

ENVIRONMENTAL PLANNING IN CONTEXT

IAIN WHITE



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Series Editors: Yvonne Rydin and Andrew Thornley

The context in which planning operates has changed dramatically in recent years. Economic processes have become increasingly globalized and economic fortunes have fluctuated. Administrations in various countries have not only changed, but old ideologies have been swept away and new ones have tentatively emerged. A new environmental agenda has prioritized the goal of sustainable development, requiring continued action at international, national and local levels.

Cities are today faced with new pressures for economic competitiveness, greater accountability and participation, improved quality of life for citizens and global environmental responsibilities. These pressures are often contradictory and create difficult dilemmas for policy-makers, especially in the context of fiscal austerity.

In these changing circumstances, planners, from many backgrounds, in many different organizations, have come to re-evaluate their work. They have to engage with actors in government, the private sector and non-governmental organization in discussions over the role of planning in relation to the environment and cities. The intention of the *Planning, Environment, Cities* series is to explore the changing nature of planning and contribute to the debate about its future.

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Environmental Planning in Context

Iain White



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Preface

The rationale and positioning of this book is explained most easily by the discussions that emerged after a question from a student: a kind of question that those of us who lecture on the environment find very familiar. I had just given a lecture on climate science and outlined the various options for mitigation and adaptation in planning, and the student wanted to understand why society hasn't prevented climate change. As the conversation developed it was clear that while the disarmingly simple question was hugely relevant to planning, elements of the answer were not necessarily a core part of our teaching. Rather, they were related to fundamental societal issues, such as how the environment is perceived, the ways that it is governed, the framing role of politics or the inherent constraints of science, as well as more mainstream planning elements of policy and decision-making. In presenting questions such as this in lectures I found it unsatisfactory to have to draw on material from geography, politics, philosophy or sociology, and then reinterpret these within a planning context. Like many, I ended up writing the book that I couldn't find on the bookshelves, but one that I felt both my students and I would find valuable.

Traditionally, planning has had a strong remit to consider the environment, from designating land, to controlling development, and to regulating certain activities. As part of their education, students acquire sophisticated knowledge of the theory, process and regulation of planning. However, many years of teaching planning has made it clear to me that the societal context within which these are applied exerts a significant influence on the ability of planning to be effective. As such, I believe that students need a deeper appreciation of the nature of the reality within which planning takes place. Put differently, this book differs from existing texts as it is less focused on the wording of policy X within country Y, and more about how societies frame, develop and operationalize the management of planning concerns.

The content in this book is organized to explore three nested scales within which environmental planning debates occur: society; public policy; and planning itself. The text is designed so that each successive chapter builds on the previous material to provide readers

with an increasingly sophisticated understanding of the theory and practice of planning. It begins with Chapters 1–4 initially introducing the subject, before focusing on the broader milieu of environmental planning, and in particular on the intellectual legacies that affect the value placed on the natural world, the governance and power structures in operation, and the opinion-shaping forces of politics and the media. Understanding these key societal frames allows a fuller understanding of the discussion contained in Chapters 5–7. These unpack the process of public policy intervention, first exploring the pathways of logic associated with the concepts being applied, before using these to appreciate the constraints associated with the nature of scientific inquiry, and then how these elements influence the development and scope of policy and regulation. In turn, this foundation of knowledge enables us to better appreciate Chapters 8–10, which are focused on the arena of decision-making in planning, where we outline issues related to the effectiveness of the various decision support tools, and the nuances of the engagement process, before ending with a discussion of the inevitable social justice implications of the final decision. The concluding chapter summarizes the argument thus far and provides wider insights into the nature of contemporary environmental planning. This framework allows us to explore planning issues without being tied to any particular problem, nation or regulatory framework, as it focuses on the principles upon which planning operates and how societies organize themselves. Overall, the approach is designed to answer the ‘why’ questions, such as the one detailed at the outset.

The originality of this book is not just a matter of the content, but also of its interdisciplinary organization and synthesis, as each chapter develops the discussion progressively, to reflect the weekly demands of an undergraduate or postgraduate environmental planning course. Alternatively, its broad scope means that it is suitable for a variety of teaching and learning contexts, from introductory modules to more advanced theoretical courses. In summary, this book draws on geography, politics, sociology, history and philosophy, and reinterprets these from a planning context. Just as contemporary environmental problems do not mesh well with administrative boundaries, so too does understanding these issues challenge traditional disciplinary silos.

