of the territory of individual states (Kyrgyzstan, Tajikistan, Afghanistan, Pakistan, India, Nepal, Bhutan and China). Because of its international rivers, it is also of major significance to downstream bordering states (Kazakhstan, Uzbekistan, Bangladesh, Myanmar, Laos, Thailand, Cambodia and Vietnam). In central Asia the depletion of the

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[55] Jing Li, 'A Fifth of Glaciers Lost Since the 1950s' *South China Morning Post*, 15 December 2014.

[56] Qin Liu, 'Source of Mekong, Yellow and Yangtze Rivers Drying Up' *China Dialogue*, 8 March 2017.

[57] Jane Qiu, 'China: The Third Pole' (2008) 454 *Nature* 393–396.

[58] Ruby Moynihan and Bjørn-Oliver Magsig, 'The Rising Role of Regional Approaches in International Water Law: Lessons from the UNECE Water Regime and Himalayan Asia for Strengthening Transboundary Water Cooperation' (2014) 23 *Review of European, Comparative and International Environmental Law* 43–58.

[59] Y Hijioka, E Lin, JJ Pereira, RT Corlett, X Cui, GE Insarov, RD Lasco, E Lindgren and A Surjan, 'Asia', in VR Barros et al (eds) *Climate Change 2014: Impacts, Adaptation and Vulnerability, Part B: Regional Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* (Cambridge University Press, Cambridge, 2014) 1327, 1355 (Lower Mekong River Basin and Glaciers of Central Asia).

[60] Monirul Mirza, 'Climate Change, Flooding in South Asia and Implications' (2011) 11 *Regional Environmental Change* S95–S107; and Zifeng Lu, David Streets, Qiang Zhang and Siwen Wang, 'A Novel Back-Trajectory Analysis of the Origin of Black Carbon Transported to the Himalayas and Tibetan Plateau During 1996–2010' (2012) 39 *Geophysical Research Letters* LO1809.

[61] Chettri et al, above n. 49, 113–132.

Aral Sea from hydropower impacts upon Kazakhstan and Uzbekistan, who utilise the waters from the Syr Darya and Amu Darya rivers for irrigation;[62] similarly the use of the Mekong primarily by China and Laos for hydropower, impacts upon biodiversity[63] and community livelihoods in other states such as Thailand, concerned about fish migration and food security.[64]

Governance of the Third Pole is notably weak. Unlike other parts of Asia which have developed subregional environmental regimes,[65] there have been few or no efforts of significance, reflecting the prevalence of bilateralism[66] and national interests.[67] Border disputes also have significant implications for environmental protection.[68] This has not changed over the last decade, and dam building on the Mekong may hold lessons for the Third Pole as a whole.[69] These emphasise the importance of international cooperation if negative environmental and social consequences are to be prevented or effectively managed. Together with equitable utilisation and environmental protection of international rivers, strong measures for Asian transboundary EIA and strategic environmental assessment (SEA – which has a close relationship with EIA and is analysed in Chapters 5 and 6) must be embedded within these regimes alongside those for biodiversity conservation.[70]

The Third Pole is a contested region for two reasons. First, the borders of some states are disputed, in particular India, Pakistan and China.[71] Second,

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[62] Joseph MacKay, 'Running Dry: International Law and the Management of Aral Sea Depletion' (2009) 28(1) *Central Asian Survey* 17–27.

[63] See Marsden (2017), above n. 18; Ben Boer, Philip Hirsch, Fleur Johns, Ben Saul and Natalia Scurrah, *The Mekong: A Socio-legal Approach to River Basin Development* (Routledge, Abingdon, 2015).

[64] Henriette Litta, 'Case Study Two: Common Use of the Mekong', in Henriette Litta, *Regimes in Southeast Asia: An Analysis of Environmental Cooperation* (Verlag Springer, Wiesbaden, 2012) 139.

[65] Marsden (2017), above n. 2.

[66] Amit Ranjan, 'Disputed Waters: India, Pakistan and the Transboundary Rivers' (2016) 4(2) *Studies in Indian Politics* 191–205.

[67] Philip Hirsch and Kurt Mørck Jensen, *National Interests and Transboundary Water Governance in the Mekong* (Australian Mekong Resource Centre, University of Sydney, Danish IDA, 2016).

[68] Ruth Gamble, 'China and India's Border Dispute is a Slow-Moving Environmental Disaster' *The Conversation*, 17 June 2018.

[69] Marsden (2017), above n. 18.

[70] Simon Marsden, 'Environmental Assessment of Cross-Border Development: China and the Third Pole' (2015) 18(1) *Journal of Environmental Assessment Policy and Management* 1650009-1–1650009-21; and Marsden (2012), above n. 9.

[71] Tsering Shakya, 'Doklam Then and Now: From British to Chinese Interests, Follow the Money' *South China Morning Post*, 19 August 2017; Lei Xie and Shaofeng Jia, 'Diplomatic Water Cooperation: The Case of Sino-India Dispute over Brahmaputra' (2016) 17(5) *International Environmental Agreements: Politics, Law and Economics*

there are different opinions about the use of transboundary waters;[72] upstream states want them for the production of electricity via mega dams, and downstream states for agriculture and fishing. The potential for conflict has also grown because of climate change.[73] In one instance, for example, transboundary waters originating on the Tibetan Plateau are planned for diversion for domestic use by China, causing conflict with India and Bangladesh.[74] Avoiding and managing these conflicts is a challenging task which changes over time. Historically, many result from a colonial legacy, whether British rule in south Asia or Soviet rule in central Asia. Others, such as China–India relations, derive from changed power dynamics from development, building on past differences and divergent political viewpoints.

Significantly, the Tibetan Plateau is today part of the 'Tibet Autonomous Region', in turn part of China, although legally this is contested in international law,[75] and this status has been subject to major political protest.[76] As China has taken upon itself a leadership role in relation to development at home and abroad, it is to China that states in south Asia increasingly look for leadership in managing these watercourses and other resources of the subregion.[77] However China must comply with international law in doing so,

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DOI 10.1007/s10784-016-9339-4; J Boone and K Baloch, 'A New Shenzhen? Poor Pakistan Fishing Town's Horror at Chinese Plans' *The Guardian*, 4 February 2016; Kiyya Baloch, 'The China–Pakistan Economic Corridor Challenges: One Group is Not Happy about China's Big Investment Plans' *The Diplomat*, 28 September 2015; Aditya Kalra and Asad Hashim, 'India–Pakistan Peace Talks Collapse, Deadlock Sours Relations' *Reuters*, 23 August 2015; and Jason Burke and Tania Branigan, 'India–China Border Standoff Highlights Tensions before Xi Visit' *The Guardian*, 16 September 2014.

