

# Introduction: the scholarship of environmental governance

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This collection of scholarly works provides insights into emerging developments in the field of legal governance of the environment. Environmental governance is increasingly concerned with far more than legal doctrine, though environmental law stands at the heart of good environmental governance. It is concerned with the totality of arrangements through which power and resources are deployed to protect and restore natural resources, and how the costs and benefits of this are allocated. As such, how the community exercises its democratic rights; the ways in which government responds to the needs of current and future generations and balances the interests of the powerful with the powerless; the freedoms and responsibilities of commerce and the holders of property; and the ways in which laws and policies are informed by science and other perspectives are all important. The chapters in this book show the many ways in which legal scholarship is pivotal to good governance in all these respects, and the extent of innovation that is being generated by the ecological, economic and social challenges that are arising.

The content and scope of these chapters demonstrate clearly the increasing breadth and depth of environmental law scholarship. The chapters show the many ways in which community and political leadership towards sustainability is being translated into institutional arrangements in the international and national spheres. The book also demonstrates the many conflicts and potential conflicts inherent in a radical transformation of society and economy. Legal scholars are, as a result, being called to take a leadership role in some of the fundamental contests of ideas and of interests that are taking place across the planet, as societies try to find a way of living with the reality of our finite and declining resources.

The chapters in this book suggest that this requires significant legal and institutional innovations that are interlinked with scientific discovery and the march of community power (enabled in no small degree by technology). The chapters reflect a willingness on the part of legal scholars to question the received wisdom of economics, and to contest the entrenched power structures within societies in the interests of sustainability, social justice and future citizens.

Nowhere is this more evident than in China, which is struggling with the intersecting challenges of population and economic growth, burgeoning citizen

rights-based environmental and social activism, and fundamental threats to ecological sustainability. The pivotal role of the law and lawyers in shaping the future of Chinese ecological sustainability and economic welfare is well illustrated within these pages. The contributions to this volume by a number of excellent Chinese legal scholars, including doctoral candidates, reflect the commitment of the International Union for the Conservation of Nature (IUCN) Academy of Environmental Law to advancing legal scholarship. This was particularly demonstrated by the holding of the 2009 IUCN Academy of Environmental Law Colloquium in Wuhan, China. It is from this event that the chapters in this book have evolved.

This book suggests the significance of the willingness of modern scholars to uphold the best traditions of jurisprudence: independence of thought, concern for the principled management of conflicts and conflicts of interests, and a willingness to stand up for the least privileged people or on unpopular political cause. This is evident in many ways. It is salutary to reflect that of the disciplines that are typically central to the development of sustainability in all jurisdictions, only the law brings to the table a culture and approach that places such values at the centre of how the craft is exercised. This suggests a unique opportunity and responsibility that may often be undervalued even by lawyers themselves.

Based on legal principles and the evidence of history, this book rationally contests the received wisdom in many policy and academic circles that markets are best able to solve natural resource management problems. A number of chapters provide reasons to believe that this paradigm, like all simple solutions to complex human problems, is intrinsically limited. In these chapters, it is suggested that more complete and nuanced solutions that reflect the great variations in social and ecological contexts are more likely to prove robust and reliable, and that when social justice and political economy concerns are added to the mix, the types of strategies and instruments that are used can vary markedly from what may seem to be as 'efficient' at first glance. Some authors provide specific directions for more robust governance arrangements, and for scholarship and policy practice that will be more inclusive and robust than current institutional and instrumental arrangements.

The chapters demonstrate the emergence of an increasingly transdisciplinary approach to the legal scholarship of environmental governance. Some of the chapters have been developed by teams that bring together high levels of legal capacity with ecology, economics, political science and management knowledge. The chapters that have been enriched in this way have put forward some challenging ideas about matters as fundamental as the nature of private property, and the architectural principles that ought to govern the design of environmental laws and resource governance arrangements. It is interesting to observe (as has been done at other times by other authors) that a distinguish-

ing feature of environmental law is that it intrinsically requires an ability to integrate both ecological and social science insights, and to cope with the complexities that so often plague interdisciplinary thinking.

