



**UNIVERSITY  
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**SOAS**  
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**Centre for Development, Environment and Policy**

**P131**

**Biodiversity, Conservation and Development**

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This is the first version of a new module which draws on materials from previous modules (principally, C117 and C198).

## ABOUT THIS MODULE

This module is about the relationship between conservation and development, with biodiversity as the material and conceptual phenomenon that binds them. Since at least the 1700s, it has been a distinctly unhealthy and inharmonious relationship in many ways. Indeed, it has now come to the point that the environmental implications of predominant development trajectories are so profound, that we are said to be living in the Anthropocene, an era in which the biggest single influence on Earth systems is human activity. How we treat biodiversity is one of the fundamental determinants of the nature and society in which we and future generations will live.

At the core of the module is a focus on three themes. The first theme is how and why it is not possible to understand conservation and development in isolation from each other. The second theme is the environmental impacts of economic activity and what that says about the current relationship between conservation and development. The third theme is what to do about environmental problems; in particular, what we are currently doing about them, and what our current activities mean for the future of conservation and development.

### **Theme 1: Understanding conservation and development together**

There are numerous reasons why conservation and development are better explored together than separately. One key reason is that both are rooted in the same historical processes of European imperial expansion and the intensification of increasingly global trade. Underpinning these processes was what we might call the 'commodification of nature': making more and more of nature into products which can be traded in markets; and coming to understand nature more and more in terms of its potential to be turned into tradable products. The economic activity and growth which is generated by the commodification of nature remains at the heart of dominant development trajectories. The conservation imperative emerged from a concern over the environmental impacts of the projection of colonial power and increasingly globalised trade. Thus, the commodification of nature renders the relationship between conservation and development as one of necessary interdependence, given that the prospects for economic growth are intricately bound up with the health of the planet's biodiversity.

Another key reason why it is not possible to understand conservation or development in isolation from each other is because it is very difficult to separate out nature from society. The extent of human influence on the planet now appears to be so great that it may not be possible to find 'natural' environments, if these are defined as being free from the presence or influence of humans. Nor does nature appear to behave as we thought it did, being both less stable and less predictable than we had previously envisaged. For these reasons, it may be useful to conceive of the relationship between nature and society as a complex social-ecological system whose resilience to shocks and disturbances is determined by social and ecological processes. Thinking along these lines has profound implications for the kinds of conservation and development that we try to do.

A final difficulty relates to how we make knowledge claims about biodiversity, conservation and development. In essence, we often take for granted that our descriptions of things, be they trees or prime ministers, are stable and unproblematic. Yet the impression of stability can often dissolve when we stop and scrutinise how well our descriptions of things really do represent those things. Other, contradictory descriptions might describe those things as well or better, and our ability to make one description stick instead of another is arguably more for social reasons than establishing a truthful correspondence between things and what we say about them. The dominance of one description, framing or construct over another therefore relates to issues of power, and it is at this point that ecology can become very political. Looking at whose framings count is fundamental for understanding the relationship between conservation and development, and what other relationships might look like from other standpoints.

### **Theme 2: Environmental impacts and development imperatives**

Biodiversity loss is a result of the current relationship between conservation and development. Part of this involves taking a little time to ensure that we know what we are talking about when we refer to biodiversity and how we classify it, not least because the strategies for conserving, for instance, genetic diversity differ markedly from those for conserving ecosystem diversity. More broadly, the theme is about understanding:

- the immediate causes of biodiversity loss (such as deforestation resulting from the expansion of a particular agricultural frontier in a specific part of the Amazon)
- the underlying drivers of biodiversity loss, and in particular the complex, often surprising relationship between population and consumption
- current arrangements for the governance of nature, and the global political and economic context in which governance unfolds.

### **Theme 3: Biodiversity conservation and development in practice**

The considerations in Themes 1 and 2 shape, in varying degrees and ways, the kinds of conservation and development that we do in practice. Sometimes efforts are made to do conservation and development simultaneously and sometimes they are treated with a greater degree of separation; but one always has some kind of consequence for the other. Calls to reconcile or integrate conservation and development became louder in the last decades of the 20th century. The economic post-Second World War boom stimulated a popular wave of environmentalism, which documented and raised concerns about environmental destruction caused by increasing (Northern) prosperity. This, in turn, raised the question of how sustainable the development process fuelling such prosperity could be if it was causing such damage to the environment on which it depended. This led more standard conservation instruments, such as protected areas and international treaties with legally binding national conservation targets, to be supplemented by efforts to do conservation outside of protected areas in ways which could support development objectives, such as community conservation in its various guises. It was also accompanied overall by an ever-greater emphasis on the role of economic incentives, either through leverage capital in markets or through state compensation, as a means to ensure the

conservation of valued and, indeed, economically useful biodiversity. This influence permeates many conservation tools, such as:

- sharing revenue from conservation/tourism activities with people in Namibia who bear the costs of living with wildlife (see Unit 8)
- persuading mining companies to fund new protected area networks to compensate for environmental damage from mining in Madagascar (see Unit 10)
- paying Mexican farmers not to deforest, with a view to conserving biodiversity and mitigating climate change (see Unit 9).

## STRUCTURE OF THE MODULE

These three themes inform the structure of the module overall, which is broken down into three parts. Part I covers Themes 1 (conservation and development as inseparable) and 2 (biodiversity, immediate causes and underlying drivers), while Part II is focused on biodiversity, conservation and development in practice. Part III, looking retrospectively at Parts I and II, identifies potential future trends in conservation and development. The breakdown of units into these different parts is detailed below.

### **Part I: Histories and contemporary trajectories of biodiversity, conservation and development**

- Unit 1** The relationship between biodiversity conservation and development in historical perspective
- Unit 2** Biodiversity and biodiversity loss
- Unit 3** Nature and society
- Unit 4** Population and consumption: implications for conservation and development
- Unit 5** Globalisation and global environmental governance

### **Part II: Biodiversity, conservation and development in practice**

- Unit 6** Overview of approaches to conservation and development
- Unit 7** Protected areas
- Unit 8** Landscape approaches to conservation and development
- Unit 9** Payments for ecosystem services

### **Part III: What next for biodiversity, conservation and development?**

- Unit 10** Conservation and development futures

## WHAT YOU WILL LEARN

### Module Aims

The specific aims of the module are:

- To give students a grounding in key disciplinary perspectives/fields which are well placed to contribute to our understanding of the relationship between conservation and development, including:
  - Conservation biology
  - Development studies
  - Environmental history
  - Environmental/ecological economics
  - Political ecology
  - Resilience in (complex) social-ecological systems
  - Science and technology studies.
- To give an interdisciplinary overview of the relationship between biodiversity, conservation and development historically and currently.
- To explain why biodiversity loss is happening at such an alarming rate, both in terms of immediate causes and underlying drivers.
- To look at the instruments which attempt to achieve biodiversity conservation and development objectives, whether together or separately.
- To look at potential future trends in conservation and development.

### Module Learning Outcomes

By the end of this module, students should be able to:

- understand the historical processes out of which conservation and development emerged and were bound through the medium of biodiversity, and thereby acquire a richer and more nuanced appreciation of contemporary conservation and development processes
- express in their own words, expound at length and critically evaluate the thesis that conservation and development are mutually interdependent and therefore cannot/should not be considered in isolation from each other
- use this learning to reflect critically on the utility of modes of thinking and institutionalised ways of working which routinely separate conservation and development to a greater or lesser extent
- understand the political dimensions of the relationship between conservation and development, both in terms of dominant framings of the relationship and the tools and mechanisms which attempt to realise biodiversity conservation and development objectives

- bring to bear a wider range of disciplinary perspectives to their understanding of and professional engagement (where appropriate) with the practice of conservation and development
- understand and critically evaluate the histories, strengths and limitations of different tools for conserving biodiversity and/or furthering development objectives
- identify and critically reflect upon important trends relevant to the future of conservation and development.

## ASSESSMENT

- an examined assignment (EA) worth 40%
- a written examination worth 60%.

