Introduction

Since 1945 we have witnessed over sixty years of unprecedented official development policies and impressive global economic growth. Yet global polarization continues to increase, with the economic gap between the richest and poorest states and people growing. While the richest 20 states increased their GDP per capita by nearly 300 per cent between the early 1960s and 2002, the poorest 20 achieved an increase of 20 per cent (World Bank Development Indicators 2009). Box 28.1 shows that as a discipline International Relations has been slow to engage with these issues of development and poverty.

Poverty, hunger, and disease remain widespread, and women and girls continue to comprise the majority of the world's poorest people. Moreover, this general situation is not confined to that part of the world that we have traditionally termed the 'South' or the **Third World**. Particularly since the 1980s and 1990s, the worldwide promotion of neo-liberal economic policies (the so-called **Washington Consensus**) by global governance institutions has been accompanied by increasing inequalities within and between states. During this period, the Second World countries of the former Eastern bloc have been incorporated into the Third World grouping of states, and millions of people previously cushioned by the state have been thrown into poverty with the transition to market economies. In the developed world, rising social inequalities characterized the social landscape of the 1980s and 1990s. Within the **Third World** countries, the adverse impact of **globalization** has been felt acutely (see Ch. 1), as countries have been forced to adopt free market policies as a condition of debt rescheduling and in the hope of attracting new investment to spur development. Gendered outcomes of these neo-liberal economic policies have been noted, although the global picture is very mixed, with other factors such as class, race, and ethnicity contributing to local outcomes (Buvinic 1997: 39).

The enormity of the current challenges was recognized by the UN in 2000 with the acceptance of the **Millennium Development Goals** (www.undp.org). These set time-limited, quantifiable targets across eight areas, ranging from poverty to health, gender (see Ch. 16), education, environment, and development. The first goal was the eradication of extreme poverty and hunger, with the target of halving the proportion of people living on less than a dollar a day by 2015. Figure 28.1 shows continuing incidence of poverty at different income levels.

The attempts of the majority of governments, **intergovernmental organizations** (INGOs), and **non-governmental organizations** (NGOs) since 1945 to address global hunger and poverty can be categorized into two very broad types, depending on the explanations they provide for the existence of these problems and the respective solutions that they prescribe. These can be identified as the dominant mainstream or orthodox approach, which provides and values a particular body of developmental knowledge, and a **critical** alternative approach, which incorporates other more marginalized understandings of the development challenge and process (see Table 28.1). Most of this chapter will be devoted to an examination of the differences between these two approaches in relationship to the three related topics of poverty, development, and hunger, with particular emphasis on development. The chapter concludes with an assessment of whether the desperate conditions in which so many of the world's citizens find themselves today are likely to improve. Again, two contrasting approaches are outlined.

Box 28.1 International Relations theory and

- Traditionally, the discipline focused on issues relating to inter-state conflict, and regarded human security and development as separate areas.
- Mainstream realist and liberal scholars neglected the challenges presented to human well-being by the existence of global underdevelopment.
- Dependency theorists were interested in persistent and deepening inequality and relations between North and South, but they received little attention in the discipline.
- During the 1990s, debate flourished, and several subfields developed or emerged that touched on matters of poverty, development, and hunger, albeit tangentially (e.g. global environmental politics, gender, international political economy).
- More significant in the 1990s, in raising within the discipline the concerns of the majority of humanity and states, were the contributions from post-colonial theorists, Marxist theorists (Hardt and Negri), scholars adopting a **human security** approach (Nef, Thomas), and the few concerned directly with development (Saurin, Weber).
- Interest in poverty, development, and hunger has increased with the advent of globalization.
- Most recently, social unrest in many parts of the world and the fear of terrorism have acted as a spur for greater diplomatic activity.

(Thomas and Wilkin 2004)

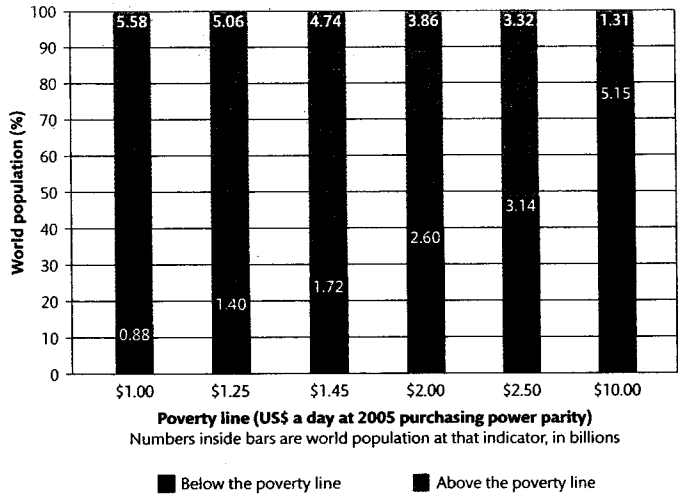


Figure 28.1 Poverty at different levels of income
Source: Progress on the Millennium Development Goals, Global Monitoring Report 2008: Goal 1 Reducing Poverty and Hunger (www.worldbank.org)

Table 28.1 Mainstream and alternative conceptions of poverty, development, and hunger

	Poverty	Development	Hunger
Mainstream approach	Unfulfilled material needs	Linear path, traditional to modern	Not enough food to go around
Critical alternative approach	Unfulfilled material and non-material needs	Diverse paths, locally driven	Enough food; the problem is distribution and entitlement

Poverty

Different conceptions of poverty underpin the mainstream and alternative views of development. There is basic agreement on the material aspects of poverty, such as lack of food, clean water, and sanitation, but disagreement on the importance of non-material aspects. Also, key differences emerge in regard to how material needs should be met, and hence about the goal of development.

Most governments, international organizations, citizens in the West, and many elsewhere adhere to the orthodox conception of poverty. This refers to a situation where people do not have the money to buy adequate food or satisfy other basic needs, and are often classified as un- or underemployed. This mainstream understanding of poverty based on money has arisen as a result of the globalization of Western culture and the

attendant expansion of the market. Thus a community that provides for itself outside monetized cash transactions and wage labour, such as a hunter-gatherer group, is regarded as poor.

Since 1945, this meaning of poverty has been almost universalized. Poverty is seen as an economic condition dependent on cash transactions in the marketplace for its eradication. These transactions in turn are dependent on development defined as economic growth. An economic yardstick is used to measure and to judge all societies.

Poverty has been widely regarded as characterizing the Third World, and it has a gendered face. An approach has developed whereby it is seen as incumbent upon the developed countries to 'help' the Third World eradicate 'poverty', and increasingly to address female poverty (see World Bank, Gender Action Plan, www.worldbank.org/). The solution advocated to overcome global poverty is the further **integration** of the global economy (Thomas 2000) and of women into this process (Pearson 2000; Weber 2002). Increasingly, however, as globalization has intensified, poverty defined in such economic terms has come to characterize significant sectors of population in advanced developed countries such as the USA (see Bello 1994).

Critical, alternative views of poverty exist in other cultures where the emphasis is not simply on money, but on spiritual values, community ties, and availability of common resources. In traditional subsistence economies, a common strategy for survival is provision for oneself and one's family via community-regulated access to common water, land, and fodder. Western values that focus on individualism and consumerism are seen as destructive of nature and morally inferior. For many people in the developing world the ability to provide for oneself and one's family, including the autonomy characteristic of traditional ways of life, is highly valued. Dependence on an unpredictable market and/or an unreliable government does not, therefore, offer an attractive alternative.

Some global **institutions** have been important in promoting a conception of poverty that extends beyond material indicators. The work of the United Nations Development Programme (UNDP) since the early 1990s is significant here for distinguishing between income poverty (a material condition) and human poverty (encompassing human dignity, agency, opportunity, and choices).

The issue of poverty and the challenge of poverty alleviation moved up the global political agenda at the close of the twentieth century, as evidenced in the UN's first Millennium Development Goal, cited earlier. Although some progress was reported in the early years of the millennium, the 2008 'credit crunch' threatens to reverse what was achieved. As UN Secretary General Ban Ki-Moon notes in the 2009 Millennium Development Goals Report, 'we face a global economic crisis whose full repercussions have yet to be felt' (www.un.org/millenniumgoals/). Whereas in 2005 it was estimated that 1.4 million people lived on less that $1.25 a day, the report estimates that in 2009 this number will increase by as much as 90 million.

Having considered the orthodox and critical alternative views of poverty, we now turn to an examination of the important topic of development. This examination will be conducted in three main parts. The first part will start by examining the orthodox view of development and will then proceed to an assessment of its effect on post-war development in the Third World. The second part will examine the critical alternative view of development and its application to subjects such as empowerment and democracy. In the third part, consideration will be given to the ways in which the orthodox approach to development has responded to some of the criticisms made of it by the critical alternative approach.

Key Points

- The monetary-based conception of poverty has been almost universalized among governments and international organizations since 1945.
- Poverty is interpreted as a condition suffered by people—the majority of whom are female—who do not earn enough money to satisfy their basic material requirements in the marketplace.
- Developed countries have regarded poverty as being something external to them and a defining feature of the Third World. This view has provided justification for the former to help 'develop' the latter by promoting further integration into the global market.
- However, such poverty is increasingly endured by significant sectors of the population in the North, as well as the Third World, hence rendering traditional categories less useful.
- A critical alternative view of poverty places more emphasis on lack of access to community-regulated common resources, community ties, and spiritual values.
- Poverty moved up the global political agenda at the start of the twenty-first century, but the 2008/9 'credit crunch' promises to reverse some of the early success.

Development

When we consider the topic of development, it is important to realize that all conceptions of development necessarily reflect a particular set of social and political values. Indeed, we can say that 'Development can be conceived only within an ideological framework' (Roberts 1984: 7).