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Chapter 1

Introducing Environmental Planning

‘We enjoy the fruits of the plains and of the mountains, the rivers and the lakes are ours, we sow corn, we plant trees, we fertilize the soil by irrigation, we confine the rivers and straighten or divert their courses. In fine, by means of our hands we essay to create as it were a second world within the world of nature.’

(Cicero, *De Natura Deorum II*, 45 BC)

The environment is in a constant state of flux: from frequent local changes to global scale variations between glacial ages. As nature operates continuously in this manner, and on such far-reaching geological timeframes, it can seem almost ahistoric, set apart from the ordinary rhythms of daily life. This sweeping scope and self-renewing character can influence perceptions concerning the extent of humanity’s ability to enact significant environmental change in the pursuit of short-term economic and social benefit. Yet, pick up any newspaper or watch any news channel and there is a good chance there will be a story connected with the environment, many of them framed in negative or even catastrophic terms. Shrinking ice caps, biodiversity loss or devastating floods serve to remind us that humanity can be both subject to powerful natural events and exert its own potent forces in return. Using land and resources modifies the environment, but the relationship is not just in one direction. This process changes perceptions of the natural environment and can impact upon societies more generally, from the value of goods or services to the loss of lives and livelihoods. An awareness of this cyclical relationship is at the heart of managing the environment: we affect nature just as it affects us.

The interdependency between social and natural systems was recognized by the philosopher and socialist Karl Marx, who argued that nature is: ‘man’s inorganic body’ (1975: 328). Not only does it supply the direct means of life, but since our labour changes the

natural world, it also provides the material for human activity. Therefore, in addition to our connectivity, we also have powers to create anew. The Roman philosopher Cicero discussed this point in the opening quote, as did the geographer Neil Smith describing how the ability to exert a transformative force means that societies can produce a 'second nature', a phrase designed to distinguish human changes from the untouched original. With reference to capitalism, Smith (1990: xiv) states: 'capital transforms the shape of the entire world. No God-given stone is left unturned, no original relation with nature is unaltered, no living thing unaffected'.

Contemporary examples are abundant, from geoengineering to genetically modified crops, and it is clear that the way societies operate can have long-lasting effects that can alter systems as well as operate within them. The relationship is therefore a little more complex than a two-way feedback; the fundamental desire to both use and transform also means that environmental systems, which may be considered instinctively to be too large or plenteous to be affected, are firmly within the scope of humanity's power. Nature is therefore both our entire surroundings and a human construction; and as such we should take care in how we interact with it.

People may feel more intuitively linked to 'human' problems than 'environmental' ones, but there are intrinsic connections between environmental, social and economic systems. The BP Deepwater Horizon oil spill provides an illustrative case. In 2010, an oil rig explosion killed 11 crew members and ruptured a well-head that released millions of gallons of crude oil into the Gulf of Mexico. This pollution caused a massive loss of marine wildlife, and the battle to control the oil dominated the global news media for weeks. The official White House report into the causes of the incident makes for interesting reading. Inadequate safety practices and cost-cutting decisions were cited as a cause, and the report even suggested that this problem might be systemic within the petroleum industry more generally (National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling, 2011). This means that the most high-profile *environmental* issue of recent years had a clear *socio-economic* origin and, in addition to wildlife and biodiversity impacts, it had a great affect on both people's lives and the balance sheets of multinational companies. So the all-too-frequent demarcation of problems as 'environmental' or 'social' or 'economic' is neither helpful nor accurate as the boundaries between these spheres are difficult to distinguish. Therefore, to fully appreciate 'environmental problems' there is a

need to understand the societies within which the environment is constructed, valued and managed. The case also demonstrates that while environmental concerns may naturally lead to the discussion of intervention strategies, such as new regulations or policies, to be effective the wider societal context within which the problem is embedded may need to be considered.