Since the EA is an element of the formal examination process, please note the following:

- (a) The EA questions and submission date will be available from the Virtual Learning Environment (VLE).
- (b) The EA is submitted by uploading it to the VLE.
- (c) The EA is marked by the module tutor and students will receive a percentage mark and feedback.
- (d) Answers submitted must be entirely the student's own work and not a product of collaboration.
- (e) Plagiarism is a breach of regulations. To ensure compliance with the specific University of London regulations, all students are advised to read the guidelines on referencing the work of other people. For more detailed information, see the FAQ the VLE.



## STUDY MATERIALS

### Key readings and text book

There is one textbook for this module.

- ❖ Newsham, A. & Bhagwat, S. (2016) *Conservation and Development*. Abingdon, Routledge.

Unit material is often based on the textbook, but in several instances, there is insufficient space in the units, and therefore a chapter of the textbook features as a Key Reading for that particular unit. Chapters from the textbook also appear as Further Reading, where relevant. The Key Readings, however, range beyond the textbook, in order to add specific cases, or explore key issues in greater depth, thereby complementing and extending the synthetic overviews offered in the textbook and units. Readings are supplied as digital copies and ebooks via the SOAS Online Library. For information on how to access the Library, please see the VLE.

### Further Readings

These texts are not always provided, but weblinks have been included where possible. Further Study Materials are **NOT** examinable; they are included to enable you to pursue your own areas of interest.

### Multimedia

In addition, a number of multimedia interviews with input from key writers and practitioners in the development field will be available for students. These are intended to stimulate further thinking on specific topics. Students are encouraged to look at these and use the VLE to discuss their implications with other students and the tutor.

### References

Each unit contains a full list of all material cited in the text. All references cited in the unit text are listed in the relevant units. However, this is primarily a matter of good academic practice: to show where points made in the text can be substantiated. Students are not expected to consult these references as part of their study of this module.


### Self-Assessment Questions

Often, you will find a set of **Self-Assessment Questions** at the end of each section within a unit. It is important that you work through all of these. Their purpose is threefold:


- to check your understanding of basic concepts and ideas
- to verify your ability to execute technical procedures in practice
- to develop your skills in interpreting the results of empirical analysis.

Also, you will find additional **Unit Self-Assessment Questions** at the end of each unit, which aim to help you assess your broader understanding of the unit material. Answers to the Self-Assessment Questions are provided in the Answer Booklet.

### In-text Questions

 This icon invites you to answer a question for which an answer is provided. Try not to look at the answer immediately; first write down what you think is a reasonable answer to the question before reading on. This is equivalent to lecturers asking a question of their class and using the answers as a springboard for further explanation.

### In-text Activities

 This symbol invites you to halt and consider an issue or engage in a practical activity.

### Key Terms and Concepts

At the end of each unit you are provided with a list of Key Terms and Concepts which have been introduced in the unit. The first time these appear in the study guide they are ***Bold Italicised***. Some key terms are very likely to be used in examination questions, and an explanation of the meaning of relevant key terms will nearly always gain you credit in your answers.

### Acronyms and Abbreviations

As you progress through the module you may need to check unfamiliar acronyms that are used. A full list of these is provided for you at the end of the introduction.

## **TUTORIAL SUPPORT**

There are two opportunities for receiving support from tutors during your study. These opportunities involve:

- (a) participating in the Virtual Learning Environment (VLE)
- (b) completing the examined assignment (EA).

### **Virtual Learning Environment (VLE)**

The Virtual Learning Environment provides an opportunity for you to interact with both other students and tutors. A discussion forum is provided through which you can post questions regarding any study topic that you have difficulty with, or for which you require further clarification. You can also discuss more general issues on the News forum within the CeDEP Programme Area.

## INDICATIVE STUDY CALENDAR

Part/unit	Unit title	Study time (hours)
<b>PART I</b>	<b>HISTORIES AND CONTEMPORARY TRAJECTORIES OF BIODIVERSITY, CONSERVATION AND DEVELOPMENT</b>	
Unit 1	The relationship between biodiversity conservation and development in historical perspective	12
Unit 2	Biodiversity and biodiversity loss	13
Unit 3	Nature and society	15
Unit 4	Population and consumption: implications for conservation and development	13
Unit 5	Globalisation and global environmental governance	13
<b>PART II</b>	<b>BIODIVERSITY, CONSERVATION AND DEVELOPMENT IN PRACTICE</b>	
Unit 6	Overview of approaches to conservation and development	15
Unit 7	Protected areas	15
Unit 8	Landscape approaches to conservation and development	13
Unit 9	Payments for ecosystem services	13
<b>PART III</b>	<b>WHAT NEXT FOR BIODIVERSITY, CONSERVATION AND DEVELOPMENT?</b>	
Unit 10	Conservation and development futures	13

<b>Examined Assignment</b> Check the VLE for submission deadline	15
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<b>Examination entry</b>	July
<b>Revision and examination preparation</b>	Jul-Sep
<b>End-of-module examination</b>	Late Sep-early Oct

## ACRONYMS AND ABBREVIATIONS

ACP	African, Caribbean and Pacific (countries)
ASEAN	Association of Southeast Asian Nations
BIOPAMA	Biodiversity and Protected Areas Management Programme
BR	Biosphere Reserve
BV	bequest values
CBD	Convention on Biological Diversity
CBM	Community Biodiversity Management
CBNRM	Community Based Natural Resource Management
CEFP	Critical Ecosystems Partnership Fund
CFC	chlorofluorocarbon
CI	Conservation International
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CMS	Conservation of Migratory Species
CO <sub>2</sub>	carbon dioxide
COP	Congress of Parties (the name for the international meetings at which signatories to United Nations conventions gather)
DRC	Democratic Republic of the Congo
DUV	direct use values
DNA	deoxyribonucleic acid
EBV	essential biodiversity variable
ESAV	Ecosystem Service Assessment and Valuation
FAO	Food and Agriculture Organization of the United Nations
FSC	Forest Stewardship Council
FUNGIR	<i>Fundación para la Gestión e Investigación Regional</i> (Management and Regional Research Foundation, Argentina)
GDP	gross domestic product
GIS	geographic information system
GM	genetically modified
GPAP	IUCN Global Protected Area Programme
GRN	Government of the Republic of Namibia
HDI	Human Development Index
ICCA	Indigenous and Community Conserved Area
ICDP	Integrated Conservation and Development Project

<b>ICIMOD</b>	International Centre for Integrated Mountain Development
<b>IIED</b>	International Institute for Environment and Development
<b>IIRSA</b>	Integration of the Regional Infrastructure in South America
<b>IMF</b>	International Monetary Fund
<b>ITPGRFA</b>	International Treaty on Plant Genetic Resources for Food and Agriculture
<b>IUCN</b>	International Union For The Conservation of Nature
<b>IUPN</b>	International Union for the Protection of Nature
<b>IUV</b>	indirect use values
<b>LLS</b>	Livelihoods and Landscapes Strategies
<b>MA</b>	Millennium Ecosystem Assessment
<b>MAB</b>	UNESCO Man and the Biosphere
<b>MDGs</b>	Millennium Development Goals
<b>MSY</b>	maximum sustainable yield
<b>NACSO</b>	Namibian Association of CBNRM Support Organisations
<b>NBSAP</b>	National Biodiversity Strategic Action Plans
<b>NCCL</b>	Nhambita Community Carbon Livelihoods
<b>NGO</b>	non-governmental organisation
<b>OECD</b>	Organisation for Economic Co-operation and Development
<b>OV</b>	options values
<b>PA</b>	protected area
<b>PACS</b>	Payments for Agrobiodiversity Conservation Services
<b>PES</b>	Payments for Ecosystem Services
<b>PGR</b>	plant genetic resources
<b>PWS</b>	Payments for Watershed Services
<b>CBD PoWPA</b>	Convention on Biological Diversity Programme of Work on Protected Areas
<b>RA</b>	Resilience Alliance
<b>REDD(+)</b>	Reducing Emissions through Avoided Deforestation and Degradation
<b>SCBD</b>	Secretariat of the Convention on Biological Diversity
<b>SDC</b>	Swiss Agency for Development and Cooperation
<b>SE</b>	social ecology
<b>SES Social</b>	ecological system
<b>SLCP</b>	Sloping Land Conversion Programme
<b>SPWFE</b>	Society for the Preservation of the Wild Fauna of the Empire
<b>TBNRM</b>	Transboundary Natural Resource Management