[72] Kieran Cooke, 'The Dams of India: Boon or Bane?' *The Guardian*, 17 March 2014.

[73] Karen Morton, 'Climate Change and Security at the Third Pole' (2011) 3(1) *Survival: Global Politics and Strategy* 121–132; Thomas Bernauer and Tobias Siegfried, 'Climate Change and International Water Conflict in Central Asia' (2012) 49(1) *Journal of Peace Research* 227–239.

[74] Stephen Chen, 'Chinese Engineers Plan 1,000km Tunnel to Make Xinjiang Desert Bloom' *South China Morning Post*, 29 October 2017.

[75] See Michael van Walt van Praag, *The Status of Tibet: History, Rights and Prospects in International Law* (Wisdom Publications, London, 1987); and Alfred Rubin, 'The Position of Tibet in International Law' (1968) 35 *The China Quarterly* 110–154.

[76] Enze Han and Christopher Paik, 'Dynamics of Political Resistance in Tibet: Religious Repression and Controversies of Demographic Change' (2014) 217 *The China Quarterly* 69–98.

[77] See generally, Patrick Wintour, 'China Starts to Assert its World View at UN as Influence Grows' *The Guardian*, 24 September 2018; Debasish Chowdhury, 'Why Modi's India is Warming to China' *South China Morning Post*, 17 September 2015.

including transboundary EIA.[78] In relation to other resources, the search for minerals in the Himalayas has begun[79] and this must be managed carefully if water pollution is not to result. Although not considered in this book, it is, however, air pollution that casts the largest shadow over the Third Pole,[80] with glacier and snow melt arguably of greater significance than in the Arctic or Antarctic because of the direct effect upon the large populations that rely on the rapidly reducing waters.

3.1 The Environmental Significance of Energy Development from Large Dams

Energy development globally is also a major contributor to the production of significant negative environmental effects. Despite the potential to focus on supposedly carbon neutral renewables, there are still nonetheless numerous consequences that result from the development of low carbon energy from renewables or other energy sources, including nuclear power. Hydroelectricity in particular can result in a large range of negative effects as this section will emphasise. Additionally, while windfarm development and other renewables may be a major contributor to reducing global warming, they remain responsible for various harmful environmental impacts, whether upon landscapes or nature.[81]

Given more pressures on developing states in the Third Pole to produce carbon-neutral energy, harnessing the power of Asia's domestic and transboundary rivers in the area for hydroelectricity is an obvious opportunity to grasp. As a means of contending with the impacts of climate change, sourcing energy from non-fossil fuels is a clear choice that can be made. However the environmental significance of this form of energy development has negative as well as positive consequences and these have been a concern over a long period of time. Whether these relate to the disappearance of productive land or wilderness, or the need for involuntary resettlement of communities dependent

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[78] Simon Marsden, 'Developing Approaches to Transboundary Environmental Impact Assessment in China: Cooperation through the Greater Tumen Initiative and in the Pearl River Delta Region' (2010) 9 *Chinese Journal of International Law* 393–414.

[79] Shishir Prashant, 'Jammu-Pak Border Might have Oil and Gas, says ONGC' *Business Standard*, 7 February 2014.

[80] Lu et al, above n. 60.

[81] See e.g. the guidelines produced by the Council of Europe Nature Conservation treaty and the Convention on Migratory Species. For citation and comment, see Simon Marsden, 'Protecting Wild Land from Wind Farms in a Post-EU Scotland' (2018) 18(2) *International Environmental Agreements: Politics, Law and Economics* 295–414, at 305.

upon the local environment for livelihoods, there has been a need for clear guidelines to steer such projects and manage significant effects.

The most comprehensive guidelines for large dams protecting the rights of river-dependent communities were outlined by the World Commission on Dams (WCD) in 2000.[82] From 1998 to 2000 the WCD followed a detailed process to gain insights into this form of international development in order to make recommendations for the future.[83] The process began first by the appointment of a 68-member Stakeholder Forum to act as an advisory group; second it reached out to the wider stakeholder community for expertise and analysis to inform its Knowledge Base and raise funds; third, four regional consultations were conducted in different parts of the world so that different voices could be heard, including two hearings on large dams; fourth, eight independent case studies and two country reports (India and China) were conducted; fifth, 17 thematic reviews were carried out on different aspects, including environmental, social and economic issues; sixth, a global survey of 125 large dams was performed. The NGO International Rivers, which is focused on protecting rivers and dependent communities, comments positively on the process as follows:

> The WCD assessed the development effectiveness of dams in an independent, participatory process, and established what has come to be regarded as the gold standard for dam building. The WCD principles encompass basic values of human rights and sustainable development that are essential to minimizing the negative

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[82] World Commission on Dams, *Dams and Development: A New Framework for Decision-Making, The Report of the World Commission on Dams* (Earthscan, London, 2000).

[83] For reviews, see: Kader Asmal, 'Introduction: World Commission on Dams Report, Dams and Development' (2001) 16(6) *American University International Law Review* 1411–1433; Minu Hemmati, 'The World Commission on Dams as a Multi-Stakeholder Process: Some Future Challenges' (2002) 21(1) *Politics and the Life Sciences* 63–66; Navroz Dubash, Mairi Dupar, Smitu Kothari and Tundu Lissu, 'A Watershed in Global Governance? An Independent Assessment of the World Commission on Dams (Executive Summary)' (2002) 21(1) *Politics and the Life Sciences* 42–62; Luc Gagnon, Jean-Étienne Klimpt and Karin Seelos, 'Comparing Recommendations from the World Commission on Dams and the IEA Initiative on Hydropower' (2002) 30(14) *Energy Policy* 1299–1304; Jeremy Bird and Pamela Wallace, 'Dams and Development – An Insight to the Report of the World Commission on Dams' (2001) 50 *Irrigation and Drainage* 53–64; and Mikiyasu Nakayama and Ryo Fujikura, 'Issues in World Commission on Dams Report Development: Inconsistencies Between the Facts Found and the Guidelines' (2006) 20 *Hydrological Processes* 1263–1272.

impacts of large dams on people and the environment. Certain WCD principles have also been incorporated into various international and national laws and policies.[84]

Important WCD principles include: the need to assess all available options for meeting water and energy needs before proceeding with a dam project; demonstrating public acceptance and requiring free, prior and informed consent of affected Indigenous peoples; fixing problems with existing dams before building new ones; managing downstream impacts and environmental flows; sharing benefits with affected people; and ensuring compliance with project agreements. A decade later, analysis was carried out in relation to the lessons learned from the WCD in efforts to evaluate its relevance and ongoing significance.[85]