The task of environmental planning is to reflect on the relationship between these aspects and to consider environmental impacts alongside the worldviews and the methods of production that help to determine the role and value of land and resources. Environmental planning scholars have tended to engage increasingly with politics and policy; in reality there are opposing arguments, morals and values within any potential issue, and to engender change these distinctive stances need to be understood and addressed. That is not to say that those concerned with environmental planning should focus on targeting policy-makers. Though seductive as a means of exerting influence, it can mean that any intervention may be directed down institutionally agreeable pathways, or the analysis targeted at more easily understood fixes, rather than the complex underpinning structures and processes apparent in the Deepwater Horizon incident. This requirement suggests a strong link between what some may have initially considered to be distinct topics: the *environment*, *planning*, *politics* and *policy* – an aspect this book is designed to address. In short, to conduct successful environmental planning necessitates an understanding not just of an impact, but also of an awareness of why this has happened, what mechanisms are available to elicit change, and how these can be implemented.

This book essentially concerns the broad topic of environmental planning, an interdisciplinary subject encompassing aspects of the natural and social sciences. It has relevance within a host of discrete subjects, from environmental studies to sociology, and to geography, but is aimed most directly at a planning audience. I would urge readers to resist donning any disciplinary straitjacket or studying aspects in strict isolation, however. As we shall learn, the complexity of many environmental issues reinforces the need for a subtle erosion of knowledge and expertise silos, with issues integrated within societies more generally and how the ‘environment’ may be perceived. I would therefore encourage at least some small engagement with disciplines outside your chosen field or specialism. Consequently, this book will deliberately encompass a wider array of literature than might be expected within a typical

environmental planning text, touching on aspects such as history, geography, politics and sociology, as well as more mainstream planning and environmental management.

There are two key messages running through this book: environmental problems are also social ones; and that to have effective environmental planning you need to consider broader questions, such as how we live and how decisions are made. Let us now begin to investigate this fascinating subject in more depth by looking at the importance of the discipline, its inherent complexities, and how difficult it can be to intervene effectively.

The importance of environmental planning

You can easily devote entire books to discussing the various meanings and applicability of the term ‘environment’ without achieving a firm consensus, or indeed, any substantial pedagogical value. Equally ‘planning’ can find itself subject to lengthy discussion about precisely what it should encompass, or is frequently pigeon-holed lazily as something procedural or bureaucratic that only ‘planners’ do. In practice, both terms can be defined from a narrow managerial or regulatory perspective, as perhaps a rule to be applied or a law adhered to, but it is when they are considered alongside wider social and economic systems that the terms really come alive.

Here, we sidestep the temptation to become bogged down in the entangled ontology of unequivocal definitions and instead provide a simple answer that encompasses what this book aims to cover. While environmental planning is a hybrid of two separate terms, together they are: ‘concerned with society’s collective stewardship of the Earth’s resources’ (Selman, 2000: 1). And it is related to these general principles of informed spatial intervention over time that this book is positioned. There are critical questions that fundamentally influence any engagement with this topic regardless of *where* you are in the world or even *when* you may be reading the book: how is ‘the environment’ understood? How are these frames of reference interpreted? And how does this lead to judgements, from moral ones to aesthetic, to economic? This book will focus on the contexts, principles and complexity that will gradually give environmental planning more colour and meaning. In this sense, the words environment and planning are framing devices that provide the focus of discussion: in short, they are the lens as well as the subject.

In addition to its encompassing scope, the scale of environmental planning is also noteworthy. As knowledge concerning the extensive influence of human activity has changed over time, so have the requirements for the subject to be conducted across different administrative or political boundaries: from what were initially very local issues to what are now major international concerns. However, this brings new difficulties in gaining political agreement on both possible strategies and the spatial distribution and scale of any threat. To some, particularly those connected with the climate change agenda, we may be in an 'age of crisis', where catastrophe is only a few decades away, yet on the other side of the coin, we have powerful short-term concerns about the impact that any remedial measures might have on economies. In reality, most environmental issues are subject to similarly competing viewpoints and a key aim of the book will be to help readers to understand and navigate these.