A number of chapters draw together the strands of social justice and ecological sustainability. Considering a variety of interlinked social and ecological issues in Africa, China, and other parts of the world, these authors suggest a number of practical interventions, supported by legal arrangements, that will best ensure social justice whilst pursuing ecological sustainability. The matters covered include the use of information technology to enable citizen-led governance; embedding stewardship capacity in natural resource governance arrangements; fairer and more effective management of ecological refugee issues; and more activist roles for existing legal institutions.

## STRUCTURE AND CONTENT OF THIS BOOK

The structure of any book is limited by the fact that pages are put in sequence, even if the ideas contained within the chapters refuse such simple ordering. We have elected to sequence the book in the following manner, but in reality many important ideas that link different chapters are scattered in ways that would violate this structure. Therefore, some readers may find it more interesting to take a random walk through the book.

### **The Architectural Design of Environmental Governance**

The chapters in the first part of the book consider the overall ‘architecture’ of environmental law and governance, following the lead provided by the keynote speech by Professor Michael Faure. His chapter (‘Instruments for environmental governance: what works?’) provides a solid context in which to consider the ways in which regulatory, market, taxation or other instruments might contribute to the advance of sustainability. From a survey of the empirical literature, he provides clear indications that whilst different types of instrument may be advocated as ‘better’ or ‘best’ for a wide variety of circumstances, the reality of their performance is much more nuanced. He demonstrates that it is not the instrument in isolation that is important, it is the instrument in context that ought be the matter of concern. He also points out that it is more likely that a suite of instruments of different types will be effective and less distorting than relying on any one type. This is an important strategic observation at a time when the trend in economic and natural resource management literature seems to be to seek a simple ‘single instrument’ solution to complex and multi-faceted problems; and to largely ignore the realities of implementation and implementation capacity. Professor Faure’s

chapter also places a great deal of emphasis on the political realities of 'public choice', and the market for political power, as frequently driving policies that entrench established interests and create perverse effects.

The second chapter provides a good indication of the innovative approaches that can come from thinking more broadly about environmental law scholarship. Informed by ecological system science and the pluralist school of interest group politics in political science, John Page and Ann Brower ('Does (property) diversity beget (landscape) sustainability?') develop the thesis that ecological sustainability is likely to be enhanced by a pluralistic ownership structure involving a mosaic of interests, rather than the traditional 'despotic dominion' view of ownership as intrinsically comprising use rights and exclusive domain. They suggest that the bundle of interests within property is best managed sustainably by fragmentation, with an emphasis upon the stewardship aspects of use rights. It should be noted that questions of ownership of use rights and sustainability are later considered in relation to water in chapters by John Dellapena and Alex Gardner, and that they too seem to suggest that issues of ownership and obligation need to be more effectively linked through the management of use rights. This chapter suggests that a rethinking of the legal and political conceptualization of the foundational concepts of property rights could in itself generate significant improvements in sustainable use of landscapes.

The following chapter ('Creating next generation rural landscape governance: the challenge for environmental law scholarship' by Paul Martin, Jacqueline Williams and Amanda Kennedy) supports and extends Professor Faure's observations, but also takes a somewhat radical look at the conceptualization of environmental law, in this case with a greater emphasis on the public law aspects. Also based upon empirical research, their work supports the conclusion that *ex-post* studies do not support the view that either market or regulatory instruments are intrinsically more effective or efficient, and that it is more likely that a suite of instruments, arrayed in a systematic manner, will work better and be less likely to introduce perverse effects. Their study goes on to provide a set of specific principles for governance innovation, with an emphasis upon the importance of creating integrated 'smart regulation' approaches which control the proliferation of instruments and agencies, at the same time as bringing greater sophistication to the behavioural design of legal instruments. Their chapter suggests a number of innovations that might improve the cost-effectiveness of environmental law. These include co-regulation, with industry supported by credible government oversight, greater use of the strength of consumer demands for sustainable production, far deeper engagement between legal experts and affected communities, a deeper role for systems thinking (with an emphasis on linking ecological, socio-economic and institutional systems), and a more sophisticated treatment of risk in legal and institutional arrangements.