The country studies of the situation in India and China are of particular interest to this book. In relation to China, the report notes: 'China alone has built around 22,000 large dams, or close to half the world's total number.'[86] In relation to India, and outside North America and Europe, it comments: 'An estimated 1,700 large dams have been under construction in other parts of the world in the last few years. Of this total, 40% are reportedly being built in India.'[87] Collectively, 'The world's two most populous countries – China and India, have built around 57% of the world's large dams – and account for the largest number of people displaced.'[88] The resettlement numbers displaced by the mega dams for each country are also huge.[89]

The report comments at length on the opposition to large dams which resulted from the negative environmental and social impacts from their construction and operation. From a long history in the developed world to more recent protests in the developing world, relevant examples led to the World Bank withdrawing its support for the Sardar Sarovar project in India in 1993, and from Arun III in Nepal in 1995. More recent examples of opposition campaigns include those to the Three Gorges in China and to Pak Mun in

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[84] International Rivers, 'Protecting Rivers and Rights: The 10th Anniversary of the Commission on Dams Report', https://www.internationalrivers.org/resources/protecting-rivers-and-rights-3464, accessed 18/8/17.

[85] Ryo Fujikua and Mikiyasu Nakayama, 'Lessons learned from the World Commission on Dams' (2009) 9 *International Environmental Agreements: Politics, Law and Economics* 173–190; and Deborah Moore, John Dore and Dipak Gyawali, 'The World Commission on Dams + 10: Revisiting the Large Dam Controversy' (2010) 3(2) *Water Alternatives* 3–13.

[86] World Commission on Dams, above n. 82, 9.

[87] Ibid, 10.

[88] Ibid, 17.

[89] Ibid, 17.

Thailand.[90] The financial support of multilateral development banks (MDBs) and their applicable guidelines for this – which have been developed further to the recommendations of the WCD Report – are examined in Chapter 5 of this book in relation to EIA.

Chapter 3 of the WCD Report is entitled 'Ecosystems and Large Dams: Environmental Performance'. This is particularly relevant to the issues under consideration for the Third Pole environment, detailing the different types of impacts, and confirming the report's conclusion that '[t]he current state of knowledge indicates that large dams have many mostly negative impacts on ecosystems'.[91] This state of knowledge has been confirmed many times since the report was released, the most dramatic being the initial effect that '[t]he construction of a storage dam and subsequent inundation of the reservoir area effectively kills terrestrial plants and forests and displaces animals'.[92]

Dramatic examples of this globally can be seen in the effects following the building of the Itaipu Dam on the Paraná River in Paraguay, and constructing the Serpentine, Scotts Peak and Edgar Dams on the Serpentine and Huon Rivers and at Lake Edgar in Australia.[93] In relation to Itaipu, Guairá Falls were completely submerged under the artificial lake created by the Itaipu Dam. This series of waterfalls had a flow rate among the greatest of any then existing on Earth and were of scenic significance exceeding that of the World Heritage-listed Iguazu Falls located close by.[94] In relation to Australia, the loss of the original Lake Pedder led to the creation of Australia's largest lake – with the same name, mockingly referred to as 'Fake Pedder', retained – one of the most significant of Australia's environmental controversies.[95] It has also led to calls for 'rewilding', or ecological/ecosystem restoration, which has gained popularity among scholarly[96] and other communities[97] despite various controversies.[98]

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[90] Ibid, 19.

[91] Ibid, 74.

[92] Ibid, 75.

[93] Two other notable examples with which the author is familiar are the Aswan Dam in Egypt, which led to the relocation of the cultural heritage of Abu Simbel, and the Three Gorges Dam in China, with numerous immediate effects.

[94] http://whc.unesco.org/en/list/303, accessed 18/8/17.

[95] The location of the new Lake Pedder is also within a World Heritage site: http://whc.unesco.org/en/list/181, accessed 18/8/17.

[96] See Afshin Akhtar-Khavari, An Cliquet and Anastasia Telesetsky, *Ecological Restoration in International Environmental Law* (Routledge, Abingdon, 2017); Afshin Akhtar-Khavari and Benjamin Richardson, 'Ecological Restoration and the Law: Recovering Nature's Past for the Future' (2017) 26(2) *Griffith Law Review* 147–153.

[97] See https://www.iucn.org/commissions/commission-ecosystem-management/our-work/cems-thematic-groups/ecosystem-restoration, accessed 31/10/18.

[98] See e.g. Adam Vaughan, 'Rewilding Britain: Bringing Wolves, Bears and Beavers Back to the Land' *The Guardian*, 16 September 2014; Patrick Barkham,

3.2 The Environmental Significance of Tourism Development in National Parks

Together with energy development considered above, tourism development is also a major concern globally, including in mountain regions.[99] To broaden the focus from energy development, this subsection also considers this. In the sensitive polar regions it has been regulated very carefully for some time to limit significant environmental effects,[100] although with growing interest in visitation, there is a clear need for this to be strengthened.[101] Tourism in protected areas beyond the Arctic and Antarctic is also a recognised concern. The World Heritage Convention (WHC)[102] has prepared guidance on this for example,[103] and has established a Sustainable Tourism Programme as part of its own efforts to manage the situation.[104] It is significant that this guidance emphasises the importance of public participation in managing tourism at World Heritage sites, which may or may not be encouraged in some countries.[105] The role of tourism partnerships for conservation and development in protected areas has

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'"It is Strange to See the British Struggling with the Beaver": Why is Rewilding so Controversial?' *The Guardian*, 3 July 2017.

[99] See Elisa Morgera, 'Tourism for Mountain Sustainable Development: A Comparative Law Perspective', in P Quillacq and M Onida (eds), *Environmental Protection and Mountains. Is Environmental Law Adapted to the Challenges Faced by Mountain Areas?* (Permanent Secretariat of the Alpine Convention, Innsbruck, 2011) 78–91. See also generally Charlotte Simmonds, Annette McGivney, Patrick Reilly, Brian Maffly, Todd Wilkinson, Gabrielle Canon, Michael Wright and Monte Whaley, 'Crisis in Our National Parks: How Tourists are Loving Nature to Death' *The Guardian*, 20 November 2018.

[100] In the Antarctic e.g. see LK Kriwoken and D Rootes, 'Tourism on Ice: Environmental Impact Assessment of Antarctic Tourism' (2000) 18 *Impact Assessment and Project Appraisal* 138–150. In the Arctic, see BH Humphreys, Aø Pedersen, PP Prokosch, and B Stonehouse, *Linking Tourism and Conservation in the Arctic*, Proceedings from Workshops on 20–22 January 1996 and 7–10 March 1997, Longyearbyen, Svalbard.

[101] See e.g.: file:///C:/Users/shm6/Downloads/thecircle0114.pdf, accessed 20/9/18.