The argument that environmental regulation or protection may be a barrier to economic growth is well understood; it is a pervasive message of the political and policy spheres and a common discussion in the media throughout the world. As such, environmental planning is often subject to attack and there are frequent calls for its power to be reduced or altered. Yet its contribution to society is immense. The easiest way to appreciate the value of environmental planning is to consider what would happen in its absence. Think about your local neighbourhood or city and reflect on how space and resources would be utilized differently, or how businesses may operate. Green spaces may be built on, buildings constructed to a cheaper standard, watercourses polluted, or cities would operate without the necessary strategic planning to make the whole function more effectively. Now think about the effect, from neighbourly disputes resulting from insensitive house extensions to unchecked urban sprawl, to the degradation of the global commons.

It is also illustrative to consider, when reflecting on these debates, who would *benefit* from an absence of planning. Would it be you, or another group? Would it be a multinational corporation with little concern for local well-being, or perhaps a company that makes money from exploiting environmental resources? In this sense, planning may stake a strong claim to be a 'public good' – one of those rare mechanisms whose existence can benefit society as a whole. It is more than merely an ability to control development in the present, however; the inherent potential to plan for the future

can bring social benefits for generations, as may be seen in the formation of the garden city movement, the establishment of national parks, or the creation of valued civic spaces in any city in the world. Taking a step back and considering this larger perspective, the entire rationale for the planning system may be considered to be a way to prevent the worst excesses of capitalism and its systemic desire for cheap land, low costs and maximum profit.

A final aspect of note with regard to the subject of environmental planning is that it is inevitably a growing concern; in the twenty-first century there will be more pressures on the natural world and a greater need to plan places and spaces that effectively consider the natural and built environments while enabling increases to the quality of life for humankind. There will be more people, more urbanization, an ever-increasing demand for resources, and new pressures on the natural environment. There will also be more knowledge than ever before on the impact of humanity on the planet and a need to balance this with the requirement for growth to proceed and standards of living to rise. The connection between nature and humanity over differing scales means that environmental planning is also a complex subject that argues against a reductionist and fragmented approach. With this in mind, the next section will introduce some of the bigger environmental planning problems, and demonstrate how they are integrated.

The complexity of environmental planning

One of the reasons why humanity has the potential to transform the environment to a degree never previously seen is the sheer number of people on the planet. We shall use this fundamental aspect to trace how impacts occur and how they, in turn, lead to other environmental issues, and so on. Understanding this connectivity is at the heart of successful environmental planning.

During the vast proportion of human history the global population has been estimated to be less than a few million people. Among other factors, this total was constrained by the limited availability of basic resources, poor health and welfare provision, a lack of technological advancement, and local environmental constraints, most notably the restricted supply of energy (Mumford, 1961). The past few centuries have seen an explosion of progress in all of these areas and, as a result, a steep upward trend in global population. At the start of the twentieth century the number of

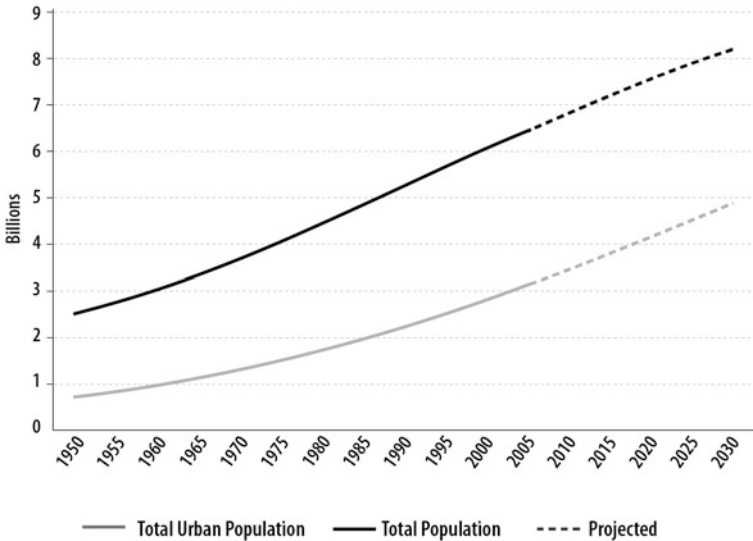


Figure 1.1 *World population change*

Source: Adapted from United Nations (2011).

people in the world was estimated to be 1.65 billion. This figure has since increased dramatically, and by 2012 the Earth's population was estimated to be around 7 billion. The number of people on the planet has doubled in the last 40 years and this growth is expected to continue over the coming decades. Dependent on factors such as fertility, the total global population is predicted to be around 9.3 billion by 2050 (United Nations, 2011) (see Figure 1.1).