Since the Second World War the dominant view, favoured by the majority of governments and multilateral agencies, has seen development as synonymous with economic growth within the context of a free market international economy. Economic growth is identified as necessary for combating poverty, defined as the inability of people to meet their basic material needs through cash transactions. This is seen in the influential reports of the World Bank, where countries are categorized according to their income. Those countries that have the lower national incomes per head of population are regarded as being less developed than those with higher incomes, and they are perceived as being in need of increased integration into the global marketplace.

An alternative view of development has, however, emerged from a few governments, UN agencies, grassroots movements, NGOs, and some academics. Their concerns have centred broadly on entitlement and distribution, often expressed in the language of **human rights** (see Ch. 30). Poverty is identified as the inability to provide for one's own and one's family's material needs by subsistence or cash transactions, and by the absence of an environment conducive to human well-being broadly conceived in spiritual and community terms. These voices of opposition are growing significantly louder, as ideas polarize following the apparent universal triumph of economic **liberalism**. The language of opposition is changing to incorporate matters of **democracy** such as political empowerment, participation, meaningful **self-determination** for the majority, protection of the commons, and an emphasis on pro-poor growth. The fundamental differences between the orthodox and the alternative views of development are summarized in Box 28.2, and supplemented by Case Study 1, illustrating alternative ideas for development that take account of social and cultural values. In the following two sections we shall examine how the orthodox view of development has been applied at a global level and assess what measure of success it has achieved.

Box 28.2 Development: a contested concept

The orthodox view

- **Poverty:** a situation suffered by people who do not have the *money to buy food* and satisfy other basic *material needs*.
- **Solution:** transformation of traditional subsistence economies defined as 'backward' into industrial, commodified economies defined as 'modern'. Production for profit. Individuals sell their labour for money, rather than producing to meet their family's needs.
- **Core ideas and assumptions:** the possibility of unlimited economic growth in a free market system. Economies eventually become self-sustaining ('take-off' point). Wealth is said to trickle down to those at the bottom. All layers of society benefit through a 'trickle-down' mechanism when the superior 'Western' model is adopted.
- **Measurement:** economic growth; Gross Domestic Product (GDP) per capita: industrialization, including agriculture.
- **Process:** top-down; reliance on external 'expert knowledge', usually Western. Large capital investments in large projects; advanced technology; expansion of the private sphere.

The alternative view

- **Poverty:** a situation suffered by people who are not able to meet their *material and non-material needs* through their own effort.
- **Solution:** creation of human well-being through sustainable societies in social, cultural, political, and economic terms.
- **Core ideas and assumptions:** sufficiency. The inherent value of nature, cultural diversity, and the community-controlled commons (water, land, air, forest). Human activity in balance with nature. Self-reliance and local control through democratic inclusion, participation, and giving a voice to marginalized groups, such as women, indigenous groups.
- **Measurement:** fulfilment of basic material and non-material human needs of everyone; condition of the natural environment. Political empowerment of marginalized.
- **Process:** bottom-up; participatory; reliance on appropriate (often local) knowledge and technology; small investments in small-scale projects; protection of the commons.

There is a tremendously long way to go in terms of gaining credence for the core values of the alternative model of development in the corridors of power, nationally and internationally. Nevertheless, the alternative view, marginal though it is, has had some noteworthy successes in modifying orthodox development. These may not be insignificant for those whose destinies have up till now been largely determined by the attempted universal application of a selective set of local, essentially Western, values.

Key Points

- Development is a contested concept. The orthodox or mainstream approach and the alternative approach reflect different values.
- Development policies over the last sixty years have been dominated by the mainstream approach—embedded liberalism and, more recently, neo-liberalism—with a focus on growth.
- The last two decades of the twentieth century saw the flourishing of alternative conceptions of development based on equity, participation, empowerment, sustainability, etc., with input especially from NGOs and grass-roots movements and some parts of the UN.
- The mainstream approach has been modified slightly and has incorporated the language of its critics (e.g. pro-poor growth).
- Gains made during the last two decades may be reversed as the full consequences of the global 'credit crunch' emerge.

Hunger

Although 'the production of food to meet the needs of a burgeoning population has been one of the outstanding global achievements of the post-war period' (ICPF 1994: 104, 106), the UN Food and Agriculture Organization (FAO) estimates that over one billion people will remain hungry during 2010 (http://www.fao.org). The current depth of hunger across different world regions is shown in Figure 28.5. While famines may be exceptional phenomena, hunger is ongoing. Why is this so?

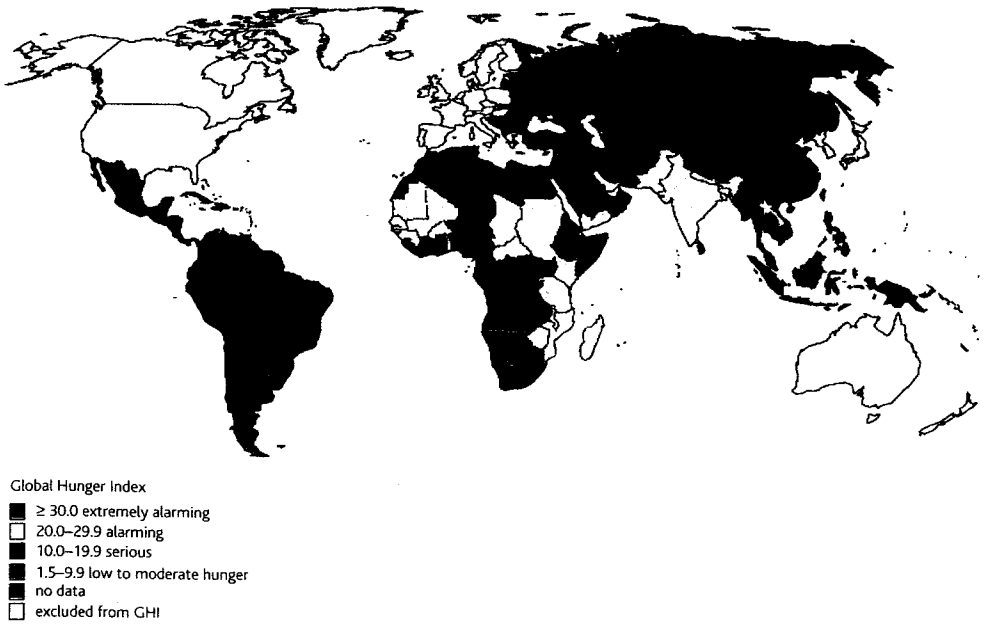


Figure 28.5 World hunger map, 2006

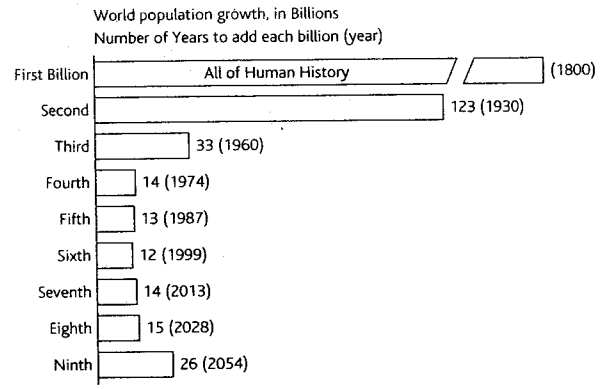


Figure 28.6 World population growth from 1800 with projections to 2050

Most populous countries, 2003

Rank	Country	Population (millions)
1	China	1,289
2	India	1,069
3	United States	292
4	Indonesia	220
5	Brazil	176
6	Pakistan	149
7	Bangladesh	147
8	Russia	146
9	Nigeria	134
10	Japan	128

Most populous countries, 2050

Rank	Country	Population (millions)
1	India	1,628
2	China	1,394
3	United States	422
4	Pakistan	349
5	Indonesia	316
6	Nigeria	307
7	Bangladesh	255
8	Brazil	221
9	Congo, Dem. Rep. of	181
10	Ethiopia	173

Figure 28.7 Most populous countries, 2003, with projections to 2050

Broadly speaking, there are two schools of thought with regard to hunger: the orthodox, nature-focused approach, which identifies the problem largely as one of overpopulation, and the entitlement, society-focused approach, which sees the problem more in terms of distribution. Let us consider each of these two approaches in turn.

The orthodox, nature-focused explanation of hunger

The orthodox explanation of hunger, first mapped out by Thomas Robert Malthus in his *Essay on the Principle of Population in* 1798, focuses on the relationship between human population growth and the food supply. It asserts that population growth naturally outstrips the growth in food production, so that a decrease in the per capita availability of food is inevitable, until eventually

a point is reached at which starvation, or some other disaster, drastically reduces the human population to a level that can be sustained by the available food supply. This approach therefore places great stress on human overpopulation as the cause of the problem, and seeks ways to reduce the fertility of the human race, or rather, that part of the human race that seems to breed faster than the rest—the poor of the 'Third World'. Supporters of this approach argue that there are natural limits to population growth—principally that of the carrying capacity of the land—and that when these limits are exceeded disaster is inevitable.

The available data on the growth of the global human population indicate that it has quintupled since the early 1800s, and is expected to grow from six billion in 1999 to ten billion in 2050. Over 50 per cent of this increase is expected to occur in seven countries: Bangladesh, Brazil, China, India, Indonesia, Nigeria, and Pakistan. Figure 28.6 provides data on world population growth from 1800, with projections through to 2050. Figure 28.7 focuses on the most populous countries—almost all of which are located in the Third World—and only 11 of them account for over half of the world's population. It is figures such as these that have convinced many adherents of the orthodox approach to hunger that it is essential that Third World countries adhere to strict family-planning policies that one way or another limit their population growth rates. Indeed, in the case of the World Bank, most women-related efforts until very recently were in the area of family planning.