[102] Convention Concerning the Protection of the World Cultural and Natural Heritage (Paris, 16 November 1972) 1037 UNTS 151, in force 17 December 1975.

[103] Arthur Pedersen, *Managing Tourism at World Heritage Sites: A Practical Manual for World Heritage Site Managers* (UNEP/TEMA, UNESCO, World Heritage Centre, Paris, 2002).

[104] See: https://whc.unesco.org/en/tourism/, accessed 20/9/18.

[105] See above n. 103, 'Involving stakeholders: the benefits and challenges of public participation', at 37–44; and discussion of the Public Participation Convention in Chapter 2.

also been the subject of recent guidance, in recognition of the pressures of funding protection.[106]

National parks are the types of protected area that are often subject to significant tourist visitation. As considered in more detail in Chapter 3, these are largely an American innovation, which grew partly out of the conservation movement in the nineteenth century.[107] When Yellowstone was designated a national park in 1872 it was the first in the world.[108] However, the growth in their popularity immediately afterwards has highlighted the potential for conflict. An appreciation for wilderness and wildlife that came from a wish to escape increasingly urbanised places following the Industrial Revolution was hence combined with the popularity of the car as a means to do so. How could the conflicting uses demanded by park visitors best be managed? And did the national park idea as it expanded across the world follow the same approach? National parks are found in almost every state of the world today but they take very different forms. The Northeast Greenland National Park,[109] the world's largest terrestrial national park, receives few visitors because of its relative isolation. Yellowstone and others are very different and experience significant numbers of tourists. What does this say about national parks and their potential as transplants to protect the Third Pole?

In March 2017 it was announced that China was considering creating a 'Third Pole National Park', constituted potentially by the entire Tibetan Plateau and surrounding mountain ranges within Chinese territory.[110] If the proposal is accepted it will be more than twice as big as the Northeast Greenland National Park. The purpose, while apparently to protect the Tibetan Plateau 'as an environmental and ecological imperative',[111] may, however, be rather different. Implementation of the 'One Belt, One Road' (OBOR) infra-

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[106] See Anna Spenceley, Susan Snyman and Paul FJ Eagles, *Guidelines for Tourism Partnerships and Concessions for Protected Areas: Generating Sustainable Revenues for Conservation and Development* (CBD, IUCN, WCPA, Tapas Group, Biobridge Initiative and Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, 2017).

[107] https://www.loc.gov/collections/national-parks-maps/articles-and-essays/brief-history-of-the-national-parks/, accessed 25/8/17.

[108] Ironically, one of the key individuals responsible for its establishment was John Muir, a Scot; the irony exists because Scotland remains late in accepting the national park concept. It still has just two – Loch Lomond and The Trossachs, and the Cairngorms. For information on his legacy, see https://www.johnmuirtrust.org/about, accessed 24/5/18.

[109] https://visitgreenland.com/about-greenland/national-park/, accessed 27/8/18.

[110] Stephen Chen, 'China Plans World's Biggest National Park on Tibetan Plateau' *South China Morning Post*, 22 April 2017.

[111] Ibid, quoting the words of China's President Xi.

structure initiative to enhance cross-border economic cooperation with central Asia,[112] and a significant increase in tourism development for domestic and international visitors, are both flagged as activities seemingly not incompatible with this 'environmental and ecological imperative'. While mining activities would cease, infrastructure and other tourism development would, however, grow significantly, with the 'Third Pole National Park' part of a 'push for the establishment of a new national park system borrowing heavily from planning and management practices used in the US'.[113]

Given the confusion about national park categorisation discussed in Chapter 3, an alternative International Union for the Conservation of Nature (IUCN) category may be better suited to preserving the wilderness qualities of the Tibetan Plateau.[114] Since there is a large native Tibetan population of around 8 million, some of whom do not accept Chinese sovereignty, there may also be a possible domestic political motivation underlying the proposal as forced relocation is not an unlikely outcome.[115] Other political motivations are of an international nature; India has refused to participate in a survey of the Plateau, which will determine the extent of any proposed national park; similarly the nomenclature of the national park is inappropriate as the Third Pole extends to several states beyond China's borders. This is likely to be controversial; what will the creation of such a national park mean for these relationships?

To implement the proposal, the Tibet autonomous region plans to upgrade the natural reserve around Siling Lake – the region's largest lake – and expand it to surrounding areas to establish the 'Third Pole National Park' on the Qinghai-Tibet Plateau. According to a plan obtained from the regional

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[112] See Farkhod Tolipov, 'One Belt, One Road in Central Asia: Progress, Challenges, and Implications', in Alessandro Arduino and Xue Gong (eds), *Securing the Belt and Road Initiative* (Palgrave Macmillan, Basingstoke, 2018) 181–195; and for environmental effects, KWF Howard and KK Howard, 'The New "Silk Road Economic Belt" as a Threat to the Sustainable Management of Central Asia's Transboundary Water Resources' (2016) 75 *Environmental Earth Sciences* 976.

[113] Beth Walker, 'Tibet's Pilot National Park: A Land of Golden Opportunity?' See https://www.thethirdpole.net/en/2016/11/29/tibets-pilot-national-park-a-land-of-golden-opportunity/, accessed 15/10/18.

[114] See Chapter 3, section 2 and note: Sarah Casson, Vance Martin and Alan Watson, *Wilderness Protected Areas: Management Guidelines for IUCN Category 1b Protected Areas* (IUCN, Gland, 2016); and Cyril F Kormos, Tim Badman, Tilman Jaeger, Bastian Bertzky, Remco van Merm, Elena Osipova, Yichuan Shi and Peter Bille Larsen, *World Heritage, Wilderness and Large Landscapes and Seascapes* (IUCN, Gland, 2017).

[115] As an indication of current tensions, see https://www.theguardian.com/world/2018/aug/27/china-tibet-fresh-push-against-separatist-elements-religion, accessed 27/8/18.

government,[116] it would be established within Baingoin, Xainza, Nyima and Shuanghu counties – together covering 281,150 sq km – in the northern Nagqu prefecture. It was reported that the plans were in their early stages and the park's exact area had not yet been decided. For example, it was initially reported that the planned national park would cover more than 2.5 million sq km, including the entire Qinghai-Tibet Plateau, making it the biggest national park in the world. The subsequent plans seem to differ in scope.

Officials plan first to upgrade the Siling Lake natural reserve in Nagqu, which would be an important part of the national park. As the largest lake in Tibet and the second-biggest saltwater lake in China, Siling Lake was established to protect the fragile ecosystems of the lake and its surrounding area in 2003. According to the regional government, visitors could witness the migration of more than 100,000 Tibetan antelope in the reserve during the breeding season,[117] as well as other species such as the black-necked crane. The regional government proposed allowing a limited number of people to watch wild animals via organised tours in the experimental zone of the reserve and ensure no people can enter the core protection zone. 'High-end tours' in the reserve are intended, whereby local herdsmen can be fully involved in natural conservation to make a living from visitors rather than herding or mining. The impacts upon traditional culture are, however, not mentioned, which has raised concerns.