## Governance Innovation in China

A number of chapters are concerned with natural resource governance in China, and a few are assembled in this part. What many readers will be aware of is the spectacular economic growth that has occurred and continues to occur in China, and perhaps they will be aware of the many issues of pollution and resource degradation that have occurred along with this development. What fewer will be aware of is the quite fundamental shifts in the legal governance arrangements in China, with the high level commitment embodied in law of pursuing an 'ecological civilization' paradigm, as well as greatly enhanced human rights. The depth and variety of changes that this implies, and the governance innovations that have been introduced, are impressive, though, as most authors point out, the resistance and challenges at a local level are also significant.

The chapter by Kishan Khoday entitled 'Constitutionalism and the environment: the evolution of environmental governance in China's Socialist Market Economy' provides a clear description of the extent to which the government of China has come to grips with the 'existential threat' that is posed by ecological degradation, and how this has occurred at the same time as society has moved to greater political liberalism in its administrative arrangements and a deeper concern for the disadvantaged. This chapter details the rebalancing of the national paradigm away from a modernist view of the environment as a development resource towards a more harmonious development and conservation paradigm. The challenges that are embedded in making this adjustment are enormous. At a local provincial level, when faced with major regional economic and political challenges, the commitment to development and the interests of industry often proves stronger than any commitment to sustainability and social equity principles. However, a large number of governance innovations have been assembled to create pressure towards accepting the new priorities. These include strengthening citizen opportunities for access and participation, particularly with greater rights for environmental and social justice non-governmental organizations (NGOs), and new legal standing for citizens in civil and administrative suits. In terms of political rhetoric backed by institutional change, the commitment shown to sustainability is impressive compared with that which is ostensibly demonstrated by many other societies with less pressing economic challenges.

The depth of the doctrinal impediments to implementing this new order is well illustrated in the chapter 'Toward a more effective environmental criminal law in China' by Michael Faure and Hao Zhang. This chapter provides a detailed examination of the architecture of the relevant criminal and associated administrative laws in China. It demonstrates a complex interplay between national and regional, criminal and administrative, and statutory and judicial

arrangements that together serve to make effective use of the criminal law to achieve national sustainability objectives difficult. The problem of messy architectures being an impediment to effective use of the law that is discussed in Chapter 3 is well illustrated in this detailed study. The chapter considers this doctrinal structure relative to an idealized arrangement of proportionate responses that are coordinated between administrative and criminal law, and finds the present arrangements fall well short of this ideal. We suspect that, in most countries, whilst the doctrinal details would differ, the conclusions would be similar. In China the legal instruments suggest a typology of crimes, potentially penalizing a variety of anti-environmental behaviours, actions with adverse consequences, and responsibility for circumstances that arise that are deemed to be wrongful at law. Issues of guilty intention, or preconditions for a breach of administrative requirements, materially reduce the ability for this suite of criminal sanctions to be deployed, and in some cases the penalties are weak sanctions compared to the potential economic gains from continued breaches of the law. As we see in a subsequent chapter concerned with water pollution, in some aspects of Chinese law these practical issues are being addressed, but systemically the issues of penalization and enforcement are of concern. Ultimately, the creation of high-level policy objectives for sustainability and harmony with nature will be of limited effectiveness unless criminal and administrative laws, and their implementation, are made more efficient and powerful.