The entitlement, society-focused explanation of hunger

Critics of the orthodox approach to hunger argue that it is too simplistic in its analysis and ignores the vital factor of food distribution. They point out that it fails to account for the paradox we observed at the beginning of this discussion on hunger: that despite the enormous increase in food production per capita that has occurred over the post-war period (largely due to the development of high-yielding seeds and industrial agricultural techniques), little impact has been made on the huge numbers of people in the world who experience chronic hunger. For example, the UN Food and Agriculture Organization (FAO) estimates that although there is enough grain alone to provide everyone in the world with 3,600 calories a day, even taking account of increases in population growth (i.e. 1,200 more than the UN's recommended minimum daily intake), the number of people living in hunger continues to grow.

Furthermore, critics note that the Third World, where the majority of malnourished people live, produces much of the world's food, while those who consume most of it are located in the Western world. Meat consumption tends to rise with household wealth, and a third of the world's grain is used to fatten animals. This trend is seen in countries that have experienced rapid economic growth during the last two decades, most notably China and India. A further recent trend is the switch in land use from food production to crops for the biofuel industry (See UNCTAD report www.unctad.org/Templates/Page.asp?intItemID=4526&lang=1). The effect of this is to reduce surpluses produced by developed countries that can be sold on global markets and take fertile land out of food production for local markets. Such evidence leads opponents of the orthodox approach to argue that we need to look much more closely at the social, political, and economic factors that determine how food is distributed and why access to it is achieved by some and denied to others.

A convincing alternative to the orthodox explanation of hunger was set forward in Amartya Sen's pioneering book, *Poverty and Famines: An Essay on Entitlement and Deprivation*, which was first published in 1981 (Sen 1981, 1983). He argues that famines have often occurred when there has been no significant reduction in the level of per capita food availability and, furthermore, that some famines have occurred during years of peak food availability. Thus hunger is due to people not having enough to eat, rather than there not being enough to eat. Put another way, whether a person starves or eats depends not so much on the amount of food available, but whether or not they can establish an entitlement to that food. If there is plenty of food available in the shops, but a family does not have the money to purchase that food, and does not have the means of growing their own food, then they are likely to starve. For example, while in many parts of sub-Saharan Africa agricultural land was used traditionally to provide food for local markets, the creation of global markets has meant that more and more land is devoted to export crops to feed wealthy nations. With access to land for local production limited, little opportunity to find alternative work, and little social security arrangement in place following the austerity policies imposed by the World Bank and IMF of the 1980s (SAPs), landless rural labourers and pastoralists cannot assert their entitlement to food, even when global production increases. In short, the conditions for hunger prevail even in a world of plenty.

Globalization and hunger

It is possible to explain the contemporary occurrence of hunger by reference to the process of globalization. Globalization means that events occurring in one part of the globe can affect, and be affected by, events occurring in other, distant parts of the globe. Often, as individuals, we remain unaware of our role in this process and its ramifications. When we drink a cup of tea or coffee, or eat imported fruit and vegetables, in the developed countries, we tend not to reflect on the changes experienced at the site of production of these cash crops in the developing world. However, it is possible to look at the effect of the establishment of a global, as opposed to a local, national, or regional, system of food production. This has been done by David Goodman and Michael Redclift in their book, *Refashioning Nature: Food, Ecology and Culture* (1991).

Goodman and Redclift argue that at the beginning of the twenty-first century we are witnessing an increasingly global organization of food provision and access to food, with transnational corporations playing the major role. This has been based on the incorporation of local systems of food production into a global system of food production. In other words, local subsistence producers, who have traditionally produced to meet the needs of their family and community, may now be involved in cash-crop production for a distant market. Alternatively, they may have left the land and become involved in the process of industrialization, making them net consumers rather than producers of food in the move to urbanization.

The most important actor in the development and expansion of this global food regime has been the USA, which, at the end of the Second World War, was producing large food surpluses. These surpluses were welcomed by many developing countries, for the orthodox model of development depended on the creation of a pool of cheap wage labour to serve the industrialization process. Hence, in order to encourage people off the land and away from subsistence production, the incentive to produce for oneself and one's family had to be removed. Cheap imported food provided this incentive, while the resulting low prices paid for domestic subsistence crops made them unattractive to grow; indeed, for those who continued to produce for the local market, such as in Sudan, the consequence has been the production of food at a loss (Bennett and George 1987: 78).

Not surprisingly, therefore, the production of subsistence crops in the developing world for local consumption has drastically declined in the post-war period. Domestic production of food staples in developing countries has declined, consumer tastes have been altered by the availability of cheap imports, and the introduction of agricultural technology has

Case Study 2 Food shortages in Kenya

With a GDP per capita of around $1,240 (World Bank Report 2007), and a ranking of 144 out of 179 in the 2008 UNDP Human Development Report, large numbers of Kenyans suffer poverty. This is most acute in urban slums and among pastoralists and farmers living in remote and semi-arid regions. It is estimated that in 2009 5.6 million Kenyans will face food insecurity as global food prices continue to rise at unprecedented rates (World Food Programme, wfp.org/countries/Kenya). Between 2005 and 2008 global food prices have risen overall by 83 per cent. For many Kenyans the only option is to cut back on the number of meals they eat, purchase less expensive foods and consume a high-carbohydrate, less balanced and nutritious diet. Malnutrition rates are expected to increase, particularly among children.

The cause of the food crisis in Kenya is often put down to the failure of the rainy season for the three years since 2006. The consequent crop failures have undoubtedly contributed to food shortages, but so have other factors. USAID's assessment is that recurrent 'seasons of failed or poor rains, sustained high food prices, environmental degradation, outbreaks of disease, and flooding have led to deteriorating food security conditions throughout Kenya, straining coping mechanisms, exacerbating existing chronic poverty, and contributing to increased inter-ethnic conflict over access to limited land and water resources. The increasing global market in agricultural products for biofuel production is another contributing factor.'

(http://www.usaid.gov/our_work/humanitarian_assistance/disaster_assistance/countries/kenya/template/fs_sr/fy2009/kenya_fi_sr01_09-02-2009.pdf)

displaced millions of peasants from traditional lands. Furthermore, the creation of global agri-businesses has encouraged speculative investments, adding further to price volatility. Save the Children reports that in 2006 'the volume of traded global agricultural financial products, like options and futures, increased by almost 30%' (Save the Children www.savethechildren.org.uk/en/54_5739.htm).

The increasing number of people who suffer food insecurity is often recognized by the leaders of wealthy states. It is these same leaders who also promote free market principles that create the contemporary context for hunger. However, as the 2009 World Summit demonstrated, concern does not necessarily turn into action (http://www.fao.org/wsfs/world-summit/en).

Key Points

- In recent decades global food production has burgeoned, but, paradoxically, hunger and malnourishment remain widespread.
- The orthodox explanation for the continued existence of hunger is that population growth outstrips food production.
- An alternative explanation for the continuation of hunger focuses on lack of access or entitlement to available food. Access and entitlement are affected by factors such as the North–South global divide, particular national policies, rural–urban divides, class, gender, and race.
- Globalization can simultaneously contribute to increased food production and increased hunger.

Conclusion: looking to the future–globalization with a human face?

It is clear when we consider the competing conceptions of poverty, development, and hunger explored above that there is no consensus on definitions, causes, or solutions.

We are faced with an awesome development challenge. Early indications suggest that the UN Millennium Development Goal (MDG) targets will not be met. Indeed, the 2009 Millennium Development Goals Report concludes that although 'data are not yet available to reveal the full impact of the recent economic downturn, they point to areas where progress towards the eight goals has slowed or reversed' (MDG Report 2009). The World Bank's Global Monitoring Report for 2009 offers the pessimistic assessment that the 'deepening global recession, rising unemployment, and volatile commodity prices in 2008 and 2009 are seriously affecting progress toward poverty reduction'. In particular, the Bank sees rising food prices as a central cause of 'throwing millions into extreme poverty' (http://www.worldbank.org/).

The orthodox model of development is being held up for closer scrutiny, as we become more aware of the risks as well as the opportunities that globalization and the Washington Consensus bring in their wake. The key question is: can globalization develop a human face?

The current development orthodoxy is following the reformist pathway. History will reveal whether this pathway bears the seeds of its own destruction by delivering too little, too late, to too few people. As students of International Relations, we must bring these issues in from the margins of our discipline and pursue them as central to our study.

Questions

1 What does poverty mean?
2 Explain the orthodox approach to development and outline the criteria by which it measures development.
3 Assess the critical alternative model of development.
4 How effectively has the orthodox model of development neutralized the critical, alternative view?
5 Compare and contrast the orthodox and alternative explanations of hunger.

6 What are the pros and cons of the global food regime established since the Second World War?
7 Account for the increasing gap between rich and poor states and people after fifty years of official development policies.
8 Critically explore the gendered nature of poverty.
9 Is the recent World Bank focus on poverty reduction evidence of a change of direction by the Bank?
10 Are national poverty reduction strategies contributing to national ownership of development policies in the Third World?
11 Why has the discipline of International Relations been slow to engage with issues of poverty and development?
12 Outline the consequences, for those living in poverty, of the 2008 global economic downturn.

Further Reading

General

Adams, N. B. (1993), *Worlds Apart: The North–South Divide and the International System* (London: Zed). Presents a broad economic and political history of the North–South divide, and focuses on the role of the international economic system. This book provides an effective introduction to the politics of North–South economic relations over the past half-century.

Kiely, R. (2006), *The New Political Economy of Development: Globalization, Imperialism and Hegemony* (Basingstoke: Palgrave Macmillan). An important new text that examines development in a historic and political-economic context. This is a book for ambitious students who want to take their understanding of development to a deeper level.

Rapley, J. (1996), *Understanding Development* (Boulder, CO: Lynne Rienner). Analyses the theory and practice of development in the Third World since the Second World War in a straightforward, succinct manner. It provides the reader with a firm grasp of changing development policies at the international level and their take-up over time in different states.

Thomas, C. (2000), *Global Governance, Development and Human Security* (London: Pluto). Examines the global development policies pursued by global governance institutions, especially the IMF and the World Bank, in the 1980s and 1990s. It assesses the impact of these policies on human security, and analyses different paths towards the achievement of human security for the twenty-first century.