<b>TEEB</b>	The Economics of Ecosystems and Biodiversity
<b>TEV</b>	total economic value
<b>TNC</b>	The Nature Conservancy
<b>UAV</b>	unmanned aerial vehicle
<b>UN</b>	United Nations
<b>UNDESA</b>	United Nations Department of Economic and Social Affairs
<b>UNEP</b>	United Nations Environment Programme
<b>UNESCO</b>	United Nations Educational, Scientific and Cultural Organisation
<b>UNFCCC</b>	United Nations Framework Convention on Climate Change
<b>UNSCCUR</b>	United Nation Scientific Conference on the Conservation and Utilisation of Resources
<b>UNFCCC</b>	United Nations Framework Convention on Climate Change
<b>UNU</b>	United Nations University
<b>VCM</b>	vicious circulation model
<b>WCMC</b>	World Conservation Monitoring Centre
<b>WHC</b>	World Heritage Convention
<b>WDPA</b>	World Database on Protected Areas
<b>WNBR</b>	World Network of Biosphere Reserves
<b>WTO</b>	World Trade Organization
<b>WWF</b>	World Wide Fund for Nature
<b>XV</b>	existence values

# **Unit One: The Relationship between Biodiversity Conservation and Development in Historical Perspective**

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## UNIT INFORMATION

### Unit Overview

This unit explains how what these days we refer to as biodiversity conservation and development both derive from a broader set of historical processes: the commodification of biodiversity through the expansion of global trade and European imperial dominance from the 18th century onwards. The imperative to further human progress (development), a construct of the project of empire, led to the transformation of environments across the world that were subject to imperial expansion, which in turn raised concerns about the trajectory of these changes. This apprehension at the environmental consequences of the rapid expansion of economic activity is at the heart of the conservation imperative. Early efforts to conserve, be it through wise use of nature or through protecting it against use, were forged in the very administrative units and structures of empire. Conversely, bringing the benefits of economic prosperity to all humankind is at the heart of the development imperative, a project which has been as eagerly pursued in the post-colonial era as it was in colonial times. Both imperatives are fundamentally contingent upon, shaping of and shaped by the existence and use of the planet's biodiversity.

Yet conservation was also forged at a national level, spurred by events and efforts particularly within Western Europe and the United States. In the broadest terms, two distinct types of conservation ethic emerged. One was fundamentally concerned with the wise use of nature, and with how best to harness it for the sake of human progress. The other was determined to protect wilderness from the ravages of the expanding agricultural frontier and the contaminating effects of industrialisation. These ideas were then frequently exported to colonial territories, in ways which have produced lasting conservation legacies with a mixed record. Sections 1 and 2 explore these dynamics.

In the 20th century, an international conservation architecture was constructed, in one sense separate from the workings of government but in many ways embedded within them. In the post-war period, a resurgent economic boom brought with it a renewed anxiety about the limits to growth. This set of concerns increasingly led international conservation efforts to bend towards articulating a vision for sustainable development and attempting to set out a pathway for its achievement. Section 3 looks at how we arrived at a vision of sustainable development and what has happened to it since its conception in the 1970s.

## Unit Aims

- To set the relationship between conservation and development in historical perspective.
- To show how both conservation and development have their roots in the same process, namely, the increasing commodification of nature, prompted by and contributing to the global expansion of trade and empire.
- To trace the emergence of an international conservation architecture throughout the 20th century.
- To demonstrate how the relationship between conservation and development was conceptualised as sustainable development.

## Unit Learning Outcomes

By the end of this unit, students should be able to:

- understand and articulate why and how conservation and development emerge from the same historical processes
- critically evaluate the positions of different conservation schools of thought in response to human uses of nature
- chart the emergence of an international conservation architecture and its increasing engagements with development
- critically evaluate the implications for the relationship between conservation and development of increasing influence of the concept of sustainable development.

## Unit Interdependencies

Unit 1 sets out historical processes which are touched upon in Units 5 and 10.

## KEY READINGS

- ❖ Grove, R. (1995) Introduction. In: *Green Imperialism: Colonial Expansion, Tropical Island Edens and the Origins of Environmentalism, 1600–1860*. Cambridge, Cambridge University Press. pp. 1–15.

This reading succinctly introduces a seminal text and thesis within the field of environmental history, which allows us to understand the deeper roots of conservation, beyond its institutional beginnings in the US and UK. It also demonstrates why the history of conservation is so entangled with that of development.

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- ❖ Newsham, A. & Bhagwat, S. (2016) Sustainable development in the twentieth and twenty-first centuries. In: *Conservation and Development*. Abingdon, Routledge. pp. 40–72.

This chapter explores the rise of the concept of sustainable development in the 20th century, and the ways in which it allowed, discursively at least, for conservation and development to be reconciled rather than opposed, as they had been for much of the 20th century. It then considers the implications for sustainable development of 21st century concepts such as the green economy, and the broader reconfiguration of global geopolitics in the wake of increased political and economic clout of 'rising powers' such as Brazil, China, Mexico and Nigeria. It covers some of the same ground as the unit material, but in substantially greater depth.

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## FURTHER READINGS

Boardman, R. (1981) *International Organisations and the Conservation of Nature*. Bloomington, IN, Indiana University Press.

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## 1.0 'BACK TO THE LAND' AND 'WILDERNESS': THE BEGINNINGS OF US AND UK CONSERVATION

### Section Overview

Human appreciation of nature must surely pre-date recorded history. Perhaps the concern that human behaviour can adversely affect the natural environment is just as old; it is most certainly not new. For instance, suggestions of climate change caused by humans, the most attention-grabbing environmental issue of our day, were being voiced in the times of classical Greece (Hughes, 1985). What is newer, relatively speaking, is a profound concern over the scale at which humans can harm the environment. It was not always the case that humans believed that they could cause environmental damage or deplete resources on a scale large enough to raise the question of limits; on the contrary, nature was considered boundless, a provision of resources that humans could never exhaust. However, from at least the 17th century onwards there has been an increasing sense of worry that there is a limit to what we can take from, or do to, our natural environment (Grove, 1995). It is a narrower history of the concern over limits than is presented in this unit, as opposed to the much broader history of human thought on nature. Love of nature may be the original source of inspiration, but it is the concept of limits that gave rise to, and continues to galvanise, global environmental conservation. It remains the essential tension which has so frequently set the clamour for development against the conservation imperative.

This section sketches the historical roots of concerns about the adverse impacts of human action upon the environment. These concerns were the driving force for what is here described as 'the conservation imperative', that is, the urge to halt or reduce adverse environmental impacts. Efforts to mobilise the conservation imperative would eventually lead to a global institutional architecture bent on the protection and regulation of the use of nature. The thinking which was to influence this form of international conservation emerged in the United States and the UK, and was characterised by two broad impetuses to conserve which made – and continue to make – awkward bedfellows. One was to separate 'wild' or Eden-like landscapes from human activity, to preserve them from further disturbance. The other was a tendency toward managing nature wisely – and, where possible, profitably; to conserve it in a state which would ensure that its ongoing use remained viable, through harnessing the power of scientific management.

### Section Learning Outcomes

By the end of this section, students should be able to:

- understand and communicate an account of the diverse origins of conservation, and the ways in which it was galvanised by a concern for the environmental side-effects of what these days we would call development
- articulate the differences between conservation movements in the UK and the United States

- express in their own words the difference between preservationism and wise-use schools of conservation thought, and name the figures most associated with them.