The role of the civil law for damages and administrative appeals against environmentally harmful decisions emerges as a frontier of environmental law development in China, given the difficulties that are documented with the criminal law. At the intersection between public and private law is the role of the public prosecutor or people's procuratorate in China. In this arm of government, innovativeness and a desire to advance the national sustainability agenda is shown in the chapter 'A feasible approach to environmental public interest litigation: the people's procuratorate as plaintiff' by Mei Hong and Yin Yanjie. This chapter provides many instances where public agents have stepped in to fill the gap between private rights and the limits of criminal law, by supporting civil or administrative actions by citizens or acting as a representative citizen in taking such actions. The authors point to the long history of public prosecutorial authorities taking this role as an adjunct to their criminal law responsibilities, and point to the important consequences for public administration that have flowed from this initiative. The absence of a clear legal mandate and sufficient resources, however, limits this opportunity to advance public environmental policy and citizens' environmental rights in China. The chapter suggests a relatively simple and inexpensive way of furthering the public interest in the environment in China, which may also be relevant in many other jurisdictions.

Good environmental governance, wherever it is found in the world, requires transparency and public scrutiny. In China, as in many other parts of the world, increasingly this scrutiny is being driven by the use of the internet and other information technologies, which are breaking down the ability of administrators and others to control information flows. The chapter 'Environmental e-governance in China: insights from government-citizen interaction' by Qin Tianbao and Wang Huanhuan provides an illuminating view of the extent to which technology is now an important actor in environmental governance. The explosion of technology options and high rates of consumer adoption intersect with a more supportive national government view of the role of the citizen in advancing sustainability as both a legal and political interest, creating a dynamic and rapidly changing context for participation in and supervision of government environmental policy. The authors look at both official government portals and non-government uses of technology, and observe a complex and rapidly evolving governance dynamic. Other chapters in this book also illustrate the explosion of avenues for the citizen and the consumer to exercise power to force or support government in advancing sustainability, and this suggests some new directions for legal environmental scholarship. One wonders, for example, what an international standard of disclosure and participation in environmental governance might do to advance both sustainability and social justice, or how environmental legal aid might be reframed to be effective in a technology-enabled world. Administrative law and environmental law are likely to be materially altered by developments of the type highlighted by these authors.

### **The Intersection of Economics and Social Justice around Water Laws**

Water and air are environmental assets that have an immediacy about them, as resource deprivation due to their contamination or lack is fatal. The links between fundamental human needs and fundamental human rights is clear in this aspect of natural resource governance. But water (and, in a different manner, air) is an industrial commodity as well as a human need, and how it is managed as an economic asset impacts economically, socially and environmentally. Water governance is rightly considered to be a particular focus for legal scholarship, but it also brings into focus other issues of natural resource governance and social justice more broadly.

In countries such as China, the issue of water quality and quantity is a topic of critical human concern for many millions of people, whereas in richer economies the focus tends to be upon its economic use. Joseph Dellapenna ('Global climate disruption and water law reform in the United States') explores the evolution and effectiveness of different legal arrangements for the allocation of water for economic purposes in the USA, and considers these in

the light of climate change. He provides a critical review of the capacity of three water allocation regimes that exist in the USA, in the light of the anticipated increasing conflict over water allocation. This chapter provides insights into the inability of market instruments to effectively deal with water, but in the context of governance arrangements that fall short of 'full-blown' ownership of water allocation interests (which is considered in the following chapter). Professor Dellapena provides an insightful discussion of the realities of riparian interests, and their ineffectiveness in coping with conditions where supply falls chronically short of potential demand. In so doing he provides a timely critique of the view popularized by the Nobel prize winner, Eleanor Ostrom, that self-organized arrangements for common property are reliable mechanisms for dealing with resource scarcity. He points out that whilst such arrangements may be reliable in some settings, in a modern Western economy where interpersonal relationships are often temporary and therefore where realization of interdependency may be vague, such approaches are risky. He also provides a realistic critique of appropriative approaches (or 'prior appropriation'), and of regulated riparianism. Whilst he is most supportive of the concept of time-bound and administered allocation of water extraction licences, he points to the limits of such arrangements. Notably, and in common with Chapter 1 by Michael Faure, he points to the distortions that arise through the self-interested exercise of political power by those who control water and other resources, and highlights the fact that regulated riparianism in itself does not ensure the reallocation of water in ways that are more likely to ensure the ability of society to respond to climate change-induced shortages.