Walker also reports on efforts in the pilot project for the Angsai National Park, which was visited by President Xi in August 2017, where he commented that the Qinghai Province 'must respect and protect nature, build up a solid national ecological security barrier, and integrate economic, social and ecological benefits'.[118] The cultural loss in this national park is particularly noted, with herders abandoning their traditional nomadic way of life and religious practices being undermined.[119] Such concerns have been emphasised by others since, with the national park concept taken from the US considered inappropriate as 'China has followed the United States' method of monitoring its national park without understanding the unified system of governance in [the]

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[116] See Cui Jia, 'National Park Proposed Near Lake Reserve in Tibetan Mountains' *The China Daily*, 5 September 2017.

[117] The negative impact on this species from development has already been noted. See Lin Xia, Qisen Yang, Zengchao Li, Yonghua Wu and Zuojian Feng, 'The Effect of the Qinhai-Tibet Railway on the Migration of Tibetan Antelope *Pantholops Hodgsonii* in Hoh-Xil National Nature Reserve, China' (2007) 41(3) *Oryx* 353–357.

[118] Above n. 113.

[119] Tibet Society, 'Third Pole National Park: China Accused of "Highland Clearances" with Tibet Park UNESCO Bid', 15 June 2017, see https://tibetsociety.wordpress.com/2017/06/15/third-pole-national-park-china-accused-of-highland-clearances-with-tibet-park-unesco-bid/, accessed 15/10/18.

United States against the fragmented and often overlapping environmental governance in China'.[120] Palden's view is hence that the intention is not environmental protection but 'China's need to construct a huge area of national park in recent times … mainly because of [an] emerging middle class with growing interests in outdoor recreational activities'.[121]

Protection under the WHC is also being considered by China, building on the large number of sites in China that already are in theory protected. Those relevant to the Third Pole are cited in Chapter 3 and include Qinghai Hoh Xil[122] and Xinjian Tianshan.[123] However, past experience does not suggest that China will necessarily be able to meet the obligations that this entails. In relation to impacts upon Hoh-Xil National Nature Reserve, which was the basis for Qinghai Hoh Xil World Heritage Site,[124] it has been found that '[h]uman activities, including the activities of tourists, railway construction workers and other persons brought by the highway, were the most serious factor …'.[125] Furthermore, Three Parallel Rivers National Park (also inscribed on the World Heritage List),[126] is threatened by illegal logging, water pollution and mining. Walker comments on the fractured governance impacting upon protection efforts:

> Signs from the top leadership signal conflicting priorities within the country. President Xi Jinping recently ruled out new projects on the upper reaches of the Yangtze River as part of a new campaign to rejuvenate China's longest waterway. This highlights the ongoing contradictions between central government efforts to

[120] Tenzin Palden, 'Why is China Planning to Turn [the] Whole of the Tibetan Plateau into a Park?' Tibet Policy Institute, 3 June 2017, see https://tibetpolicy.net/comments-briefs/why-is-china-planning-to-turn-whole-of-the-tibetan-plateau-into-a-park/, accessed 15/10/18.

[121] Ibid.

[122] See: https://whc.unesco.org/en/list/1540, accessed 15/10/18.

[123] See: https://whc.unesco.org/en/list/1414, accessed 15/10/18.

[124] For an explanation of this type of protected area in China, see Ziliang Guo and Guofa Cui, 'Establishment of Nature Reserves in Administrative Regions of Mainland China' (2015) 10(3) *PLoS One* 1–13; and on the relationship between protected areas and biodiversity and ecosystem services, Weihua Xu, Yi Xiao, Jingjing Zhang, Wu Yang, Lu Zhang, Vanessa Hull, Zhi Wang, Hua Zheng, Jianguo Liu, Stephen Polasky, Ling Jiang, Yang Xiao, Xuewei Shi, Enming Rao, Fei Lu, Xiaoke Wang, Gretchen C. Daily, and Zhiyun Ouyang 'Strengthening Protected Areas for Biodiversity and Ecosystem Services in China' (2017) 114(7) *Proceedings of the National Academy of Sciences of the United States of America* 1601–1606.

[125] Above n. 117, 356.

[126] See https://whc.unesco.org/en/list/1083, accessed 15/10/18.

> protect a region key to the future water security of the country and the rest of Asia, and the local level pursuit of economic development at all costs.[127]

4. SUSTAINABLE DEVELOPMENT: LEGAL SIGNIFICANCE AND LIMITATIONS

Sustainable development has been fundamental to understanding the nexus between energy development and environmental protection, and also – given the other example above – tourism development and environmental protection. This has been the case since the first of three international conferences, the United Nations Conference on Environment and Development (UNCED), was held in Stockholm in 1972. Among the other 26 principles outlined, Principle 2 declared:

> The natural resources of the earth, including the air, water, land, flora and fauna and especially representative samples of natural ecosystems, must be safeguarded for the benefit of present and future generations through careful planning or management, as appropriate.[128]

What has become known as 'sustainable development' has since informed the discourse of economic, social and environmental issues and has established a significant and ongoing associated legal scholarship in connection with it.[129] The publication of the *Brundtland Report* in 1987 was a seminal moment for the advocacy of sustainable development.[130] In the 30 years since, major advances in international environmental legal development have been made – including the re-emphasis of sustainable development at the second interna-

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[127] Beth Walker, 'China's Three Parallel Rivers National Park Threatened by Illegal Mining', thirdpole.net, 15 August 2016, see https://www.thethirdpole.net/en/2016/08/15/chinas-three-parallel-rivers-national-park-threatened-by-illegal-mining/, accessed 15/10/18. See also Liu, above n. 56.

[128] United Nations Conference on the Human Environment, Principle 2, Stockholm Declaration (1972).

[129] See e.g. Duncan French and Louis Kotze, *Sustainable Development Goals: Law, Theory and Implementation* (Edward Elgar Publishing, Cheltenham, 2018); Virginie Barral, 'Sustainable Development in International Law: Nature and Operation of an Evolutive Legal Norm' (2012) 23(2) *European Journal of International Law* 377–400; Duncan French, *International Law and Policy of Sustainable Development* (Manchester University Press, Manchester, 2005); Marie-Claire Cordonier Segger and Ashfaq Khalfan, *Sustainable Development Law: Principles, Practices, and Prospects* (Oxford University Press, Oxford, 2004); and Winfried Lang (ed), *Sustainable Development and International Law* (Springer, Netherlands, 1995).