Development

Evans, T. (2005), *The Politics of Human Rights: A Global Perspective* (London, Pluto Press). Investigates the relationship between development and claims for human rights. It focuses upon the difference between conservative and radical uses of the idea of human rights.

Rahnema, M., with Bawtree, V. (eds) (1997), *The Post Development Reader* (Dhaka: University Press, and London: Zed). Challenges the reader to think critically about the nature of development and assumptions about meanings. This is an extremely stimulating interdisciplinary reader.

Introduction

Although humankind as a whole now appears to be living well above earth's carrying capacity, the **ecological footprints** of individual states vary to an extraordinary extent. See, for example, the unusual map of the world (Fig. 21.1), where the size of countries is proportionate to their carbon emissions. Indeed, if everyone were to enjoy the current lifestyle of the developed countries, more than three additional planets would be required.

This situation is rendered all the more unsustainable by the process of **globalization**, even though the precise relationship between environmental degradation and the over-use of resources, on the one hand, and globalization, on the other, is complex and sometimes contradictory. Globalization has stimulated the relocation of industry, population movement away from the land, and ever-rising levels of consumption, along with associated emissions of effluents and waste gases. While often generating greater income for poorer countries exporting basic goods to developed-country markets, ever freer trade can also have adverse environmental consequences, by disrupting local ecologies and livelihoods.

On the other hand, there is little evidence that globalization has stimulated a 'race to the bottom' in environmental standards, and it has even been argued that increasing levels of affluence have brought about local environmental improvements, just as birth rates tend to fall as populations become wealthier. Economists claim that globalization's opening up of markets can increase efficiency and reduce pollution, provided that the environmental and social damage associated with production of a good is properly factored into its market price. Similarly, globalization has promoted the sharing of knowledge and the influential presence of **non-governmental organizations** (NGOs) in global environmental politics. Whatever the ecological balance sheet of globalization, the resources upon which human beings depend for survival, such as fresh water, a clean atmosphere, and a stable climate, are now under serious threat.

Global problems may need global solutions and pose a fundamental requirement for **global environmental governance**, yet local or regional action remains a vital aspect of responses to many problems; one of the defining characteristics of environmental politics is the awareness of such interconnections and of the need to 'think globally—act locally'. NGOs have been very active in this respect, as shown in Chapter 20 of this book.

Despite the global dimensions of environmental change, an effective response still has to depend upon a fragmented international political system of over 190 sovereign **states**. Global environmental governance consequently involves bringing to bear inter-state relations, **international law**, and **international organizations** in addressing shared environmental problems. Using the term 'governance'—as distinct from government—implies that regulation and control have to be exercised in the absence of central government, delivering the kinds of service that a world government would provide if it were to exist. You should refer to Chapter 18 for the essential concepts employed in **regime** analysis, which is commonly applied in the study of international governance.

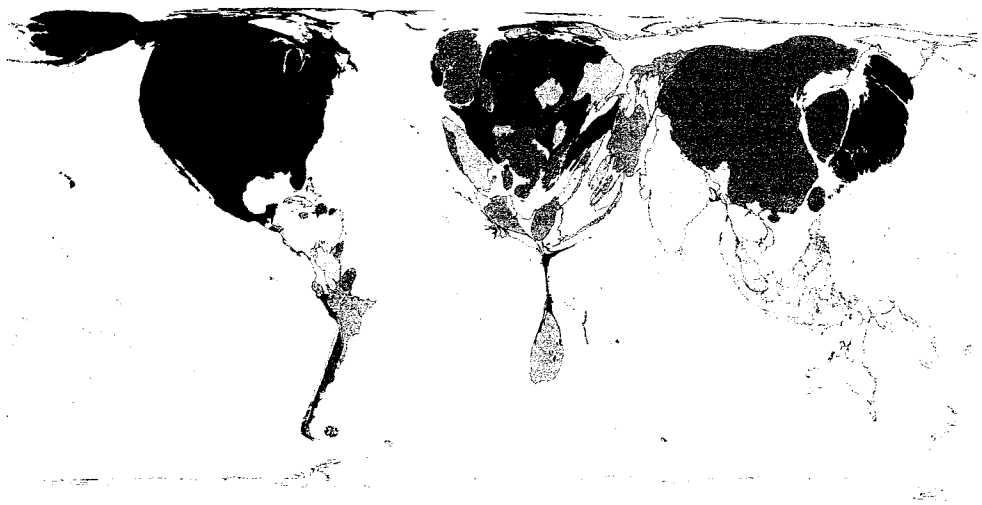


Figure 21.1 Map of world in proportion to carbon emissions

Key Points

- The current use and degradation of the earth's resources is unsustainable and closely connected in sometimes contradictory ways to the processes of globalization.
- There are vast inequalities between rich and poor in their use of the earth's resources and the ecological shadow or footprint that they impose on it.
- The response at the international level is to attempt to provide global environmental governance. In a system of sovereign states this involves international cooperation.

Environmental issues on the international agenda: a brief history

Before the era of globalization there were two traditional environmental concerns: conservation of natural resources and the damage caused by pollution. Neither pollution nor wildlife respect international boundaries, and action to mitigate or conserve sometimes had to involve more than one state. There were also numerous, mostly unsuccessful, attempts to regulate exploitation of maritime resources lying beyond national jurisdiction, including several multilateral fisheries commissions. The 1946 International Convention for the Regulation of Whaling and its International Whaling Commission (IWC) show an interesting move away from the original goal of conserving the whaling industry by regulating catches, towards the preservation of the great whales *per se* through declaring an international moratorium on whaling. This shift still generates bitter confrontation between NGOs, most IWC members, and the small number of nations—Japan, Norway, and Iceland—that wish to resume commercial whaling.

Post-Second World War global economic recovery brought with it evidence of damaging pollution of the atmosphere, of watercourses, and of the sea, notably the Mediterranean, leading to international agreements in the 1950s and 1960s covering such matters as discharges from oil tankers. This worthy activity was, though, hardly the stuff of great power politics. Such 'apolitical' matters were the domain of new United Nations **Specialized Agencies**, like the Food and Agriculture Organization, but were hardly central to diplomacy at the UN General Assembly (UNGA) in New York. This neglect was reflected in academic writing at the time, as exemplified by Hans J. Morgenthau's famous text, *Politics among Nations* (1955), which mentions the natural environment only as a fixed contextual factor or a constituent of national power.

However, the salience of environmental issues grew in the 1960s, and in 1968 the UNGA accepted a Swedish proposal for what became the 1972 UN Conference on the Human Environment (UNCHE) 'to focus governments' attention and public opinion on the importance and urgency of the question'. This Conference led to the creation of the United Nations Environment Programme (UNEP) and the establishment of environment departments by many governments. Yet it was already clear that, for the countries of the South, constituting the majority in the UNGA, environmental questions could not be separated from their demands for development, aid, and the restructuring of international economic relations. This was the political context surrounding the emergence of the concept of **sustainable development** (also see Ch. 28) but before this was formulated by the Brundtland Commission in 1987 (WCED 1987), the environment had been pushed to the periphery of the international agenda by the global economic downturn of the 1970s and then the onset of the second cold war (see Ch. 3).

Environmental degradation continued none the less. Awareness of new forms of transnational pollution, such as 'acid rain', joined existing concerns over point-source pollution (when the pollutant comes from a definite source), followed by a dawning scientific realization that some environmental problems—the thinning of the stratospheric ozone layer and the possibility of climate change—were truly global in scale. The attendant popular concern over such issues and the relaxation of East–West tension created the opportunity for a second great UN conference, for which the connection between

Box 21.1 Chronology

1946	International Convention for the Regulation of Whaling
1955	UK Clean Air Act to combat 'smog' in British cities
1958	International Convention for the Prevention of Pollution of the Sea by Oil
1959	Antarctic Treaty
1962	Rachel Carson publishes Silent Spring
1967	Torrey Canyon oil tanker disaster
1969	Greenpeace founded
1971	At the Founex Meeting in Switzerland, Southern experts formulated a link between environment and development
1972	United Nations Conference on the Human Environment (UNCHE) in Stockholm
	Establishment of the United Nations Environment Programme (UNEP)
1973	MARPOL Convention on oil pollution from ships
	Convention on International Trade in Endangered Species (CITES)
1979	Long Range Transboundary Air Pollution Convention (LRTAP)
1980	Convention on the Conservation of Antarctic Marine Living Resources
1982	UN Law of the Sea Convention (enters into force in 1994)
1984	Bhopal chemical plant disaster
1985	Vienna Convention for the Protection of the Ozone Layer. The Antarctic 'ozone hole' confirmed
1986	Chernobyl nuclear disaster
1987	Brundtland Commission Report
	Montreal Protocol on Substances that Deplete the Ozone Layer
1988	Establishment of the Intergovernmental Panel on Climate Change (IPCC)
1989	Basel Convention on the Transboundary Movement of Hazardous Wastes
1991	Madrid Protocol (to the Antarctic Treaty) on Environmental Protection
1992	United Nations Conference on Environment and Development (UNCED) held at Rio de Janeiro. Publication of the Rio Declaration and Agenda 21. United Nations Conventions on Climate Change (UNFCCC) and Biological Diversity (CBD) both signed. Establishment of the Commission on Sustainable Development (CSD)
1995	World Trade Organization (WTO) founded
1997	Kyoto Protocol to the UNFCCC
1998	Rotterdam Convention on Hazardous Chemicals and Pesticides
	Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters
2000	Cartagena Protocol on Biosafety
	Millennium Development Goals set out
2001	US President Bush revokes signature of the Kyoto Protocol
2002	World Summit on Sustainable Development (WSSD), Johannesburg. Johannesburg Plan of Implementation
2005	Entry into force of the Kyoto Protocol and introduction of the first international emissions trading system by the European Union
2006	International discussions commenced on the climate change regime after 2012
2007	Fourth Assessment Report of the IPCC, Bali CoP produces a 'road map' for climate negotiations
2009	Copenhagen climate CoP fails to provide a new international agreement

environment and development had been explicitly drawn through the Brundtland Commission's notion of sustainable development. Though subject to many subsequent interpretations, its political essence remains an accommodation between the environmental concerns of developed states and the development demands of the South, without which there could have been no Earth Summit and no Rio process.