The Australian water management regime described by Alex Gardner in his chapter on 'The legal protection of Ramsar Wetlands: Australian reforms' goes a long way towards creating a fully private, property rights-based regime for managing water allocation. Whilst the focus of the chapter is upon the use of market allocations to ensure the sustainability of hydrological systems (and in particular, Ramsar listed wetlands within those systems), it of necessity describes in detail the operations of that market. Considering the criticisms of markets in John Dellapena's chapter, and the suggestion of more circumscribed rather than expanded property rights arrangements in the Page and Brower chapter, this does raise questions about the efficiency, effectiveness and equity of private rights in water. Alex Gardner's study highlights important developments in making sustainable extraction limits the touchstone of the cap on use, and the treatment of the environment (though a legal representative) as a market participant that holds water rights. His chapter points to some practical challenges for the judicial system in coping with such innovations, and he also suggests that the treatment of risk at a time of impending scarcity caused by climate change ought to incorporate some form of 'emissions tax' on emitters to support adjustment by water users who will be



adversely affected by climate change. In line with a number of other chapters, this study also highlights the significance of constitutional arrangements in shaping the sorts of local legal interventions that are possible. The combination of political agency theory and the institutional limits of constitutionality support the views expressed by other authors that any sense of an 'ideal' instrument isolated from on-the-ground institutions and dynamics is deceptive.

The human tragedy that can arise from weak water laws and institutions is highlighted by Ke Jian in his chapter ('Drinking water security in China: a critical justice issue'), which focuses on rural drinking water. He indicates that 0.3 billion rural people who are surface water dependent are under threat from water contamination. In common with the chapters that discussed the rapid evolution of China's legal governance arrangements for natural resources generally, Ke Jian highlights the clash between the development imperative at the local government level and the firm commitments to sustainability that have emerged at a national level. However, in the area of water pollution (reflecting its critical need status), the protection of this natural resource has received strong support, particularly with the establishment of protective standards for drinking water sources in 2008. Also as reflected in other chapters on developments in China, the need for strong citizen rights for civil and administrative relief is highlighted. To some degree civil rights in relation to water pollution have advanced further than the general environmental rights outlined by other authors on China, with no-fault liability principles being established for water pollution claims, and with legal aid being authorized for such claims. It seems that the legislative structure for good governance of water has advanced in China, and that its effectiveness will depend upon citizen activism and the integrity of government authorities to deliver equitable access to this vital resource.

### **Linking Local and International Legal Innovations**

A great deal of environmental law scholarship is concerned with the creation of new international agreements, conventions, or protocols. The final chapters of the book (coupled with many of the earlier ones) demonstrate the deficiency of shaping international arrangements without a great deal of consideration of how they interact and how they will be implemented at state or even regional level. This mirrors earlier observations in several chapters in this book that good environmental governance requires a great deal more than a proliferation of theoretically useful instruments, and that increasingly, concern has to shift to the challenges of implementation and coordination 'on the front line'. This is likely to require significant changes in scholarship and policy creation practice, for it demands more detailed consideration of the

trade-off between interests and objectives, evaluation of the resources and capabilities of the institutions that are intended to implement and the people who are intended to adjust to these instrumental directives, and a concern for the integration of arrangements to ensure seamless and low transaction cost implementation. If such matters are left to the art of muddling through, as so often seems to be the case, then international public law arrangements will increasingly prove to be a weak link in the total system of governance of natural resources.