[130] World Commission on Environment and Development, *Report of the World Commission on Environment and Development: Our Common Future* (Oxford University Press, Oxford, 1987).

tional conference, the World Summit on Sustainable Development (WSSD) in 1992, which produced the Rio Declaration.[131]

Despite advances in international environmental law especially, it is, however, easy to question the claim made in the Brundtland definition that sustainable development is 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs'. If advocates of footprint analysis[132] or climate tipping points[133] – cases where carrying capacity/planetary boundaries are exceeded by development[134] – were to comment on whether the needs of future generations have been compromised by the actions supporting current generations over that time, therefore, it is very likely that they would agree. The reason for this was foreseen in the *Brundtland Report*, as 'the Commission's hope for the future is *conditional on decisive political action now* to begin managing environmental resources to ensure both sustainable human progress and human survival'.[135] Thirty years on, that action has arguably yet to be seen.

The role of the law in advancing sustainable development was recognised early on. The World Conservation Strategy of the IUCN in 1980 emphasised the importance of specific legislation for any sound sustainable legislative strategy.[136] This was especially so in relation to conservation by providing for both sustainable utilisation and the protection of living resources; public participation was also an acknowledged part of this. And international environmental law has played a key role in establishing regulatory frameworks designed to advance sustainable development, which have received considerable attention in the literature.[137]

Danube Dams[138] recognised sustainable development as a legal concept in its decision of 1997 – a decade after *Brundtland* – with ICJ Vice-President Weeramantry considering its meaning and significance at length in historical and geographic context. After examining the legal developments he concluded: 'The principle of sustainable development is thus a part of modern

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[131] World Summit on Sustainable Development, Principle 27, Rio Declaration (1992).

[132] Mathis Wackernagel and William Rees, *Our Ecological Footprint: Reducing Human Impact on the Earth* (New Society Publishers, Gabriola Island, 1998).

[133] Lauren Morello, 'Is Earth Nearing an Environmental "Tipping Point"?' *Scientific American*, 7 June 2012.

[134] Jonas Ebbesson, 'Planetary Boundaries and the Matching of International Treaty Regimes' (2014) 59 *Scandinavian Studies in Law* 259–284.

[135] Above n. 130, my emphasis.

[136] International Union for the Conservation of Nature, *The World Conservation Strategy* (IUCN, Gland, 1980).

[137] Above n. 129.

[138] Above n. 5.

international law by reason not only of its inescapable logical necessity, but also by reason of its wide and general acceptance by the global community.'[139]

At the third international conference, Earth Summit 2012 ('Rio+20'), held in Rio two decades after the original one,[140] the breadth of the issues involved was recognised, including, for the purposes of this book in particular, 'the critical role that energy plays in the development process, as access to sustainable modern energy services contributes to poverty eradication, saves lives, improves health and helps to provide for basic human needs'.[141] Other thematic and cross-sectoral issues emphasised included food security,[142] water,[143] sustainable tourism,[144] climate change,[145] forests[146] and biodiversity.[147]

More recently, Sustainable Development Goals (SDGs) have been promoted by the UN to operationalise sustainable development. On 25 September 2015 countries therefore adopted a set of goals to end poverty, protect the planet, and ensure prosperity for all as part of a new sustainable development agenda. Each goal has specific targets to be achieved over the next 15 years. Of particular relevance are goals 6 (clean water and sanitation), 7 (affordable and clean energy), 9 (industry, innovation and infrastructure), 11 (sustainable cities and communities), 13 (climate action), 14 (life below water), and 15 (life on land). The UN comments on these as follows:

> The SDGs, also known as Global Goals, build on the success of the Millennium Development Goals (MDGs) and aim to go further to end all forms of poverty. The new Goals are unique in that they call for action by all countries, poor, rich and middle-income to promote prosperity while protecting the planet. They recognize that ending poverty must go hand-in-hand with strategies that build economic growth and address a range of social needs including education, health, social protection, and job opportunities, while tackling climate change and environmental protection.[148]

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[139] Separate Opinion of Vice President Weeramantry, at 96, in *Danube Dams*, above n. 5.

[140] For a chronology of these developments, see Gerry Bates, *Environmental Law in Australia* (9th edn, Lexis Nexis/Butterworths, Australia, 2016) 255–261.

[141] See United Nations, *Report of the United Nations Conference on Sustainable Development*, Rio de Janeiro, Brazil 20–22 June 2012, A/CONF.216/16 12-46164, paras 125–129.

[142] Ibid, paras 108–118.

[143] Ibid, paras 119–124.

[144] Ibid, paras 130–131.

[145] Ibid, paras 190–192.

[146] Ibid, paras 193–196.

[147] Ibid, paras 197–204.

[148] http://www.un.org/sustainabledevelopment/development-agenda/, accessed 24/8/17.

Yet whether these can overcome the governance issues suggested at the start of this section, which question whether future generations can be protected against uncontrolled development, has been considered recently. Stevens and Kanie comment at the start of their analysis: 'In the post-1992 era, roadblock after roadblock for global governance on sustainability was confronted and increased scepticism became warranted … Specifically, the Rio+20 process produced nothing in the realm of hard law, and the small-scale efforts appear scattered haphazardly without a core to organize global action.'[149] Further to the cautionary note expressed in the *Brundtland Report* concerning political will above, they also ultimately find: 'As we enter the 2015–2030 period where the SDGs aim to play a key role over sustainability, the key questions will reflect the political vision at the international level and will for implementation at the local and national levels.'[150]

5. THE ENERGY TRILEMMA AND LINKS WITH SUSTAINABLE DEVELOPMENT

It is impractical to comment on sustainable development in the context of the energy and environment conflicts in the Third Pole without reference to the energy trilemma ('Trilemma'),[151] or the energy law and policy triangle ('Triangle').[152] The World Energy Council's definition of energy sustainabil-

[149] Casey Stevens and Norichika Kanie, 'The Transformative Potential of the Sustainable Development Goals (SDGs)' (2016) 16 *International Environmental Agreements: Politics, Law and Economics* 393–396, 393. See also French and Kotze, above n. 129.

[150] Stevens and Kanie, above n. 149, 396.

[151] See World Energy Council, *World Energy Trilemma Index 2017: Monitoring the Sustainability of National Energy Systems*; World Energy Council, *World Energy Trilemma 2017: Changing Dynamics – Using Distributed Energy Resources to Meet the Trilemma Challenge*; and World Energy Council, *World Energy Trilemma 2016: Defining Measures to Accelerate the Energy Transition*. All are available at https://www.worldenergy.org/publications, accessed 31/10/18. They emphasise that the global energy sector is being transformed by three trends that are impacting demand and supply at an unprecedented pace: decarbonisation, digitisation and decentralisation.