## 1.1 Romantic nature, industry and right of way in 19th century Britain

In the 19th century, concern grew over the effects of urbanisation, the intensification of agriculture to serve urban markets and the proliferation of industries turning nature into commodities to trade in domestic and international markets. In the UK setting, Romantic poets – most famously Wordsworth, but also others such as John Clare – decried the adverse environmental effects of the emergence of so many coal mines, textile mills, shipyards and railway lines. They scorned what they saw as city dwellers that, however literate or sophisticated, had lost the elemental connection with nature abounding in even the humblest shepherd (Marsh, 1982). Central to the Romantic view was the sheer aesthetic beauty of nature, accompanied by an acute horror of its being despoiled by industrial pollution, and devalued by an inexorably expanding urban culture. But as the fascination with rural ways of living denotes, Romantics also favoured a particular relationship between humans and nature, one that they deemed **industrialisation** to have disrupted. This concern captured a process at the heart of a period of remarkable and vertiginous transition: industrialisation changed the structure of the agrarian economy in ways which undermined the basis of peasant farming (Williams, 1973). As wealthy landowners enclosed erstwhile communal grazing pastures in order to intensify production for urban markets, many peasants were forced to move to towns and cities in search of other ways to make a living (Williams, 1973).

Near-contemporary commentators such as John Ruskin, Edward Carpenter, and later William Morris, all took their cue from Wordsworth, condemning what Guha terms the 'desacralization' of nature (Guha, 2000); that is, viewing the natural environment only as raw, exploitable material. They added to the Romantic view a keener, grittier awareness of the adverse impacts on human health of the Industrial Revolution. Where others saw progress – indeed something akin to what these days we would call development – they saw human misery: impoverished workers leading lives shortened by factory conditions, insanitary urban dwellings, smog-blackened air and contaminated drinking water. They rejected industrialisation and the creeping **materialism** accompanying it, advocating instead a rural life characterised by simplicity, self-sufficiency and a more harmonious relationship with nature (Marsh, 1982).

The Romance movement was a critical source of inspiration for the societies that sprung up from the 1840s onwards, which intended to conserve a variety of things perceived to be at risk from industrialisation. These included:

- The Scottish Rights of Way Society, formed in 1843, and the Commons Preservation Society formed in 1865, both of which sought to defend rights of way across/access to increasingly enclosed rural and urban landscapes.
- The Lake District Defence Society, formed in 1883, dedicated to preserving the natural beauty of the area.

- The National Trust, dedicated originally to the preservation of both beautiful landscapes and architecture (though better known these days for the latter) (Guha, 2000).

## 1.2 Finding (and saving) wilderness in the United States

A point in common with all of these British societies was that humans and human creations were an integral part of what they wanted to conserve. The pre-industrial human–environment relationship was admired, and much value conferred on the intimate, intricate agro-environmental knowledge possessed by rural farming populations, regardless of their social standing. Yet this way of thinking found relatively little favour in key international **conservation** efforts driven by the North in much of the 20th century, especially in relation to attempts to establish protected areas in the South. It was not until the 1970s that a dramatic resuscitation of the value of local knowledge would become a mainstream feature of international conservation. To some extent, this can be explained by the power and prevalence of the **wilderness** ‘ideal’ that characterised US conservation thinking from the 19th century onwards, and particularly associated with the works of one of conservation’s most enduringly influential thinkers, John Muir.

John Muir, though born in Dunbar, Scotland, is better known for his writings on places and events in the United States, particularly as they related to the Sierra Mountains of California. He founded the Sierra Club, one of the US’s most enduringly influential conservation organisations and provided the inspiration for the UK’s John Muir Trust. He was a highly vocal commentator on the levels of **deforestation** driven by the expanding agricultural frontier and the trading that accompanied it. His fear that forests might disappear drove his passion for wilderness, that is, for landscapes which were not transformed by the forces of economic dynamism. He was a lover of nature for its own sake, a defender of the right of all species, not just humans, to persist (Cohen, 1984). He prized, moreover, the spiritual value of a wild landscape, which he felt was a necessary connection for people to maintain with nature, and which, he believed, underpinned the burgeoning camping and trekking industry catering to urbanites seeking distance from city life (Fox, 1985). Yet for urban sophisticates to be able to appreciate nature, it was necessary for it to be left ‘untouched’ by human hand, and it was this sentiment that drove Muir’s insistence on a wild landscape as one free from human habitation. Where Wordsworth had considered the shepherd to be ‘part of the scenery’, a feature of the beauty of England’s Lake District, Muir recoiled at the idea of grazing in his Sierra (though his ire was aimed as much at logging and mining as it was at livestock farming). He advocated strongly that the United States’ nascent system of national parks should be guarded by the military, to ensure human ‘disturbance’ was kept at bay (Guha, 2000). These ideas would come to be echoed by commentators at the end of the 20th century (for instance, Terborgh, 2004). In this, John Muir was a precursor of the ‘siege’ mentality, which still runs strong in some conservation circles in the 21st century.

The establishment of Yellowstone in 1872, the first national park in the world, heralded the institutionalisation of the preservationist tendency in conservation, of cutting off ‘wild’ landscapes from the reach of permanent human settlement, and in particular the consumptive economic activities associated with it. This tendency would, as we shall see later on in the chapter, become one of the United States’ most

powerful conservation exports. A part of this model which has become equally enduring is the 'wilderness tourism' that was as – if not more – important than strictly ecological criteria in the creation of the United States' network of national parks (Runte, 2010). This notion of separating humans from wild landscapes, other than for the purposes of recreation or study, was very much contingent upon a particular moment in US cultural history. The notion of wilderness provided a means by which a settler society could invent its own history and cultural identity separate from those of the Native Americans whose presence it had fought to displace (Guha, 2000). In the notion of wilderness were also the foundations for a national culture that could rival the ancient regimes of Europe. They might not have the longstanding heritage, culturally or architecturally, of a France or a Greece, but they could hold their natural wonders, which **had** existed over a much longer timeframe, to surpass anything to be found in Europe (Guha, 2000). Critically, moreover, they could enforce a separation of people from landscapes much more easily than could be done in smaller, more heavily populated European countries.

### 1.3 Managing nature through scientific endeavour

While the preservationist ethos was a central tenet of conservation in the United States, it ran in parallel – and indeed often in competition with – another school of thought, one which did not start from the premise of prohibiting all forms of consumptive use of nature. Instead, it was proposed – and still is – that the key to the conservation of what human societies need from and value in the environment is the **wise use** of the natural resources available (Ekirch, 1963; Nash, 1973). What it shared with **preservationism** was a growing awareness that there were environmental limits to ever-expanding, consumptive economic activity: nature's bounty was no longer, even by the 18th century, considered boundless, nor its ruination beyond the reach of humankind (Grove, 1995). There was room, too, for aesthetic and spiritual engagements with nature. Yet the notion of wise use of nature made for a much more pragmatic stance towards consumptive economic activity. Squandering the natural resource base for the sake of ever-expanding trade was (and still is) seen from this perspective as a false economy.

Nevertheless, destructive as humans could be, 18th- and 19th-century commentators in Europe often lauded them as capable of great feats of creativity and redemption, the key to which was the harnessing of scientific knowledge. Just as looming environmental catastrophe was foretold by scientific observation, scientific management held out the prospect of living in greater harmony with nature. This thinking was at the heart of one of the seminal works in US **environmentalism**, *Man and Nature: Or, Physical Geography as Modified by Human Action*, by George Perkins Marsh (Walls, 2009) First published in 1864 and still in print, it is difficult to think of a book which has been more influential within US environmentalism, even if figures such as Muir, Henry David Thoreau, Aldo Leopold and Lewis Mumford have made comparably weighty contributions.

## Section 1 Self Assessment Questions

### Question 1

Why was the Romantic movement in the UK so important to the beginnings of conservation?

### Question 2

What key characteristic of 'wilderness' made John Muir's conception of nature fundamentally distinct from that of a romantic figure such as Wordsworth?

### Question 3

Fill in the missing word/phrases.

Instead, it was proposed – and still is – that \_\_\_\_\_ of what \_\_\_\_\_ from and value in the environment is the \_\_\_\_\_ of the natural resources available.