The necessity for detailed pragmatic thinking about international arrangements is well illustrated by the discussion of a potential World Environmental Organization ‘The quest for a World Environment Organization: reflections on a failing debate as an input for future improvement’ by Nils Goeteyn and Frank Maes. Based upon evaluation of a variety of criticisms of the United Nations Environment Programme (UNEP), and proposals for a World Environment Organization as a replacement, these authors suggest that much of the thinking is not well suited to a consideration of the practical differences between the two structures in terms of goals, resourcing and operations. In doing so, they raise some fundamental questions about international natural resource governance, notably the absence of a consensus about the vision for such a governance regime (and therefore the institution charged with its implementation) and the significant problems of political economy that exist at an international level. It is interesting to note, incidentally, the extent to which choice theory concerns recur at local, state and international levels in the creation of effective governance arrangements. Nils Goeteyn and Frank Maes’ recommendation that institutional reform needs to be preceded by a more fundamental resolution of the purposes and priorities of the proposed institution, and greater concern to clarify the vision and guiding principles (and by implication issues of resourcing), is one that could be usefully applied to many initiatives. The failure to move beyond high-minded rhetoric to practical action is all too frequently reflected in the need for courts and administrators to fill the gap that is left by insufficient consideration of requirements for legal implementation.

The challenge of intersecting instruments is illustrated by Michèle Morel in the chapter ‘Human rights law, refugee and migration law, and environmental law: exploring their contributions in the context of “environmental migration”’. In this chapter the author considers four different branches of international law that could be relevant to people who are forced by environmental circumstances to relocate from their homes. The chapter considers the respective role and operation of international legal instruments concerned with human rights, refugees, migration and environmental law. It highlights that whilst there is potential for an intersecting network of rights and obligations that might cover dislocation issues in different ways, there is no integration between these. The chapter suggests that there is a lack of political will to

address this problem of disintegration and mis-coordination. The development of an integrative framework seems possible, but only if this lack of commitment is addressed.

The absence of real political will to give effect to high-minded international arrangements, and the impact that this has on less advantaged societies, is well illustrated by Zhou Chen in a detailed discussion of the impediments to the transfer of technologies that could materially assist in the implementation of international agreements on climate change. The chapter 'Climate change: legal impediments to technology transfer' traces the range of arrangements pursuant to the United Nations Framework Convention on Climate Change (UNFCCC) to facilitate the transfer of climate-protective and climate-adjusting technologies to countries and industries where the use of this technology could assist in the achievement of international aspirations to alleviate adverse climate change. The chapter demonstrates once again the clash between private economic interest and the public ecological interest, and the impediments to adjusting private interests even to the strongest public good needs. As was demonstrated in consideration of water allocation and pollution, in China and other jurisdictions the existence of strong private property rights serves as a significant impediment to realignment to a more sustainable regime of resource use. With the advent of international agreements to support private trade, notably the Trade-related Aspects of Intellectual Property Rights (TRIPS) regime to protect intellectual property monopolies, the ability of developing economies to take 'one-off' steps to overcome their limited access to advanced technologies is substantially reduced. This suggests a further dimension to the property rights/sustainability/social justice discourse that has been contributed to by John Page and Ann Brower, Ke Jian, John Dellapena and Alex Gardner in earlier chapters. A further dimension is the clash of principles and instruments when private market competitive principles which support the many gains that come from relatively unfettered free enterprise collide with the need to ensure collaboration and the suppression of economic self-interest to achieve adjustment to the ecological challenges that threaten many people (including future generations). This challenge is one that is repeated in many ways throughout this book. One would have to suggest, on the basis of the issues that have been raised, that our governance mechanisms have failed to find principled ways of handling this fundamental challenge. Zhou Chen suggests that corporate social responsibility is a relevant consideration, but without a governance regime that strengthens this and requires private enterprises to consider the broader social impacts of their accepted competitive practices, social responsibility will be insufficient to ensure that the international community has the basic tools needed to protect the common interest of mankind in its shared atmosphere.