[152] For academic commentary generally and in relation to various jurisdictions, see Simon Marsden, 'The "Triangle" of Australian Energy Law and Policy: Omissions, Connections and Environmental Effects' (2017) 29(3) *Journal of Environmental Law* 475–503; Cameron Holley and Emma Lecavalier, 'Energy Governance, Energy Security and Environmental Sustainability: A Case Study from Hong Kong' (2017) 108 *Energy Policy* 379–389; Raphael Heffron and Kim Talus, 'The Development of Energy Law in the 21st Century: A Paradigm Shift?' (2016) 9 *Journal of World Energy Law and Business* 189–202, at 192–193; and Neil Gunnigham, 'Mapping the Energy Trilemma: The Case of Indonesia' (2013) 54 *Energy Policy* 183–194.

ity has three key aspects: energy security, energy equity and environmental sustainability. These 'constitute a "trilemma", entailing complex interwoven links between public and private actors, governments and regulators, economic and social factors, national resources, environmental concerns, and individual behaviours'.[153] The need for policies to address these matters is considered 'one of the most formidable challenges facing government and industry. The "Energy Trilemma" provides a clear framework to deliver the energy transformation and make sustainable energy systems a reality.'[154]

Since energy security is concerned with politics and economics, energy equity with social matters, and environmental sustainability with protecting the environment, there is little difference in practice between the concept of the Trilemma and sustainable development, other than that the Trilemma contextualises sustainable development in relation to energy matters and is therefore a key means of analysing the energy–environment conflict. As such, it is helpful to examine how the Trilemma relates to the Third Pole. In the Asian context, the *World Energy Trilemma Index 2017* notes the diverse array of economies, with the Third Pole less developed countries (Nepal and Pakistan) included alongside the rapidly developing economies (China and India).[155] These states are considered individually in the Index, alongside the central (Kazakhstan and Tajikistan) and south and southeast (Bangladesh and Vietnam) Asian states, which, with the exception of Tajikistan, are all downstream in relation to the international rivers of the Third Pole.[156]

The Index report notes that China replaced the USA as the world's largest energy consumer in 2011 and that India's energy demand will double by 2035 on the back of economic and population growth.[157] It adds:

> The high energy import dependence, coupled with other factors such as weather-related disruptions pose increasing energy supply risks to this region. The strong energy demand also challenges environmental sustainability performance with Asia being the world's biggest greenhouse gas (GHG) emitter, accounting for around a third of global GHG emissions in 2014 … In terms of energy equity, there are approximately 512 million people in the region lacking access to electricity, with the majority residing in rural areas.[158]

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[153] https://www.worldenergy.org/work-programme/strategic-insight/assessment-of-energy-climate-change-policy/, accessed 31/10/18.

[154] Ibid.

[155] World Energy Council (2017), above n. 151, 23.

[156] Individual country profiles can be located in the report. The India report, for example, notes the establishment of a new hydro policy (76) in an effort to integrate a large renewable energy capacity and to provide clean energy for all.

[157] World Energy Council (2017), above n. 151.

[158] Ibid, 23–24.

Having one of the lowest levels of electrification across south Asia, Nepal is a good example of the need to provide electricity across the population,[159] and such an issue illustrates why utilising hydroelectricity is extremely popular in the Asian region as a whole. For Pakistan, connections with China are indicated:

> Projects are being developed under the auspices of the China−Pakistan Economic Corridor (CPEC) to achieve a higher share of renewables. One of the projects, the Quaid-e-Azam Solar Park, started operating in 2015 and plans exist to expand its capacity to 1,000 MW. This would make it the world's largest solar power plant. Other projects include several wind farms and hydroelectric power plants such as the Suki Kinari project currently under construction in the North East of the country.[160]

6. RESEARCH QUESTION AND APPROACH

The research question explored in the following chapters, and answered in the conclusions of Chapters 3–7 of this book is: What international legal frameworks can potentially guide the development of a comprehensive regime to protect the Third Pole environment? In order to answer this question it is necessary to analyse to what extent these frameworks address principally the energy–environment conflicts in the Third Pole, particularly the regulation of large dams.

Other issues are also considered, for example extractive industry, forestry, transport infrastructure, and notably tourism development. The book hence considers how well these matters are regulated, by either international environmental or international water law. Furthermore, the role of sustainable development and the 'Energy Trilemma' in determining outcomes is evaluated. Are economic factors prioritised over environment protection or the protection of local and Indigenous communities?

The book therefore above all focuses on regulation to improve the evaluation of transboundary environmental effects from major infrastructure. If these effects are considered to be too great for the environment and communities dependent upon that environment, then there may be a place for the law to determine that they should not proceed; alternatively, to decide that they be managed very carefully, subject to strict enforceable conditions which are regularly monitored in follow-up processes.

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[159] Ibid, 97.

[160] Ibid, 102. Note, however, Laura Zhao, 'Beijing Has Oversold Benefits of US$62 Billion China–Pakistan Economic Corridor, Expert Says' *South China Morning Post*, 24 November 2018.

As with the previous two books in this 'Asian international environmental law trilogy', the research approach taken is primarily a doctrinal one, in reviewing key primary legal materials (e.g. treaty texts, and judgments of the ICJ) but is also highly comparative in nature in its focus on the content of global, regional and subregional arrangements in Asia, Europe and the other poles. In focusing upon policy, practice and law reform it is also a context-rich qualitative one.

The secondary literature will aid the analysis of the applicability of the international law considered, as supported by the theoretical and practical comparative legal literature in relation to legal transplants. To provide further practical assistance to the suggestions made, semi-structured interviews with academics and practitioners concerned with the governance of the Third Pole will also inform the analysis, helping with the development of the recommendations made in Chapter 7.

7. CHAPTER OUTLINES

Following this introductory chapter, and Chapter 2, which explains the comparative law of legal transplants and its application to international law, subsequent chapters examine a variety of potentially relevant international legal instruments, most of which derive from Europe or from the other poles. Because of their focus, these chapters are divided into those concerned with the role of biodiversity conservation (protected areas and species) and EIA on one hand, and measures with a primary relevance for rivers and mountains on the other. Together with biodiversity conservation and EIA (which are cross-cutting), mountains and rivers are the two key environmental contexts where energy development issues dominate concerns and prospects for Third Pole environmental protection and governance; forests are applicable also, especially in connection with mountains and biodiversity.

Chapter 3 is focused upon multilateral and regional arrangements (protected areas), and Chapter 4 on multilateral and regional measures (biodiversity and protected areas and species). Chapters 5 and 6 concern regional, multilateral and customary measures (EIA and rivers), and Chapter 7 deals with the subregional instruments (mountains). Significantly, because of their fairly comprehensive nature, the arrangements outlined in the mountain chapter also link with the focus areas in Chapters 3–6. For each of these chapters, the question whether the identified international legal transplants can assist in the development of a Third Pole regime is tentatively answered. Chapter 7 also contains the general conclusions together with some recommendations in response. In a little more detail the content outlined in each is as follows.