These people will all have an impact. They build settlements and roads, consume natural resources and require water and land for crops. This means that the extent of the reach of humanity on the Earth's surface is also expanding. It is estimated that over 75 per cent of the ice-free land area can no longer be considered wild (Ellis and Ramankutty, 2008) with the pace of change accelerating alongside population increases. Compare the heavily forested sight of Manhattan that Henry Hudson might have seen as he sailed into the natural harbour in 1609 with the presentday configuration of New York City, and take a moment to reflect on the enormous ecological changes that have been wrought in the equivalent of an eyeblink in geological time. The virgin land has been transformed beyond all recognition: the soil has been levelled, the ponds

drained, the trees chopped down, and biodiversity largely eradicated. Then think about what has been created; indisputably one of the greatest cities in the world, and one with an amazing social and cultural richness. The exercise also serves to illustrate that land use change is not necessarily 'bad', since benefits may accrue alongside costs. It is the nature of environmental planning to navigate this tricky juncture.

The discussion over the number of people and their demand for resources logically leads to related environmental planning issues, such as population density. The term 'sprawl' (later called 'urban sprawl') was first used in 1937 by an early planner in the USA to describe the flight of the affluent from the industrial city to more desirable surroundings (Black, 1996). While early cities needed people and industries to be located nearby, advances in fields from energy to infrastructure to technology gradually extended this distance, with daily commutes or remote working now a common feature of modernity. Reflecting on the nature of sprawl over the twentieth century we can also start to appreciate cultural differences in the use of land. For example, density levels in Europe or Asia tend to be much higher than in countries such as the USA, Australia or Canada, related to aspects such as land availability and value, cultural norms and planning constraints. In addition to the social and economic impacts of this trend – from inequality to social homogeneity, to higher financial costs for infrastructure – the environmental effects are also significant, not least with regard to pollution, habitat fragmentation and reducing the viability of public transport options.

Considering this factor also allows us to turn the discussion to the next related issue: energy. Land use is very static; uses do not tend to change much over time and can serve to 'lock' trajectories of behaviour decades into the future (Guy *et al.*, 2011). A low density model of living relies on the cheap availability of power to function effectively, which is fine for the fossil-fuel-rich late twentieth and early twenty-first centuries. However, world energy consumption is predicted to grow by 56 per cent between 2010 and 2040, and during this time around 80 per cent of energy will be derived from fossil fuels (US Energy Information Administration, 2013). Regardless of the environmental impacts of extraction, production and consumption, what will be the results of this model from a socio-economic perspective as the price of these fuels rises inexorably because of limited supplies and higher demand associated with the rapid industrialization of countries such as India or

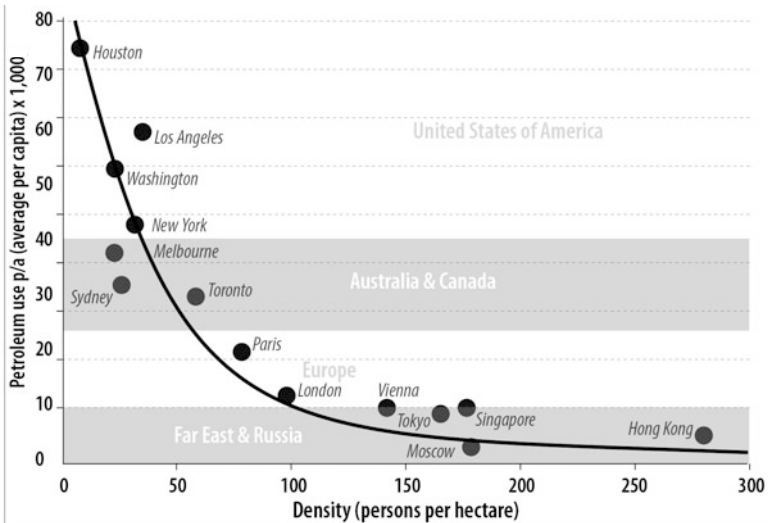


Figure 1.2 Gasoline use per capita and population density

Source: Newman and Kenworthy (1989).