## 2.0 THE GLOBAL COMMODIFICATION OF NATURE AND THE IMPERATIVE TO CONSERVE

### Section Overview

However, the history of conservation cannot be confined to a consideration of events and debates within the national borders of the United States and Europe. The concern with environmental limits is, fundamentally, a by-product of increasingly global trade and imperial expansion. Environmental historians have shown that contemporary international conservation intervention is more broadly a reaction against the **commodification** of nature; that is, turning natural objects such as trees and plants into economic resources which could be traded and from which surplus value could be extracted. It was this process which started to undermine confidence in the notion of the limitless character of nature's bounty.

Likewise, the scientific worldview which informs our understanding of the environment, and which was harnessed to attempt to understand how damaging human activities could be, was in many ways forged in the heat and tumult of European colonialism. The observations that scientists in the colonies were making of the often-adverse impacts of the commodification of nature provided the raw data for this re-evaluation of humankind's place in the world. The production of this scientific knowledge was contingent upon the extent to which early conservation scientists were fully integrated into colonial administrative structures of colonial administrative structures.

This section considers two examples which illustrate the relationship between these different dynamics in the generation of environmental concern. The first looks at efforts to establish forestry services within colonial contexts, and the second explores how the Caribbean plantation economy was heavily shaped by environmental processes, even as it produced a keener awareness of the environmental degradation entailed through the intensive character of plantation agriculture.

### Section Learning Outcomes

By the end of this section, students should be able to:

- explain in their own words the ways in which the precursors of both conservation and development were part of much bigger historical processes
- give examples of how the imperative to conserve was born of the commodification of nature.

## 2.1 The global character of early conservation science

As environmental historians have been documenting for some decades, it is important to recognise that the work of Perkins Marsh, and others writing in the 'wise use of nature' vein, should be set in the wider context of the meteoric rise of scientific managerialism, which itself was intricately bound up with the project of European imperial expansion (Grove, 1995; Beinart & Hughes, 2007). It was this push for territory and trade that made scientific conservationism a truly global phenomenon. **Colonialism** provided a platform for ecological learning and assessment of the environmental impacts of trade. It also facilitated access to the altered environments that gave rise to an early wave of apocalyptic discourses of ecological collapse – and which prefigure those of modern-day environmentalists. The implications of deforestation for soil erosion in Venezuela were famously captured by Alexander von Humboldt (Walls, 2009), while the forest conservation science of Pierre Poivre, Philibert Commerson and Bernardin de Saint-Pierre on the tropical island of Mauritius gives them a strong claim to be 'the pioneers of modern environmentalism' (Grove, 1995: p. 9). Yet there was often a receptivity to the idea that short-term capital gain should sometimes be curbed for the sake of averting ecological crisis, which could be perceived as a threat to the longer-term economic and political security of the colonial state (Beinart & Hughes, 2007). Moreover, the emergence of national states with centralised administrations in the 19th century enabled scientific prescriptions to form the basis for government intervention into land access and use at scale (Guha, 2000).

## 2.2 Professionalising and globalising forestry science

One of the best-known examples of the character and reach of scientific conservationism is the emergence of the state forestry sector as a global phenomenon. By the 18th century, Germany had emerged as the pre-eminence in forestry science, by virtue of the quantitative methods Prussian state foresters had devised for calculating growing stock and yield (Lowood, 1990). These calculations, which estimated with a high degree of accuracy the yields that could be expected of given species, formed the basis of the 'sustained yield' forestry model, which would become a very influential German export. Forestry schools in the German tradition were established across many different parts of Europe, including Austria, Poland, Russia and France. Yet German influence was not limited to Europe: as Franz Heske's work has shown, the thinking was disseminated much more widely through colonial expansion (Heske, 1938). Germany sent forestry experts to its own colonies, but they were also in demand from other colonial powers. They assisted the Dutch in establishing state control over forests in their colonial possessions, for instance for the extraction of teak from Java in the 1840s. At this point in time Britain, which lacked its own forestry schools, sent students to France and Germany for training. Britain also followed the Dutch example when it came to its colonies. From 1866 it appointed three successive former German Inspectors General of Forests to run the Imperial Forest Department in the British Raj: Dietrich Brandis, Wilhelm Schlich and Bertold von Ribbentrop (Heske, 1938); its modern-day counterpart is the Indian Forest Service. In later years, the same Dietrich Brandis served as mentor to Gifford Pinchot, the man selected to establish the first US forestry service in 1900, supervising Pinchot's education in Europe and continuing to advise him following his return to the United States).

As it transpires, the concept of sustained yield forestry did not always travel with great success even when measured on its own terms – at least when applied in the tropics. Guha (2000) suggests that India's forests were, by the end of the 20th century, in a worse state than when the Indian Forest Service's forerunner, the Imperial Forest Service, was created in 1867. Ecologists have since questioned the notion of equilibrium in nature upon which sustained yield is based (Holling *et al*, 1998). Nor should the geo-political purposes served by establishing conservation bureaucracies be forgotten. Establishing strictly protected forest reserves was also a means of consolidating state power, and one which often met with fierce local resistance which sought to wrest back local control over forests (Gadgil & Guha, 1995). Moreover, it is important to keep in mind that European forestry science was not always a mere blueprint exported from Germany or France and was applied as a fully-formed doctrine in colonial territories overseas. As Grove reminds us, Dietrich Brandis himself acknowledged that the Indian Forest Service was also substantially influenced, when first set up, by pre-colonial forest usage systems deployed. This theme of local knowledge changing – and being changed by – conservation-oriented scientific knowledge and practice is not restricted to India; it is, in fact, a common feature of colonial encounters globally (see Grove & Damodaran, 2006; Beinart and Hughes, 2007). The question of whose knowledge counts in conservation theory and practice remain relevant in the 21st century. What we tend to forget is that this question is as old as the history of conservation itself.

### **2.3 Caribbean plantations, environment and empire**

A recurring theme in this chapter is the weight of influence carried by particular individuals in the history of conservation, as well as their loudly voiced fears regarding the environmental impacts of expanding economic activity, be they preservationist or conservationist in tone. Yet the roots of contemporary conservation and development cannot be reduced solely to the places, persons and happenings which brought about opposing conservation and development 'camps', glaring at each other across the divide. They are embedded in the interwoven relationships between environment, empire and trade, which were mutually shaped by, and shaping of, each other. A compelling example of the push-and-pull character of these relationships is found in the plantation economies of the Caribbean and the Americas.

The plantation economies were central to an 'Atlantic order' that evolved roughly between the 17th and 19th centuries. This order was driven partly by shifting asymmetries of power between Europe, Africa and America, but also by environment and disease (Mintz, 1989; Beinart & Hughes 2007). The concentrated, intensive model of plantation production emerged to cater for European consumer demand primarily for cotton, coffee, tobacco and sugar. Yet the capacity to produce the quantities necessary to meet this growing demand depended on securing access to good sites for plantations and coercing sufficient labour to work in the plantations.

For the land access requirements, tropical islands, such as Barbados, Jamaica or Tobago, served very well, as they offered large areas of often-fertile land with easy access to the water-bound modes of transportation that literally kept imperial trade afloat (Beinart & Hughes, 2007). The crops grown in the plantations were not indigenous: sugar cane, for instance, came from New Guinea, spread to India through trade routes and spawned hybrid varieties along the way, prior to its



introduction to the Caribbean (Diamond, 1998). In this way, environmental factors weighed heavily not just by providing the products for consumption but also by affecting the geographical distribution of production and, thereby, the geography of empire (Crosby, 1986). It was precisely because it was not possible to grow plantation crops in Europe that the Portuguese, Spanish, Dutch and British all sought suitable colonial possessions for their production on the other side of the Atlantic.

For the labour requirement, the plantations have become infamous for the use of African slaves, shipped across from West Africa. Paul Lovejoy (2000) suggests that as many as 11–12 million slaves were ferried across to the Americas between 1450 and 1750. Towards the end of this period as many as 80 000 slaves were transported each year, with brutal, heart-rending, cross-continental consequences. In this regard, the Atlantic slave trade followed the distribution of production across empires. The rationale for it was driven not just by political economy but also by the same environmental considerations that focused the European imperial gaze in the direction of the Caribbean. After all, it would have made more sense for Europeans to focus efforts on establishing plantations in West Africa itself, given its agro-ecological potential for staple commercial crops. However, the presence and distribution of diseases like malaria and dengue in West Africa, driven by ecological factors, were one reason why it was so difficult for Europeans to establish a more predominant position in West Africa. They did not have immunity to these diseases and therefore maintaining a military presence or other forms of settlement was more difficult (Crosby, 1986). Other factors – such as the militarily strong and well-organised polities of West Africa (Eltis, 2000) – must also be considered, but the role played by ecological factors in impeding Europeans from establishing plantations in West Africa should not be underestimated. They thereby contributed to making it necessary for slaves to be taken across the Atlantic instead.