The final chapter brings many of these considerations back to the level of the African farmer seeking to eke out a living by farming on publicly owned

farmland. Robert Kibugi's exploration of the *shamba* system of land management ('Implementing stewardship in Kenyan land use law: the case for a sustainability extension') demonstrates how international agreements, in this case a series of African Union treaties, have embedded a practical concern for the capacity of the resource-dependent least privileged to achieve improved economic outcomes whilst exercising a stewardship ethic. The key to this multi-level outcome is extension, a targeted approach to ensuring that these resource users have the appropriate knowledge and attitudes to be able to manage their farming in a more sustainable manner. What is perhaps most illuminating about this example is that it shows how legal arrangements can embed a framework that does have concern for the least powerful individuals, and for the resources that will also be needed for future generations. This front-line innovation brings together a number of the proposals that have been proposed in a more abstract manner in other chapters. It integrates a practical concern for the natural resource that is to be exploited with a consideration of what changes social systems need to undergo to enable behaviour change, and it uses the law as a mechanism to enable a number of non-law interventions that can have an on-the-ground effect. Whilst undoubtedly still experimental, this example draws a clear line from international high-minded principles down to the everyday lives of the people whose behaviour will determine whether the public goals of resource management will be achieved.

## IMPLICATIONS FOR ENVIRONMENTAL LAW SCHOLARSHIP

These chapters provide an overview of the key developments relevant to legal scholarship on the environment. In doing so, they perhaps cause us to reflect on whether our methods and our training are sufficient to meet the challenges that environmental governance will face and is already facing. Do we really have the methods and skills needed to integrate legal scholarship with ecological and social science? Are our fledgling lawyers sufficiently confident and imbued with the necessary jurisprudential values and skills to ensure that the unique contributions of legal culture and norms are 'heard' in the evolution of legal governance of the environment? Are we as a profession being sufficiently strong in highlighting our justified scepticism about the latest instrument or instrumental fashion?

Some important directions are suggested by this book.

It is clear that our scholarship will have to expand further, so that we can marry to good doctrinal approaches a new set of methods to provide compre-

hensive and sophisticated governance solutions to a world that is increasingly in need of them. This will involve moving to a systems framework, and deepening our thinking about instruments and institutions. This can only be done if we can draw upon the knowledge that exists in economics, social sciences and the biophysical natural sciences, but without submerging the law's concern for social justice and the lawyer's learned scepticism about simple solutions to complex problems.

The issue of property rights and responsibility is closely intertwined with the issues of political economy and public choice, and the risk of marginalizing the underprivileged (at both a personal and national level). There is a serious jurisprudential and practical challenge in understanding how to harness the entrepreneurial power and economic capital that comes with private property, at the same time as ensuring that the public interest is not swamped by these same forces. It is hard to see that any other disciplinary group will tackle these challenges if lawyers do not, but at the present time it is difficult to see where a set of unifying principles might come from to resolve these fundamental tensions that inevitably make themselves felt in natural resource governance.

The issue of 'practicality' also emerges as a concern for the law. We have enough examples of high principles being embedded in laws, conventions and national constitutions that are not efficiently translated into on-the-ground implementation. We know that unless this gap is bridged, true sustainability will not be achieved however many new doctrinal improvements are achieved on paper. Many of the chapters have signalled directions through which this translation might occur. Participative governance enabled by technology, co-regulation, consumer action, citizen standing and the support of government agencies, or capacity development through extension, are all illustrative of ways in which well-conceived and actively implemented law can make a significant difference.

This book illustrates that environmental law scholars have many reasons to be proud of the contribution that they and other lawyers have made and are continuing to make to the advance of sustainable and equitable use of scarce natural resources. However, the chapters also clearly show that the outcomes fall far short of the ideal, and that for our profession the challenge is not only about the work we deliver. It is clear that to meet the challenges we face, we too will have to continue to change, and probably at an accelerating pace. This is no small task for a profession that is generally considered to be intrinsically conservative and slow to change.

But above all, the chapters in this book suggest that this is a challenge that we can, and must, meet.

**Acknowledgements**

The chapters in this book were the subject of a rigorous process for competitive selection and peer review, and of editorial review. Particular thanks are due to the peer reviewers and the editors, who contributed significantly in ensuring not only a high standard of content but also who assisted their scholarly colleagues to ensure that all the ideas within the papers were presented to a consistently high standard.

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