The 1992 UN Conference on Environment and Development (UNCED) or 'Earth Summit' was the largest international conference held so far, raising the profile of the environment as an international issue while concluding several significant documents and agreements, such as *Agenda 21* and international conventions on climate change and the preservation of biodiversity. The event's underlying politics were captured in its title—a conference on 'environment and development'—where the most serious arguments concerned aid pledges to finance the environmental improvements under discussion. A process was created at the UN to review the implementation of the Rio agreements, including meetings of the new Commission on Sustainable Development (CSD) and a Special Session of the UNGA in 1997.

On UNCED's tenth anniversary in 2002, the World Summit on Sustainable Development (WSSD) was held in Johannesburg. The change of wording indicated how

Box 21.2 Sustainable development

Over 50 separate definitions of sustainable development have been counted. Its classic statement was provided by the 1987 Brundtland Commission Report:

> Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.
>
> *(Brundtland et al. 1987: 43)*

Behind it lay an explicit recognition of limitations to future growth that were social, technological, and environmental. In addressing them, emphasis was placed upon needs, and the highest priority was given to those needs experienced by the world's poor. Central to the concept was the idea of fairness between generations as well as between the rich and poor currently inhabiting the planet.

By the time of the 2002 World Summit the concept had been subtly altered:

> to ensure a balance between economic development, social development and environmental protection as interdependent and mutually reinforcing components of sustainable development.
>
> *(UNGA, A/57/532/add.1, 12 December 2002)*

Ensuring environmental sustainability, by integrating sustainable development principles into national decision-making, was the seventh of eight UN Millennium Development Goals agreed in 2000.

conceptions of environment and development had shifted since the 1970s. Now discussion was embedded in recognition of the importance of globalization and of the dire state of the African continent. **Poverty** eradication was clearly emphasized, along with practical progress in providing clean water, sanitation, and agricultural improvements. One controversial element was the role to be played in such provision by private–public sector partnerships.

While the UN conferences marked the stages by which the environment entered the international political mainstream, they also reflected underlying changes in the scope and perception of environmental problems. As scientific understanding expanded, it was becoming a commonplace, by the 1980s, to speak in terms of global environmental change, as most graphically represented by the discovery of the 'ozone hole' and the creeping realization that human activities might be dangerously altering the global climate itself.

Alongside actual environmental degradation and advances in scientific knowledge, the international politics of the environment has responded to the issue-attention cycle in developed countries, peaking at certain moments and then declining. The causes are complex and during the 1960s reflected the counter-cultural and radical movements of the time along with wider public reactions to a series of trends and events. The most totemic of these was Rachel Carson's hugely influential book *Silent Spring* (1962), which powerfully conjoined the conservationist and anti-pollution agendas by highlighting the damage inflicted upon bird-life by industrial pesticides like DDT. Well-publicized environmental disasters, such as the 1959 mercury poisoning at Minimata in Japan and the 1967 wreck of the *Torrey Canyon* oil tanker close to Cornish beaches, fed public concern. The failure of established political parties to embrace these issues effectively encouraged the birth of several new high-profile NGOs—Friends of the Earth, Greenpeace, and the World Wildlife Fund for Nature—alongside more established pressure groups such as the US Sierra Club and the British Royal Society for the Protection of Birds. The interest in environmental action at the international level and, indeed, most of the NGOs exerting pressure to this end were an almost exclusively developed world phenomenon. Public attention then receded until the ending of the second cold war coincided with a new concern over global environmental problems, providing the political impetus for the 1992 Earth Summit. Interest waned again during the ensuing decade, although by 2005–6 public alarm over the impact of climate change again propelled environmental issues up the political agenda. The demand was, of course, for international action and governance, but what exactly did this mean? The next section attempts to answer this question by reviewing the functions of international environmental cooperation.

Key Points

- In the late nineteenth and early twentieth centuries international environmental politics was strictly limited, but from around 1960 its scope expanded as environmental problems acquired a transnational and then a global dimension.
- The process was reflected in and stimulated by the three great UN conferences of 1972, 1992, and 2002, whose most important role was to make the connection between the international environmental and development agendas, as expressed in the important concept of sustainable development.
- International environmental politics reflected the issue-attention cycle in developed countries and relied heavily on increasing scientific knowledge.

The functions of international environmental cooperation

International cooperation establishes governance regimes to regulate transboundary environmental problems and sustain the global commons. Regimes encompass more than formal agreements between states, although these are very important (see Ch. 18). Moreover, there are other functions and consequences of international cooperation beyond regime formation.

The pursuit of **power**, status, and wealth is rarely absent from international deliberations. This is often neglected in discussions of international environmental cooperation, even though many of the great international gatherings and even some of the more mundane ones clearly reflect struggles for national and organizational advantage. Organizations seek to maintain their financial and staff resources as well as their place within the UN system. UNEP, for example, despite extensive debates over granting it the higher and more autonomous status of a UN Specialized Agency, remains a mere programme. Some suspect that much of the activity at international environmental meetings is simply to issue declarations convincing domestic publics that something is being done, even if environmental conditions continue to deteriorate.

Box 21.3 Trade and the environment

The issue of the relationship between trade and environmental degradation is much broader than disputes over the relationship between the World Trade Organization (WTO) and particular multilateral environmental agreements (MEAs). Globalization is partly shaped by the efforts of the GATT/WTO to open up protected markets and expand world trade. Many green activists argue that trade itself damages the environment by destroying local sustainable agriculture and by encouraging the environmentally damaging long-range transport of goods. The rearrangement of patterns of production and consumption has indeed been one of the hallmarks of globalization. Liberal economists and apologists for the WTO claim that if the 'externalities', such as the pollution caused, can be factored into the price of a product, then trade can be beneficial to the environment through allowing the most efficient allocation of resources. In this view, using trade restrictions as a weapon to promote good environmental behaviour would be unacceptable and, indeed, the rules of the WTO allow only very limited restrictions to trade on environmental grounds (GATT XXg) and certainly not on the basis of 'process and production methods'. A number of trade dispute cases have largely confirmed that import controls cannot be used to promote more sustainable or ethical production abroad, including the famous 1991 GATT Tuna–Dolphin case which upheld Mexican and EC complaints against US measures blocking imports of tuna caught with the methods that kill dolphins as by-catch. Developing-country governments remain resistant to green trade restrictions as a disguised form of protection for developed world markets.

Transboundary trade and pollution control

When animals, fish, water, or pollution cross national frontiers, the need for international cooperation arises and the regulation of transboundary environmental problems is the longest-established function of international cooperation, reflected in hundreds of multilateral, regional, and bilateral agreements providing for joint efforts to manage resources and control pollution. Prominent examples of multilateral environmental agreements (MEAs) include the 1979 Long Range Transboundary Air Pollution convention and its various protocols and conventions governing such things as the cross-border movement of hazardous waste and chemicals.

Controlling, taxing, and even promoting trade has always been one of the more important functions of the state, and trade restrictions can also be used as an instrument for nature conservation, as in the 1973 Convention on International Trade in Endangered Species (CITES). The use of trade penalties and restrictions by MEAs has been a vexed issue when the objective of environmental protection has come into conflict with the rules of the GATT/World Trade Organization (WTO) trade regime (see Ch. 15). Such a problem arose when the international community attempted to address the controversial question of the new biotechnology and genetically modified organisms (GMOs) by developing the 2000 Cartagena Protocol to the UN Convention on Biodiversity. Opponents argued that attempts to regulate the movement of GMOs was an attempt to disguise protectionism rather than to safeguard the environment and human health. Whether the WTO trade rules should take precedence over the emerging biosafety rules was debated at length until the parties agreed to avoid the issue by providing that the two sets of rules should be 'mutually supportive'. The background to such arguments is a wider debate about the relationship between trade and the environment.

Norm creation

The development of international environmental law and associated **norms** of acceptable behaviour has been both rapid and innovative over the last thirty years. Some are in the form of quite technical policy concepts that have been widely disseminated and adopted as a result of international discussion. The precautionary principle has gained increasing but not uncritical currency. Originally coined by German policy-makers, this principle states that where there is a likelihood of environmental damage, banning an activity should not require full and definitive scientific proof. (This was a critical issue in the discussions on GMOs mentioned above.) Another norm is that governments should give 'prior informed consent' to potentially damaging imports.

The UN Earth Summits were important in establishing environmental norms. The 1972 Stockholm Conference produced its 'Principle 21', which combines **sovereignty** over national resources with state responsibility for external pollution. This should not be confused with *Agenda 21*, issued by the 1992 Rio Earth Summit, a complex 40-chapter document of some 400 pages that took two years to negotiate in UNCED's Preparatory Committee. *Agenda 21* was frequently derided, not least because of its non-binding character, but this internationally agreed compendium of environmental 'best practice' subsequently had a wide impact and remains a point of reference. For example, many local authorities have produced their own 'local Agenda 21s'. Under the Aarhus Convention (1998), North American and European governments agreed to guarantee to their publics a number of environmental rights, including the right to obtain environmental information held by governments, to participate in policy decisions, and to have access to judicial processes.

Capacity building

Although not a specific norm of the type dealt with above, **sustainable development** provides a normative framework reflecting an underlying deal between developed and developing worlds. Frequent North–South arguments since Rio about the levels of aid and technology transfer that would allow developing countries to achieve sustainable development have seen many disappointments and unfulfilled pledges. In 1991, UNEP, UNDP, and the World Bank created the Global Environmental Facility (GEF) as an international mechanism specifically for funding environmental projects in developing countries. In 2003–6 it attracted donations of around US$3 billion. Most environmental conventions now aim at **capacity building** through arrangements for the transfer of funds, technology, and expertise, because most of their member states simply lack the resources to participate fully in international agreements. The stratospheric ozone and climate change regimes aim to build capacity and could not exist in their current form without providing for this function.