Once in the Caribbean, environment and disease factors had devastating impacts on human demography. Not only did the pre-colonial Carib populations suffer the onslaughts of Spanish and British invaders, but African slaves and traded goods transmitted infectious diseases such as smallpox and tropical staples (at least in Africa and Asia) including malaria and yellow fever (Kiple, 1984). Of course, the pivotal role played by smallpox in the defeat of the Aztecs – who had no immunity – by the forces of the Spanish *conquistador* Hernán Cortés, is well known. Yet on the mainland, at least some non-immune populations in remote places, or at higher elevations, were spared. The fate of the Carib Arawak populations, extinguished by colonisation and principally tropical disease, was if anything even more extreme. Over time, slaves with immunity to African and European diseases – generally through exposure in childhood – were biologically favoured, in contrast both to Arawak and European settler populations (Kiple, 1984). This relentless, grim selection process determined the broad demographic characteristics of the Caribbean that continue to pertain in the 21st century.

While this brutal epoch in Caribbean history demonstrates unequivocally the massive repercussions of environmental factors for imperial economic development, it also demonstrates the converse. The composition of flora was radically altered by the introduction of exotic species (Kiple, 1984; Watts, 1987). Both deforestation and soil erosion occurred on a dramatic scale on islands such as Barbados and Grenada (Richardson, 1997). One measure of the environmental toll taken is that sugar production in Barbados in the late 18th century was less than a third of what it had reached a century earlier (Carrington, 2002). Another measure would be that by the

late 18th century, Barbados was importing timber from Tobago, as a result of the scale at which forest clearance had occurred (Carrington, 2002). However, one result of the environmental impacts of the plantations was the emergence of colonial forest protection regimes on St Vincent and Tobago (Grove, 1995). The very forces that transformed Caribbean environment and society were the same forces that generated the conservation imperative. If Kiple's account of the long-term environmental ramifications is to be believed, however, this early conservationist mentality, and the legislation that accompanied it, were at best insufficient (Beinart & Hughes, 2007).

## Section 2 Self Assessment Questions

### Question 4

How was conservation linked to the expansion of global trade and empire?

### Question 5

In what ways did European forestry practice engage with local knowledge in colonised territories?

### Question 6

How did conservation thinking and practice emerge from plantation economies run on slave labour?

## **3.0 INTERNATIONAL CONSERVATION AND SUSTAINABLE DEVELOPMENT**

### **Section Overview**

This section charts the growth of the international conservation architecture into the 20th century and its increasing engagement with the concept of sustainable development. With roots in colonial encounters and in national settings in Europe and the United States, an international conservation architecture was built. Increasingly, and perhaps especially in the 30 years after the Second World War, conservation thinking became aware and more frequently in contact with processes of economic development, an engagement which would lead, from the 1970s onwards, to an agenda which can loosely be termed 'sustainable development'. Towards the end of the 20th century, this agenda had achieved considerable momentum, which arguably dissipated and dwindled in the first decade of the 21st century.

### **Section Learning Outcomes**

By the end of this section, students should be able to:

- understand and explain in their own words how the international conservation architecture emerged and how it started, over time, to engage much more systematically with a development agenda
- critically evaluate the implications for the relationship between conservation and development of increasing influence of the concept of sustainable development.

## **3.1 The emergence of an international conservation architecture**

### **Conservation and colonial rule in Africa**

Unsurprisingly, the emergence of an international conservation architecture was intimately bound up, in its inception, in the establishment of European colonial rule. The fate of game species in sub-Saharan Africa provides an instructive example. Looming fears of a wave of extinction of popular game such as lion, elephant, rhino and giraffe came increasingly to the attention of the governing classes in Victorian Britain. Large drops in the numbers of wildlife in southern (and other parts of) Africa were attributed in part to European settlement from the 1650s onwards and an inexorable expansion of the agricultural frontier (MacKenzie, 1988; Adams, 2004). But by the 1850s, it was common for wealthy Europeans – typified by the Victorians – to set out on exploratory journeys, developing a seemingly insatiable appetite for the kill as they went (Mackenzie, 1988). As awareness of the scale of loss of game populations grew, so too did the desire to reign in the bloodthirsty tendencies, ushering in a new breed of hunter turned conservationist; the 'penitent butchers', as one memorable characterisation had it (Fitter & Scott, 1978).

One such hunter was Edward North Buxton, a wealthy Victorian businessman and an acolyte in the early struggles of the British conservation movement in the colonies. Buxton was a founding member of the Society for the Preservation of the Wild Fauna of the Empire (SPWFE) in 1903 (Adams, 2004), which would come, in the 20th century, to be known as Flora and Fauna International, one of the largest international conservation NGOs. The significance of the Society, as even its name suggests, is that it linked the preservation agenda explicitly to the project of empire. Not only did its gaze fall upon Britain's colonial possessions – many of them recently 'acquired' in Africa not long before the turn of the century – but it saw colonial administrations as the proper agents of preservation. In 1906, the Society called upon the British government to establish a network of protected areas in East Africa, based on the US model (McCormick, 1989; Adams, 2004). The SPWFE was also the first conservation organisation to look beyond country borders and embrace a more global focus. It was in key respects a gentlemen's club that found it easy to concentrate on influencing the British government because it had so many links to it, both publically and privately (Fitter & Scott, 1978).

By 1900, in both Southern and East Africa, a number of colonies had passed legislation governing hunting, introducing stipulations on what could be hunted, in what season and by whom (MacKenzie, 1988). Colonial administrations also increasingly favoured the establishment of game reserves. At first favoured more in German than British East Africa, the idea of a physical space in which to preserve endangered species from all hunting activities would become one of the cornerstone activities of the conservation world (McCormick, 1989; Neumann, 1996; Prendergast & Adams, 2003). Sabie, the first game reserve in Africa, was established in 1892 (Graham, 1973), while the first national park came into being, courtesy of King Albert in the former Belgian Congo, in 1925 (Boardman, 1981).

However, at least in some cases, despite accommodations made towards the preservationist cause, colonial policy remained attentive to the demands of settler constituencies seeking to expand the agricultural frontier. For example, at the beginning of the 20th century in erstwhile Rhodesia, the colonial government launched a tsetse fly clearance programme, which set up a hunting zone later extended all around the periphery of the Zambezi tsetse belt, an area of 10 000 km<sup>2</sup>. By 1961, this programme had resulted in the slaughter of 750 000 game animals, with a view to ensuring that settlers and their livestock remained free of the sleeping sickness (trypanosomiasis) disease spread by the tsetse fly (Ford, 1971: pp. 322–323).

### **International conservation in the 20th century**

Hunting in southern Africa was one among a number of concerns which gave impetus to the internationalisation of conservation concerns. Indeed, the consternation generated by the tsetse clearance programmes was cited as one of the factors justifying the signing of the 'Convention on the Preservation of Flora and Fauna in their Natural State', ratified by most of the colonial powers in 1934 (McCormick, 1989). The rise of an international conservation architecture in organisational terms, from the late 19th century onwards, sprang from this many-splintered set of experiences from around the world, born of colonial expansion. Given this background it was, predictably enough, dominated by Northern actors.

In the first half of the 20th century, while efforts to form interlinked, international conservation organisations slowly crystallised, the energy around them dissipated with the First and Second World Wars. The end of the Second World War produced a much more energetic, international order, bent on co-operation rather than conflict. The United Nations was made the primary vehicle for efforts to establish an international conservation agenda. In 1948, at a conference in Fontainebleau, the constitution for IUPN, the International Union for the Protection of Nature (Holdgate, 1999), was formally adopted. IUPN's *raison d'être* was to promote:

- wildlife preservation and the natural environment
- public awareness of the importance of conservation
- international conservation research
- conservation legislation, both national and international (Holdgate, 1999).