Chapter 2 explains the comparative law of legal transplants, particularly in relation to international examples and how these have developed in

relation to domestic law. It considers first the potential of legal transplants with reference to the classic work on the area, which has dominated much of comparative law as a sub-discipline, Watson's, *Legal Transplants: An Approach to Comparative Law*.[161] The development of the transplant theory is explained and critiqued generally with reference to Watson's supporters and adversaries, before the relevance to international law – and particularly international environmental law – is analysed. Examples of both vertical and horizontal transplants are given to illustrate the range of situations where laws have been adopted from one situation and applied to another, with a particular focus on the contextual constraints or otherwise limiting use. Importantly, the institutional application of legal transplants is also considered in this chapter, notably with respect to examples of current bodies which may be best placed to introduce any international law capable of being transplanted to improve Third Pole governance.

Chapter 3 is focused upon protected areas. The chapter includes an analysis of two multilateral environmental agreements that already apply in the Third Pole states, the most significant of which are the Wetlands Convention[162] and WHC. These are a particular focus with their broad reach and transboundary application; they are included because of the need to consider their effectiveness and how they relate to the other legal transplants. Examples of the protected area provisions in the Third Pole context are considered, together with an analysis of the advantages and disadvantages for declaring such areas. The European Landscape Convention[163] is also an important part of the analysis as it is a potential precedent for the Third Pole.

Chapter 4 is also concerned with biodiversity, specifically both area and species protection. This chapter highlights the potential benefits of *connecting* area and species protection, especially via the use of the 'Ecosystem Approach' (EA). Together with the Convention on Biological Diversity

[161] Watson, above n. 17, see also the other references at n. 4 regarding the 'impossibility' of legal transplants. The broadening of this concept to include the notion of 'norm diffusion' will also be part of this analysis, particularly in respect of international law which has also been analysed in regard to various processes. See e.g. Louisa Parks and Elisa Morgera, 'The Need for an Interdisciplinary Approach to Norm Diffusion: The Case of Fair and Equitable Benefit-Sharing' (2015) 24(3) *Review of European Comparative and International Environmental Law* 353; Jerneja Penca, 'Transnational Legal Transplants and Legitimacy: The Example of "Clean" and "Green" Development Mechanisms' (2016) 36(4) *Legal Studies* 706.

[162] Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar, 2 February 1971) 996 UNTS 245, in force 21 December 1975.

[163] Above n. 15.

(CBD),[164] which has explained the EA at length, the International Trade in Endangered Species,[165] and Conservation of Migratory Species[166] treaties are also examined, both of which, together with the CBD, currently apply in the Third Pole. Additionally, the Antarctic Environmental Protocol is examined, and, as a specific precedent of relevance to the Third Pole, the European Nature Conservation Convention.[167]

Chapter 5 considers the international law for EIA and its important role in regulating significant environmental effects of development projects. The recognition of this in customary international law is emphasised following findings of the ICJ in 2010[168] and 2015,[169] and attention is placed upon another UNECE treaty, the EIA Convention,[170] the position of which has been emphasised in related ICJ separate opinions.[171] The relevance of this treaty in the Third Pole context is highlighted because of the significant energy development and associated infrastructure, which is often transboundary in nature.[172] Like the UNECE Water Convention analysed in the previous chapter, the UNECE EIA Convention is also analysed in detail, together with the related SEA Protocol[173] (and application in Asia); also measures in the Arctic and Antarctic, before conclusions are drawn in relation to its potential as a legal transplant also.

Chapter 6 emphasises the paramount significance of the equitable utilisation and environmental protection of international rivers. It is focused above all upon the potential transplant of the UNECE Water Convention,[174] together with other international measures including customary international law. While the Water Convention is already applicable for certain central Asian states – and can be introduced by the others – it is also a potential legal transplant for other Third Pole states. In terms of its content, it is also especially relevant in an

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[164] Convention on Biological Diversity (Rio de Janeiro, 5 May 1992) 1760 UNTS 79, in force 29 December 1993.

[165] Convention on International Trade in Endangered Species of Wild Fauna and Flora (Washington DC, 3 March 1973) 993 UNTS 243, in force 1 July 1975.

[166] Convention on the Conservation of Migratory Species of Wild Animals (Bonn, 23 June 1979) 19 ILM 15, in force 1 November 1983.

[167] Above n. 15.

[168] *Pulp Mills*, above n. 6.

[169] *Certain Activities/Construction of a Road*, above n. 6.

[170] Above n. 8.

[171] See Bhandari, in *Certain Activities/Construction of a Road*, above n. 6.

[172] Marsden (2015), above n. 70.

[173] Protocol on Strategic Environmental Assessment to the Convention on Environmental Impact Assessment in a Transboundary Context (Kiev, 21 May 2003) 2685 UNTS 140, in force 11 July 2010.

[174] Above n. 7.

area with numerous cross-border watercourses under development pressures for energy production. Furthermore, as seen in the first book in the trilogy, it is applicable in Asia either as a result of states which are members of the UNECE (as in central Asia) or which are UN states in general now being able to join if existing members agree.[175] After considering the arrangements for other international rivers, the chapter also analyses the Mekong Agreement[176] because the river to which this applies originates on the Tibetan Plateau, and changes to water quantity or quality as a result of hydroelectric development impacts upon the southeast Asian states it passes through on its way to the South China Sea.[177]

Chapter 7 recognises the subregional agreements with particular relevance to the high-altitude focus of the Third Pole environment. It therefore evaluates the Alpine and Carpathian Conventions,[178] which, while applicable to Europe rather than Asia, are, like the Landscape and Nature Conservation Conventions[179] in Chapters 3 and 4, of key relevance. Both of these mountain treaties have a range of protocols which provide additional substantive content, for example conservation and sustainable use of biodiversity, soil conservation, mountain forests, sustainable tourism and energy. A detailed review of both Conventions and their respective protocols is provided, and as with the previous chapters, in each case the question is asked whether the respective regimes may have potential comprehensive precedent value for transplanting to the Third Pole. Based on the findings of the review of the potential for legal transplants in Chapter 2, and the suggested specific multilateral, regional and subregional international legal transplants in Chapters 3 to 7, Chapter 7 also contains the general conclusions of the book, responding to the research question.

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175 See also Marsden and Brandon, above n. 1.
176 Above n. 20.
177 Marsden (2017), above n. 18.
178 Above n. 16.
179 Above n. 15.