Scientific understanding

International environmental cooperation relies upon shared scientific understanding, as reflected in the form of some important contemporary environmental regimes. An initial framework **convention** will signal concern and establish mechanisms for developing and sharing new scientific data, thereby providing the basis for taking action in a control protocol. Generating and sharing scientific information has long been a function of international cooperation in such public bodies as the World Meteorological Organization (WMO) and myriad academic organizations such as the International Council for the Exploration of the Seas (ICES) and the International Union for the Conservation of Nature (IUCN). Disseminating scientific information on an international basis makes sense, but it needs funding from governments because, except in areas like pharmaceutical research, the private sector has no incentive to do the work. International environmental regimes usually have standing scientific committees and subsidiary bodies to support their work. Perhaps the greatest international effort to generate new and authoritative scientific knowledge has been in the area of climate change, through the Intergovernmental Panel on Climate Change (IPCC) (see Box 21.6 below).

Governing the commons

The global commons are usually understood as areas and resources that do not fall under sovereign jurisdiction—they are not owned by anybody. The high seas and the deep ocean floor come within this category (beyond the 200-mile exclusive economic zone), as does Antarctica (based upon the 1959 Antarctic Treaty). Outer space is another highly important common, its use being vital to modern telecommunications, broadcasting, navigation, and surveillance. Finally, there is the global atmosphere.

The commons all have an environmental dimension, as resources but also as 'sinks' that have been

Box 21.4 The tragedy of the commons—

Many writers, including Garrett Hardin (1968), who coined the term 'tragedy of the commons', have observed an inherent conflict between individual and collective interest and **rationality** in the use of property that is held in common. Hardin argued that individual actions in exploiting an 'open access' resource will often bring collective disaster as the pasture, fish stock (common pool), or river (common sink) concerned suffers ecological collapse through over-exploitation. Of course, no problem will be perceived if the 'carrying capacity' of the common is sufficient for all to take as much as they require, but this is rarely now the case due to the intensity of modern exploitation and production practices, and recent scientific advances have sharpened humankind's appreciation of the full extent of the damage imposed on the earth's ecosystems. Hardin's solution to the dilemma—enclosure of the commons through privatization or nationalization—has only limited applicability in the case of the global commons, for two main reasons: it is physically or politically impossible to enclose them; and there is no central world government to regulate their use.

increasingly degraded. The fish and whale stocks of the high seas have been relentlessly over-exploited to the point where some species have been wiped out and long-term protein sources for human beings are imperilled. The ocean environment has been polluted by land-based effluent and oil, and other discharges from ships. It has been a struggle to maintain the unique wilderness of the Antarctic in the face of increasing pressure from human beings, and even outer space now faces an environmental problem in the form of increasing amounts of orbital debris left by decades of satellite launches. Similarly, the global atmosphere has been degraded in a number of highly threatening ways, through damage to the stratospheric ozone layer and, most importantly, by the enhanced greenhouse effect now firmly associated with changes to the earth's climate. This is often characterized as a 'tragedy of the commons'. Where there is unrestricted access to a resource owned by no one, there will be an incentive for individuals to grab as much as they can and, if the resource is finite, there will come a time when it is ruined by over-exploitation as the short-term interests of individual users overwhelm the longer-run collective interest in sustaining the resource.

Within the jurisdiction of governments it may be possible to solve the problem by turning the common into private property or nationalizing it, but for the global commons such a solution is, by definition, unavailable. Therefore the function of international cooperation in this context is the very necessary one of providing a substitute for **world government** to ensure that global commons are not misused and subject to tragic collapse. This has been done through creating regimes for the governance of the global commons, which have enjoyed varying degrees of effectiveness. Many of the functions discussed above can be found in the global commons regimes, but their central contribution is a framework of rules to ensure mutual agreement between users about acceptable standards of behaviour and levels of exploitation, consistent with sustaining the ecology of the commons.

Enforcement poses difficult challenges due to the incentives for users to 'free ride' on these arrangements by taking more than a fair share, or refusing to be bound by the collective arrangements. This can potentially destroy regimes because other parties will then see no reason to restrain themselves either. In local commons regimes, inquisitive neighbours might deter rule-breaking, and a similar role at the international level can be performed by NGOs. However, it is very difficult to enforce compliance with an agreement on the part of sovereign states, even when they have undertaken to comply—a fundamental difficulty for international law and hardly unique to environmental regimes (see Ch. 17). Mechanisms have been developed to cope with this problem, but how effective they, and the environmental regimes to which they apply, can be is hard to judge, as this involves determining the extent to which governments are in legal and technical **compliance** with their international obligations. Moreover, it also involves estimating the extent to which state behaviour has actually been changed as a result of the international regime concerned. Naturally, the ultimate and most demanding test of the effectiveness of global commons regimes is whether or not the resources or ecologies concerned are sustained or even improved.

For the Antarctic, a remarkably well-developed set of rules designed to preserve the ecological integrity of this last great wilderness has been devised within the framework of the 1959 Treaty. The Antarctic regime is a rather exclusive club: the Treaty's 'Consultative Parties' include the states that had originally claimed sovereignty over parts of the area, while new members

Box 21.5 The Montreal Protocol and stratospheric ozone regime

The consequences of the thinning of stratospheric ozone layer include excessive exposure to UV/B radiation resulting in increased rates of skin cancer for human beings and damage to immune systems. Stratospheric ozone depletion arose from a previously unsuspected source—artificial chemicals containing fluorine, chlorine, and bromine, which were involved in chemical reaction with ozone molecules at high altitudes. Most significant were the CFCs (chlorofluorocarbons), which had been developed in the 1920s as 'safe' inert industrial gases and which had been blithely produced and used over the next fifty years for a whole variety of purposes from refrigeration to air-conditioning and as propellants for hair spray. There was no universal agreement on the dangers posed by these chemicals and production and use continued—except, significantly, where the US Congress decided to ban some non-essential uses. This meant that the US chemical industry found itself under a costly obligation to find alternatives. As evidence on the problem began to mount, UNEP acted to convene an international conference in Vienna. It produced a 'framework convention'—the 1985 Vienna Convention on substances that deplete the stratospheric ozone layer—agreeing that international action might be required and that the parties should continue to communicate and develop and exchange scientific findings. These proved to be very persuasive, particularly with the added public impetus provided by the dramatic discovery of the Antarctic 'ozone hole'.

Within two years the Montreal Protocol was negotiated. In it the parties agreed to a regime under which the production and trading of CFCs and other ozone-depleting substances would be progressively phased out. The developed countries achieved this for CFCs by 1996 and Meetings of the Parties (**MoP**) have continued to work on the elimination of other substances since that time. There was some initial resistance from European chemical producers, but the US side had a real incentive to ensure international agreement because otherwise its chemical industry would remain at a commercial disadvantage. The other problem faced by the negotiators involved the developing countries, which themselves were manufacturing CFC products. As the Indian delegate put it, it was the developed countries' mess and their responsibility to clear it up! Why should developing countries be forced to change over to higher cost CFC alternatives? There were two responses to this. The first was an article in the Protocol giving the developing countries a period of grace. The second was a fund, set up in 1990, to finance the provision of alternative non-CFC technologies for the developing world.

Illegal production and smuggling of CFCs was evident in the 1990s. This tested the monitoring and compliance systems of the Protocol (which included a possible use of trade sanctions against offenders). None the less, the regime has generally proved to be effective and has continually widened the scope of its activities to deal with further classes of ozone-depleting chemicals. The damage to the ozone layer will not be repaired until the latter part of the twenty-first century, given the long atmospheric lifetimes of the chemicals involved. However, human behaviour has been significantly altered to the extent that the scientific subsidiary body of the Montreal Protocol has been able to report a measurable reduction in the atmospheric concentration of CFCs.

of the club have to demonstrate their involvement in scientific research on the frozen continent. Antarctic science was crucial to the discovery of a problem that resulted in what is perhaps the best example of effective international action to govern the commons. In 1985, a British Antarctic Survey balloon provided definitive evidence of serious thinning of the stratospheric ozone layer. A diminishing ozone layer is a global problem *par excellence*, because it protects the earth and its inhabitants from the damaging effects of the sun's UV/B radiation. A framework convention was signed about the issue in 1985, followed in 1987 by the Montreal Protocol, imposing international controls over ozone-depleting chemicals. The further evolution of the ozone layer regime offers the paramount example of how international cooperation can achieve an effective solution to a global environmental problem. The problem's causes were isolated, international support was mobilized, compensatory action was taken to ensure that developing countries participated, and a set of rules and procedures was developed that proved to be effective, at least in reducing the concentration of the offending chemicals in the atmosphere, if not yet fully restoring the stratospheric ozone layer.

Key Points

- International environmental meetings serve several political objectives alongside environmental aims.
- A key function of international cooperation is transboundary regulation but attempts at environmental action may conflict with the rules of the world trade regime.
- International action is needed to promote environmental norms, develop scientific understanding, and assist the participation of developing countries.
- International cooperation is necessary to provide governance regimes for the global commons.