### **Early encounters between conservation and development**

All that was now required was a plan of action. This emerged largely from the 'International Technical Conference on the Protection of Nature', which the IUPN held concurrently with the UN Conference on the Conservation and Utilisation of Resources (UNSCCUR). These meetings produced a work programme for constructing the international conservation agenda throughout the 1950s. It was proposed that the IUPN and other UN agencies should work with development agencies with a view to conducting ecological impact surveys for development projects (McCormick, 1989). This was one of the first expressions, within the context of the international conservation organisation, of the need to consider the environmental implications of development processes.

The call to engage with broader development processes became stronger throughout the 1950s, prompting a re-naming of the IUPN to the International Union for the Conservation of Nature and Natural Resources (the modern day IUCN) in 1956 (Holdgate, 1999). Specifically, the 'wise use' brand of conservation had gained in influence relative to the preservationist leanings of many working within the field of international conservation (Holdgate, 1999). But it was also a result of the rise of ecology, which emphasised, long-term, systems-wide approaches to understanding the workings of nature (Worster, 1987). This meant putting a 'flora and fauna' perspective into the broader purview of 'planet and people' and, thereby, a host of issues around resource use and population dynamics. Just looking to preserve parcels of natural landscapes was to miss an essentially global picture, to which conservationists must attend in its entirety. Looking at this bigger picture meant enquiring much more into social and economic considerations. In its 10th General Assembly, held in New Delhi, a new mandate for the IUCN was proposed: 'the perpetuation and enhancement of the living world – man's natural environment – and the natural resources on which all things depend' (Holdgate, 1999: p. 108). This more ambitious goal, in pointing out humankind's dependency on nature, was a precursor to the definitions of **sustainable development** that would gain common currency towards the end of the 1970s.

### 3.2 Popular environmentalism, limits to growth and the birth of sustainability

In spite of all these efforts, the progress made towards an internationally binding conservation regime could not, in the early decades of the second half of the 20th century, be described as spectacular. Reconstruction and reconsolidation, against a political background of polarisation between capitalism and communism, dominated the post-Second World War international agenda. This left little space for environmental politics. But by the early 1960s, concern for conservation extended far beyond these elite and marginal structures. In that decade, environmentalism exploded into (Northern) public consciousness, spearheaded by commentators who were raising the alarm about the destructive impacts of accelerated industrialisation. This generation, probably the first to self-describe as 'environmentalists', had conceived of and were busy mapping out the (ecological) 'limits to growth'. This broadening of the sphere of environmental concern added great impetus to early conservation efforts to speak to a development agenda.

One of the key catalysts of popular environmental concern was a mushrooming of books which sought to take scientific accounts of environmental problems to a wider audience, and which in the process captured the attention of the major political actors of the day. The most influential of such publications, now a canonical text in the history of conservation, often credited with kick-starting the global environmental movement (ie Fox, 1981), was Rachel Carson's *Silent Spring* (Carson, 1963). *Silent Spring* departed from these, offering instead an account of the threat posed by the 'contamination of man's total environment' through the use of pesticides – iconically DDT – in large-scale agricultural production in the United States. These 'elixirs of death' (the title of Chapter 3), she maintained, were potentially so harmful that unfettered use of them could 'still the song of birds' (p. 10), to which the silence of the book's title alluded. The legacy of Carson's ominous message was that human society was becoming reckless in its efforts to profit from the environment. Her concerns set the tone for a number of works published over the course of the 1960s and into the early 1970s, which in different ways, and through different issues, collectively expressed the idea that the environmentally destructive tendencies of industrialised development were looking increasingly likely to undermine humanity's common future. More than anything, the worry was that there were limits to the Earth's capacity to absorb our rapidly accelerating, post-war quest for ever-greater economic expansion, wealth and prosperity. When a critical mass of thinkers, including luminaries such as Paul Ehrlich, Barry Commoner and Garrett Hardin, started to suggest that these limits might be reached sooner rather than later, and with globally catastrophic ramifications, they came to be known as the 'prophets of doom'.

The group best known for its attempts to specify the global ecological limits within which humankind would need to remain was the Club of Rome, a UN sponsored initiative comprising a mix of scientists, economists, pedagogues and industrialists. The Club's findings were reflected in and popularised by *The Limits to Growth* (Meadows *et al*, 1972), which employed the computer modelling of social systems pioneered by Jay Forrester to generate 12 potential scenarios for the 'end' of growth, with modest consumption and population levels achieved at one end of the scale to catastrophic crash at the other. All 12 scenarios put the end of economic growth at some point in the 21st century. Having set up the contrast between needless

catastrophe and the rosy future that humankind could enjoy if shaken from complacency, the aim of the book was to make the case for a global effort to bring human impact on the environment to within critical ecological boundaries. In recent decades this has been challenged frequently on the grounds that neither the level of environmental catastrophe they initially projected, nor the absolute depletion of heavily traded natural resources, has come to pass as, for instance, Peet, Robbins and Watts point out (2010). As the authors of *The Limits to Growth* would in later years point out, it has failed to gain the policy traction that the notion 'free markets' enjoys, despite both terms coming to prominence at a similar time (Meadows *et al*, 2004). *The Limits to Growth* was, nevertheless, influential in important places, and as one of the framing documents for the world's first 'Earth Summit', it was a key part of generating the context in which calls for sustainability would be made.

### 3.3 The rise and fall of sustainable development: 1972 to 2012

The meeting most commonly linked with the emergence of the concept of sustainability within the international arena is the United Nations Conference on the Human Environment, held in Stockholm in 1972. It delivered in the broadest terms a twofold message which, it was hoped, would unite industrialised and developing countries in one cause. The message was:

- global development had to take into account and reduce environmental impact if its own future was not to be compromised
- environment and development objectives should not and need not be set up in opposition; rather they could be reconciled.

Even at this early stage, developing countries were dissatisfied with some of the concerns central to the growing environmental engagement with the development agenda. Assertions that everyone's environment and development aspirations could all be accommodated merely papered over the early dividing lines over what sustainable development would look like, and **whose** vision of it would predominate. Just as much as the message of reconciling conservation and development processes, the legacy of the Stockholm meeting was the inevitability of the trade-off. The important question even at that point was not so much what sustainability was, but by what political processes, power relations and sets of interests its meaning would be contested.

While this meeting was characterised by optimism for the future, the momentum for making progress with some of the objectives and targets identified was lost. In many ways it was a time in which the international conservation movement attempted to devise its own vision of how conservation and development could be reconciled, and to reach out to organisations and actors within the development sphere. Interventions such as the Man and the Biosphere initiative and publications like the *World Conservation Strategy* carried this effort forward. During the 1980s and 1990s, a development paradigm increasingly centred around people-centred approaches which tried to 'put the last first', in Robert Chambers' iconic phrase (see Chambers, 1983), also started to engage with conservationists, but frequently in ways which were critical of the adverse impacts of conservation intervention on local people (see 3.3.1).



It was not until 1987, with the publication of *Our Common Future* that the concept of sustainability was brought front and centre into the development fold. That document gave what has become the most frequently cited (and contested) definition of sustainable development: 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs' (WCED, 1987: p. 43). While politically astute and highly influential, the document was criticised for its failure to give a clear account of how its core vision, of accelerated global economic growth could be brought about without exceeding environmental limits (Adams, 2009). Nevertheless, it set the stage for the Rio Earth Summit in 1992, perhaps the high tide mark in international commitment to the sustainable development agenda. See 3.3.1 for a summary of the results of the Summit.