Climate change

Unlike the ozone layer problem, climate change and the enhanced greenhouse effect had long been debated among scientists, but only in the late 1980s did sufficient international consensus emerge to stimulate action. There were still serious disagreements over the likelihood that human-induced changes in mean temperatures were altering the global climate system. The greenhouse effect is essential to life on earth. Greenhouse gases (GHGs) in the atmosphere (see Fig. 21.2) insulate the earth's surface by trapping solar radiation. Before the Industrial Revolution, carbon dioxide concentrations in the atmosphere were around 280 parts per million, and have since grown exponentially (to a 2005 figure of 379 ppm) due to burning of fossil fuels and reductions in some of the 'sinks' for carbon dioxide—notably forests. Methane emissions have also risen with the growth of agriculture (IPCC 2007: 11). The best predictions of the IPCC are that, if nothing is done to curb intensive fossil fuel emissions, there will be a likely rise in mean temperatures of the order of 2.4–6.4 °C by 2099. The exact consequences of this are difficult to predict on the basis of current climate modelling, but sea-level rises and turbulent weather are generally expected. According to the EU, to avoid climate catastrophe, it would be necessary to hold temperature increases below 2 °C by keeping atmospheric CO_2 concentrations below 550 ppm. These figures remain subject to international disagreement with small island states, threatened with inundation, demanding a lower threshold. In the first decade of the twenty-first century, unusual weather patterns, storm events, and the melting of polar ice sheets have added a dimension of public concern to the fears expressed by the scientific community.

As a commons problem, climate change is on a quite different scale from anything that the international system has previously encountered. Climate change is really not a 'normal' international environmental problem—it threatens huge changes in living conditions and challenges existing patterns of energy use and security. There is almost no dimension of international relations that it does not actually or potentially affect, and it has already become the subject of 'high politics', discussed at **G8** summits and in high-level meetings between political leaders.

One way of examining the dimensions of the problem and the steps taken at the international level to respond to the threat is to make a comparison with the stratospheric ozone problem discussed in the previous section. There are, of course, some similarities. CFCs (chlorofluorocarbons) are in themselves greenhouse gases and the international legal texts on climate change make it clear that controlling them is the responsibility of the Montreal Protocol. The experience with stratospheric ozone and other recent conventions has clearly influenced efforts to build a climate change regime based on a framework convention followed by a protocol.

The UN Framework Convention on Climate Change (UNFCCC) was signed at the Rio Earth Summit in 1992. It envisaged the reduction of greenhouse gas emissions and their removal by sinks, hoping that a start could be made by including a commitment from the developed nations to cut their emissions back to 1990 levels by 2000. In a US election year this proved to be impossible and the parties had to be content with a non-binding declaration that an attempt would be made. There was a binding commitment, however, for parties to draw up national inventories of sources and sinks. As this included the developing nations, many of whom were ill equipped to fulfil this obligation, there was also funding for capacity building. Most importantly, the convention locked the parties into holding a continuing series of annual conferences—the **CoPs**—to consider possible actions and review the adequacy of existing commitments, supported by regular meetings of the subsidiary scientific and implementation bodies. By the second CoP in Kyoto in 1997, the parties agreed a 'control' measure—the Kyoto Protocol involving emissions reductions be developed countries facilitated by 'flexibility mechanisms'.

The problem faced by the framers of the Kyoto Protocol was vastly more complex and demanding than that which their counterparts at Montreal had confronted so successfully in 1987. Instead of controlling a single set of industrial gases for which substitutes were available, reducing greenhouse gas emissions would involve energy, transport, and agriculture—the fundamentals of life in modern societies. Whether this must involve real sacrifices in living standards and 'impossible' political choices is a tough question for governments, although there are potential economic benefits from cutting emissions through the development of alternative energy technologies.

A second key difference from the ozone regime experience was that, despite the unprecedented international scientific effort of the IPCC, there was no scientific consensus of the kind that had promoted agreement on CFCs. Scientific disagreement over the significance of human activities and projections of future change have since narrowed dramatically, but there are still those who have an interest in denying or misrepresenting the science. Mistakes by the IPCC and its contributors have also damaged its authority. There is a further problem in that, even though the effects of climate change are not fully understood, there is enough evidence for some nations to calculate that there might be benefits to them from climatic alterations. Regions of Russia, for example, might become more temperate with rises in mean temperature and more suitable for agricultural production (although one could equally well argue the extremely damaging effects of melting permafrost in Siberia). One generalization that could be made with certainty is that it is the developing nations, with limited infrastructure and major populations located at sea level, that are most vulnerable. In recognition of this and on the understanding that a certain level of warming is now inevitable, international attention has begun to shift towards the problem of adaptation to the inevitable effects of climate change as well as mitigation of its causes. Once again, the comparative simplicity of the stratospheric ozone problem is evident—the effects of ozone depletion were spread across the globe and affected North Europeans as well as those living in the southern hemisphere.

At the heart of the international politics of climate change as a global environmental problem is the structural divide between North and South (see Chs 8 and 28). For the Montreal Protocol there was a solution available at an acceptable price, delivered through the Multilateral Ozone Fund. Once again, climate change is different. One of the most significant **principles** set out in the UNFCCC was that of common but differentiated responsibilities. That is to say that, while climate change was the 'common concern' of all, it had been produced

Box 21.6 The Intergovernmental Panel on

Set up in 1988 under the auspices of the World Meteorological Organization (WMO) and UNEP, the Intergovernmental Panel on Climate Charge (IPCC) brings together the majority of the world's climate change scientists in three working groups: on climate science, impacts, and economic and social dimensions. They have produced assessment reports in 1990, 1995, and 2001, which are regarded as the authoritative scientific statements on climate change. The reports are carefully and cautiously drafted with the involvement of government representatives and represent a consensus view.

The Fourth Assessment Report, published in February 2007, concluded that 'warming of the climate system is unequivocal, as is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice and rising global sea level' (IPCC 2007: 4). Most of the temperature increase 'is *very likely* due to the observed increase in anthropogenic greenhouse gas concentrations' (*ibid.*: 8, original italics). The use of words is significant here for the IPCC defines '*very likely*' as being more than 90 per cent certain. This represents a change from the previous report which had only estimated that human activity was '*likely*' or more than 66 per cent certain to be responsible for temperature increases.

Figure 21.2 Greenhouse gas contributions to global warming

Box 21.7 The Kyoto Protocol

The 1997 Kyoto Protocol to the UN Framework Convention on Climate Change commits the developed countries to make an average of a 5.2 per cent cut in their greenhouse gas emissions from a 1990 baseline. Within this, different national targets were negotiated: for example, 7 per cent for the USA and 8 per cent for the European Union (EU). These were to be achieved by the first commitment period—2008–12.

The Kyoto mechanisms

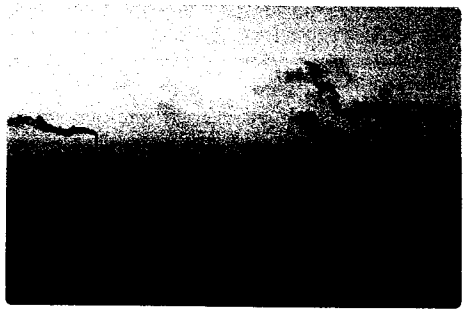
In order to provide flexible ways of achieving these targets, three mechanisms were also agreed:

1 **Emissions Trading**. This envisages a system where a market in rights to pollute is created. For example, efficient power plants can sell their permits to emit carbon dioxide to others and a long-term reduction in the number of permits available will mean that the price of carbon rises, alternative power sources become more competitive, and the overall amount of carbon dioxide emitted is reduced.

2 **Joint Implementation (JI)**. Under this mechanism a developed country can receive credits against its own emissions reduction target by financing projects in another developed country. The argument is that a given amount of money is best spent where it can achieve the greatest reduction in world emissions of greenhouse gases. Countries with very efficient power plants will have an incentive to use this scheme.

3 **The Clean Development Mechanism (CDM)**. Applies the same principle to relations between developed and developing countries. This has already stimulated a good deal of interest in China and elsewhere because it is a source of new funds and technology transfer.

Case Study Common but differentiated responsibilities?



A key principle of the climate change regime, written into the 1992 UNFCCC, was the notion of 'common but differentiated responsibilities'. This, in effect, meant that although all nations had to accept responsibility for the world's changing climate, it was developed nations that were immediately responsible because they had benefited from the industrialization which was generally regarded as the source of the excess carbon dioxide emissions that had caused mean temperature increases (refer to Fig. 21.1).

Consider the relationship between national carbon dioxide emissions and share of global population in the 1990s. The USA emited around 25 per cent of the global total but has only 4.5 per cent of global population. Chinese figures were 14 per cent but with over 20 per cent of the world's population while the 35 least developed nations emitted under 1 per cent and account for over 10 per cent of the world's population.

Accordingly, the developed countries were listed in Annex I of the Convention and it was agreed that they, rather than developing countries, would have to lead the way in making emissions reductions.

This approach was followed in the Kyoto Protocol, where only developed-country parties are committed to make reductions. Even before the Protocol was agreed, the US Senate passed the Byrd-Hagel Resolution making it clear that it would not ratify any agreement where developing nations, who were now economic competitors of the USA, did not also have to make emissions reductions.

The future of the climate change regime

In 2004 the International Energy Agency estimated that emissions would rise by 62 per cent by 2030 but, most significantly, that at some point in the 2020s developing-world emissions would overtake those of the developed OECD countries. It therefore became clear that to have any chance of success, the future climate change regime would have to include emissions reductions by countries such as China and India. The situation is complicated by the fact that although China's emissions may now exceed those of the USA, its share of accumulated emissions is much less and, in any case, under globalization, a substantial part of its total is accounted for by industrial production displaced from developed countries. The fundamental question is: on what basis should countries be asked to reduce their emissions? The most radical and equitable answer would be to give each individual a fixed carbon allowance, probably allowing rich people to maintain something of their lifestyle by buying the allowances of the poor. A more likely alternative is to find ways of creating and then raising a global carbon price such that utilizing alternatives to fossil fuel becomes an economically attractive development path.

as a consequence of the development of the old industrialized nations and it was their responsibility to take the lead in cutting emissions.