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### 3.3.1 Outcomes of the Rio Earth Summit

Alternately described as a success and a failure, the Earth Summit brought together 178 countries, including 120 heads of state and produced some landmark outcomes which would frame a global consensus around sustainable development and devise a plan of action for it. Rio produced five components of a definitive, global consensus on realising sustainable development:

- The Rio Declaration on Environment and Development (principles for sustainable development)
- Agenda 21 (plan of action for sustainable development)
- The Convention on Biological Diversity: an international, legally binding treaty on conserving biodiversity and promoting sustainable ecosystem and species use
- The Framework Convention on Climate Change an international, legally binding treaty to reduce global carbon dioxide emissions, so as to tackle global warming
- The Agreement on Forest Principles (an expression of the principles for reducing deforestation and managing forests sustainably, originally intended to be a convention to go alongside the others produced at the conference).

Source: UN (1992); Grubb *et al* (1993); Redclift & Sage (1995)

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Ten years later, the Rio meeting was followed by the World Summit on Sustainable Development, staged in Johannesburg and comparable, as an event, in size to Rio. Tellingly, there had been little change in observed patterns of global consumption or the environmental externalities associated with them. And, in keeping with a pattern which had been evident since the Stockholm conference of 1972, there was a sense of disappointment at the gap between the rhetoric and the reality. Echoing one vein of response to the Rio Summit, the most frequent criticism that emerged was related to the perceived lack of commitment to setting timeframes for unambiguous targets, creating mechanisms for realising stated objectives and little or no mention of dedicated funding for priority activities (cf Seyfang, 2003; Von Frantzius, 2004). By this point, moreover, there was greater awareness of the difficulties and differences that lay behind the intuitive appeal and alliance-building power of the term 'sustainable development'. It had been adopted by a bewilderingly wide range of actors and organisations, but by 2002 it had become much clearer that they had disparate, often conflicting agendas. Far from being a pathway for reconciling global

prosperity with environmental care, it was at risk of being used to describe irreconcilable objectives. Crucially, moreover, it was much clearer that, with different groups bringing conflicting definitions to the table, determining what the sustainable development agenda would comprise was not a question of semantics, but in fact a power struggle, with winners and losers. This led Michael Redclift to argue that without charting whose interests were best served by the most influential definitions of the term, “sustainable development” discourses beg the question of whether, or how, environmental costs are passed on from one group of people to another, both within societies and between them’ (Redclift, 2005: p. 215).

Twenty years after the Rio Earth Summit, more than 100 heads of state and tens of thousands of representatives from government, business and civil society attended Rio+20, billed as the international meeting that would define for humankind ‘The Future We Want’. If its organisers were hoping that a return to the same host city would allow the world to recapture the ‘spirit of Rio’ that had been remarked upon at the start of the 1990s, they may have been disappointed. By and large, the response to Rio+20 was not kind. The Bureau of Investigative Journalism deemed it an ‘epic failure’. Environmentalist George Monbiot described the outcome document it produced as ‘283 paragraphs of fluff’. The reason for such scathing critique is largely down to the lack of commitments and detail on how the fine sentiments about the importance of ‘harmony with nature’, or the ‘deep’ concerns about and continual recognition of environmental problems, would translate into actions – or at least, into legally binding ones (Monbiot, 2012). Some commentators argued that the outcome document that emerged from Rio+20 had been stripped of most of its controversial statements or commitments and brought down thereby to the level of the lowest common denominator, in order that an agreed text could actually result from the negotiations (Montague, 2012; Narain, 2012).

Whether anything of longer-term significance comes of Rio+20 is a question that is perhaps better left until 2022, or even 2052. Yet what can plausibly be suggested more immediately is that it seemed to confirm that the **multilateralism** which was a necessary (if not sufficient) condition of the achievement of sustainable development advocated by its most influential expression, *Our Common Future*, was steadily losing ground. When ‘keeping the talks alive’ becomes a principal achievement of talks, and when there is a resounding lack of political will to sign up to the instruments of international collective action to translate the talks into activities, it is hard not to wonder what the future of multilateralism can be, at least in the environment–development arena. As a result, a greater emphasis is being placed on looking beyond the multilateral negotiations, to the myriad efforts that are being made by local and regional governments, through investments in ‘green jobs’.

## Section 3 Self Assessment Questions

### Question 7

Which contemporary international conservation NGO started out as the Society for the Preservation of the Wild Fauna of the Empire?

### Question 8

Fill in the missing word/phrases.

The group best known for its attempts to specify the \_\_\_\_\_ within which humankind would need to remain was the \_\_\_\_\_, a UN sponsored initiative comprising a mix of \_\_\_\_\_. The Club's findings were reflected in and popularised by \_\_\_\_\_.

### Question 9

What was the core criticism of *Our Common Future*?

## UNIT SUMMARY

- Conservation and development emerge as part and parcel of a historical process which is sometimes termed 'the commodification of nature'. This phenomenon led to increasingly global trade of natural resources which fuelled and motivated European imperial expansion. In many ways, conservation was rooted in a reaction against the environmentally destructive tendencies of the commodification of nature. This is especially evident in the forest protection regimes that were implemented in the Caribbean in response to the deforesting tendencies of plantation economies.
- The international architecture conservation was also partly rooted in colonial expansion and bureaucracies, but some of its most influential proponents emerged within European and US national contexts. In the UK, poets such as Wordsworth and other Romantics popularised the idea of love for the aesthetic beauty of nature. In the United States, towering figures such as John Muir and George Perkins Marsh sparked debates which are still very much alive within conservation, about whether the conservation of nature would best be served by strictly protecting it against the depredations of economic activities like the expansion of the agricultural frontier, or by learning to use nature more wisely in the service of human progress.
- The two World Wars of the 20th century, followed by a focus, at least in the global North, on ensuring prosperity, led conservation to be put on the backburner for a while, even as the international conservation architecture was becoming more sophisticated. However, with the advent of the environmental movement and popular concern with the environmental impacts of economic growth, the need for conservation gained an increasingly high international profile.
- Increasingly, it was becoming clear that the kinds of conservation that were possible would depend upon the forms of development that were prevalent. Conservationists increasingly felt that there was a need to engage more with development actors and processes, while the development community was becoming more convinced that the gains of development could be compromised if the natural capital upon which prosperity depended was not looked after more carefully.
- Engagement between conservation and development agendas was encompassed in the term 'sustainable development', which was enshrined as a global objective at a number of influential international meetings. However, the extent to which sustainable development seems more to fit them to challenge the pattern of 'business as usual' led to increasing disillusionment with the term.

## UNIT SELF ASSESSMENT QUESTIONS

### Question 1

Define 'the commodification of nature'.

### Question 2

How did concern with conservation move beyond a relatively elitist institutional architecture grounded in the increasing tendency towards multilateralism in the 20th century?

### Question 3

Why did the term 'sustainable development' come to be seen by some commentators as an oxymoron?

## KEY TERMS AND CONCEPTS

<b>colonialism</b>	the process through which one political power acquires partial or full control of another political power's territory
<b>commodification</b>	turning objects and substances into a product with market value (a commodity)
<b>conservation</b>	the protection, care, management and maintenance of ecosystems, habitats, wildlife species and populations, within or outside of their natural environments, in order to safeguard the natural conditions for their long-term permanence (IUCN definition)
<b>deforestation</b>	destruction of the forests to the extent that their natural reproduction becomes impossible
<b>environmentalism</b>	appreciation of and concern for the natural world  a public movement mobilised around appreciation of and concern for the natural world  a programme of political reform, articulating concrete policies to states and societies to adopt (Guha, 2000)
<b>industrialisation</b>	a process and period in which a group of people, society or nation switch from a primarily agricultural economy to one based on manufacturing goods and services
<b>materialism</b>	a predisposition towards finding material comfort and possessions more important than spiritual values
<b>multilateralism</b>	a political philosophy which envisaged a set of international institutions which, taken together, were intended to facilitate international collaboration and co-ordination, in contrast with the conflict and competition which had brought about two World Wars in the first half of the 20th century
<b>preservationism</b>	attempts to keep 'natural' landscapes as free from human influence as possible
<b>sustainable development</b>	'development that meets the needs of the present without compromising the ability of future generations to meet their own needs' (WCED, 1987)
<b>wilderness</b>	a landscape as uninfluenced by human presence and activities as possible (cf Ridder, 2007)
<b>wise use</b>	forms of conservation which permit uses of nature that do not endanger its existence