The achievement at Kyoto was to bind most of the developed nations to a set of emissions cuts that varied (see Box 21.7). This achieved at least part of the objectives of the European Union, but it was soon seen to be wholly inadequate in terms of the projected scale of the global warming problem. In return, the European Union accepted the US proposal for the Kyoto mechanisms and has since become their enthusiastic champion. When the Bush administration renounced the Kyoto Protocol in 2001, declaring adherence impossibly damaging to the US economy, much of the burden of ensuring that Kyoto eventually entered into force fell upon the EU and tested the diplomatic capabilities of this new type of international actor and its component member states. The EU also pioneered the world's first international emissions trading system, both to achieve the EU's Kyoto target of an 8 per cent reduction in emissions by 2012 and to encourage other countries to join the scheme.

The climate regime has been afflicted by the 'free rider' problem. If some countries join together and agree to make cuts that are costly, then others who do not can enjoy the environmental benefits of such action without paying. Thus, proceeding without the USA has been very difficult, not only because it produces around one-quarter of global carbon dioxide emissions, but also because its failure to be involved affects the willingness of others to participate, and particularly the fast-developing economies of the South.

In 2007, at the Bali CoP, the problem of US participation was addressed by a 'road map' in which parallel negotiations were set up on the future of the Convention and the Protocol, with the USA absent from the latter. The intention was to achieve a new agreement by the 2009 Copenhagen CoP, and the EU and other developed countries made pledges of future emissions reductions. Hopes were raised by the arrival of President Obama

and his commitment to climate legislation in the USA, although not to the Kyoto Protocol. Developing countries continued to demand the retention of Kyoto and substantial financial aid to assist them with mitigation and adaptation, while China and India offered more efficient use of fossil fuels but not actual reductions in their projected emissions. No new binding climate treaty was agreed. Instead, the Conference noted the Copenhagen Accord, agreed at the last minute by the USA and the large developing countries. The Accord recognizes the need to hold mean temperature increases below 2° C. It does not represent an extension of Kyoto, although its Parties agree to 'strengthen emissions reductions initiated under the Protocol'. The Annex I countries made a series of pledges to cut emissions by 2020: the EU 20 per cent or 30 per cent (conditional), Japan 25 per cent, both against a 1990 baseline: the USA and Canada, 17 per cent against a 2005 baseline. For the developing non-Annex I countries there were voluntary pledges. China and India promised to attempt to reduce the carbon intensity of their rising emissions by 40–45 per cent and 20–25 per cent respectively. Two positive aspects were agreement on a scheme to reduce emissions from the destruction and degradation of forests (REDD) and a related move to set up a large climate fund with contributions from Annex I countries rising to $100 billion per annum. Its purpose would be to assist the developing countries with mitigation of their emissions and adaptation to the effects of climate change. The Copenhagen Accord, which will be reviewed in 2015, sets an agenda for the development of the climate regime. There is probably no more urgent or important task for international cooperation.

Key Points

- Climate change, because of its all-embracing nature and its roots in essential human activities, poses an enormous challenge for international cooperation.
- A limited start was made with the Kyoto regime, but this was undermined by the absence of the USA. Although the 2009 Copenhagen Conference was a disappointment to climate activists, a start was made in involving the major economies of the South in a new regime.

The environment and International Relations theory

The academic study of the international relations of the environment has naturally tried to understand the circumstances under which potentially effective international cooperation can occur. The preceding discussion of climate change shows that this question remains important. Most scholars have used the concept of regime as explained in Chapter 18. Note, for instance, how the defining characteristics of regimes—principles, norms, **rules** and **decision-making procedures**—can be applied to the environmental cases mentioned in this chapter (see also Ch. 9). Those who try to explain the record of environmental regimes tend to adopt a liberal institutionalist stance, stressing as a key motivating factor the joint gains arising from cooperative solutions to the problem of providing public goods such as a clean atmosphere (see Chs and 7). One important addition to the regime literature, made by scholars of environmental politics, reflects the importance of scientific knowledge and the roles of NGOs in this area. Whereas orthodox regime approaches assume that behaviour is based on the pursuit of power or interest, students of international environmental cooperation have noted the independent role played by changes in knowledge (particularly scientific understanding). This cognitive approach is reflected in studies of the ways in which transnationally organized groups of scientists and policy-makers—often referred to as **epistemic communities**—have influenced the development of environmental regimes (see Ch. 9).

Liberal institutionalist analysis of regime creation may still be the predominant IR approach to global environmental change, but it is not the only one. It makes the important, but often unspoken, assumption that the problem to be solved is how to obtain global governance in a fragmented system of sovereign states. Marxist and Gramscian writers would reject this formulation (see Ch. 8). For them, the **state system** is part of the problem rather than the solution, and the proper object of study is the way in which global **capitalism** reproduces relationships that are profoundly damaging to the environment. The global spread of neo-liberal policies accelerates those features of globalization—consumerism, the relocation of production to the South, and the thoughtless squandering of resources—driving the global ecological crisis (see Ch. 28). Proponents of this view also highlight the incapacity of the state to do anything other than assist such processes. It follows that

the international cooperation efforts described here at worst legitimize this state of affairs and at best provide some marginal improvements to the devastation wrought by global capitalism. For example, they would point to how free market concepts are now routinely embedded in discussions of sustainable development and how the WTO rules tend to subordinate attempts to provide environmental regulation of GMOs. This argument is part of a broader debate among political theorists concerning whether the state can ever be 'greened'. The opposing view would be that within any time frame that is relevant to coping with a threat of the immediacy and magnitude of climate change, the state and international cooperation remain the only plausible mechanisms for providing the necessary global governance, and we shall simply have to do the best we can with existing state and international organizational structures.

The other theoretical connection that must be made is to the pre-eminent concern of orthodox IR—**security** (see Ch. 14). This link can be thought of in two ways. First, it is argued that environmental change contributes to the incidence of both internal conflict and even inter-state war, even though the causal connections are complex and involve many factors. It is already evident that desertification and the degradation of other vital resources are intimately bound up with cycles of poverty, destitution, and war in Africa. However, if we consider such predicted consequences of climate change as mass migrations of populations across international boundaries and acute scarcity of water and other resources, the outlines of potential future conflicts come into sharper focus (see Chs 28 and 29).

The link between environmental change and armed conflict is essentially an extension of traditional thinking about security, defined in terms of collective violence and attacks upon the state. A more intriguing question is whether we should now redefine the idea of security to encompass environmental threats as well as those stemming from **terrorism** and war (see Ch. 14). As the public becomes more sharply aware of the full magnitude of the climate problem, political discourse begins to 'securitize' the environment, that is, to characterize the environment as a security problem. Because governments usually prioritize security matters, people wishing to mobilize political attention and resources, and encourage potentially painful societal adaptation, will be tempted to stretch traditional definitions of security.

Key Points

- The environment has been a growth area for IR scholars interested in identifying the conditions under which effective international cooperation can emerge.
- Scholars differ in the importance that they attach to various kinds of explanatory factors in their analyses of international environmental regime-building activities—crude calculations of the power and interests of key actors such as states, cognitive factors such as shared scientific knowledge, the impact of non-governmental actors, and even the extent to which the system of states is itself part of the problem.
- IR scholars are also interested in the extent to which the environment in general and particular environmental problems are now being seen as security issues in academic, political, and popular discourse, and whether this securitization of the environment is something to be welcomed.

Conclusion

This chapter has shown, briefly, how environmental issues have moved from the margins to an increasingly central place on the international agenda. Climate change is now widely perceived to be at least the equal of any other issue and arguably the most important faced by humankind. The rise to prominence of environmental issues is intimately associated with globalization due to the strain that this places on the earth's carrying capacity in terms consumption levels, resource depletion, and rising greenhouse gas emissions. Globalization has also facilitated the growth of transnational green politics and interventions by NGOs to raise public awareness, influence international conferences, and even monitor the implementation of agreements by states.

At every stage, two distinctive aspects of international environmental politics have played a central role. The first is the complex relationship between scientific understanding of the biosphere, politics, and policy, as exemplified by the interplay between the IPCC and the actions of governments building the climate regime. The second is the connection between environment and development, which has been expressed in the shifting meanings given to the concept of sustainable development and whose acknowledgement has been a precondition for international action on a whole range of environmental issues. Nowhere is this more evident than in debates about the future direction of the climate regime.

The international response to environmental change has been in the form of attempts to arrange global environmental governance through extensive cooperation between governments. This chapter has attempted to provide some insight into the range and functions of such regime-creating activities, which provide a basis upon which the international community is attempting to grapple with the climate problem. The academic community has generally followed this enterprise by concentrating upon the question of how regimes may be formed and sustained. More critical theorists will take a different view of the meaning of international cooperation (see Chs 8 and 10). Furthermore, the challenges posed to international theory by the global environmental predicament will undoubtedly involve the need to think through the connections between security, climate change, and globalization.

Questions

1. What are the possible connections, both negative and positive, between globalization and environmental change?
2. Why did environmental issues appear on the international agenda and what were the key turning points?
3. Summarize the consequences of the 1972 UNCHE and the 1992 UNCED.
4. How would you interpret the meaning of sustainable development?
5. How can regime concepts be applied to the study of international environmental cooperation (also see Ch. 18)?
6. Can international trade and environmental protection ever be compatible?
7. Why did the framework convention/control protocol prove useful in the cases of stratospheric ozone depletion and climate change?
8. Analyse the development implications of three of the regimes mentioned in the chapter.
9. How does the 'tragedy of the commons' analogy help to illustrate the need for governance of the global commons?
10. Describe the 'free rider' problem in relation to the climate change regime.
11. Can 'common but differentiated responsibilities' continue to be relevant to the future climate change regime?
12. Consider the possible security implications of the climate predictions made by IPCC.

Further Reading

Barnett, J. (2001), *The Meaning of Environmental Security: Ecological Politics and Policy in the New Security Era* (London: Zed Books). This lively and critical book is for readers who wish to explore the growing connections between environmental and security issues.

Barry, J., and Eckersley, R. (eds) (2005), *The State and the Global Ecological Crisis* (Cambridge, MA: MIT Press). A provocative set of essays on the continuing relevance of the state, long forsaken by green activists, but still the fundamental unit of global environmental governance.