China? Figure 1.2 explores this spatial and temporal aspect by linking land use patterns with gasoline use. Here, you can imagine how historic decisions on ways to use land may result in citizens in certain countries paying significant amounts of money to move around for many decades into the future.

The use of fossil fuels is also central to managing what is possibly the most critical environmental issue of our time: climate change. It is argued that carbon dioxide (CO_2) emissions need to be strictly limited to keep the increase in temperature to less than two degrees Celsius, at which point dangerous changes are projected to occur (United Nations, 2009). The impacts on the environment from climate change may be significant and encompassing, from species extinction to ocean acidification to biodiversity loss. Yet humanity is so dependent on fossil fuels for energy, and international negotiations do not appear to be making significant political progress. Environmental planning has a dual role here, both in limiting emissions by thinking about architecture, travel or energy use, and enabling adaptation to manage the effects of a changing climate. Box 1.1 provides a small case study of the development of this particular environmental planning problem.

This small section raises a number of environmental planning concerns that are individually pressing, but collectively compelling.

Box 1.1 Climate change

While climate change can be presented as an intensely complex and disputed topic, at its heart this is an uncontroversial science, and the basic physics of the effect of greenhouse gases in the atmosphere have been established for a surprisingly long time. Although the degree to which this should be welcomed has hardened since the start of the twentieth century, as this quote from the pioneering Swedish scientist, Svante Arrhenius (1908: 63) demonstrates: ‘By the influence of the increasing percentage of carbonic acid in the atmosphere, we may hope to enjoy ages with more equable and better climates, especially as regards the colder regions of the earth, ages when the earth will bring forth much more abundant crops than at present, for the benefit of rapidly propagating mankind.’

It is accepted that greenhouse gases warm the planet, without which we would have a temperature closer to that of the moon or the planet Mars. Indeed, it was way back in the early nineteenth century that the principle of the greenhouse effect, whereby the Earth’s atmosphere acts as an insulator, was discovered by Joseph Fourier (1768–1830). Physicist John Tyndall (1820–93) further established that CO₂ was a ‘greenhouse gas’. The next step was to investigate more deeply the relationship of the gas to temperature, and in the early twentieth century scientists, most notably the chemist Svante Arrhenius, argued that if CO₂ content changed, so could temperature, calculating that a doubling of CO₂ would lead to an increase of between 1.5°C and 4.5°C. In the 1930s a British engineer, Guy Callendar (1938: 223), further developed this argument by presenting evidence that the burning of fossil fuels can increase the concentration of atmospheric CO₂, which in turn can warm the Earth. He started a seminal article with the striking words: ‘Few of those familiar with the natural heat exchanges of the atmosphere, which go into the making of our climates and weather, would be prepared to admit that the activities of man could have any influence upon phenomena of so vast a scale. In the following paper I hope to show that such influence is not only possible, but is actually happening at the present time.’

In 1956, a *Time* magazine story entitled ‘Science: One Big Greenhouse’ discussed global warming and interviewed Roger Revelle, one of the leading scholars of the emerging science of climate change. The article argued that the rise in temperature could not only have damaging impacts, such as the melting of ice caps and flooding of coastal cities, but warming may produce further climate forcing within the system. Despite the seemingly catastrophic





content, the article struck a conservative, neutral tone, with the scientist going on to state that he will keep watching and recording to observe whether: ‘man’s factory chimneys and auto exhausts will eventually cause salt water to flow in the streets of New York and London’ (Roberts, 1956).

This may now be an opportune moment to reflect on the science of climate change and its operationalization within environmental planning. If there has been evidence for well over 50 years that increasing CO₂ levels from burning fossil fuels can cause global warming, and that this can lead to dangerous secondary effects that may be difficult to reverse, why haven’t societies acted? Why does climate change appear to be so contemporary; an arch-twenty-first century problem with such high-profile antagonism? Despite the perceived certainty of the basic tenets of climate science, it is important to note that science does not operate in a vacuum; it is intertwined with economics and politics – and the relationship between these aspects can be murky and contested. For example, while you may assume there is a trend towards evidence-based policy, with scientific research used objectively to provide a clear rationale for public policy change, in cases where the data has potentially significant effects on economic and social norms, information can be ignored or appropriated selectively to support political ideologies or long-held worldviews. This issue will be discussed in more depth in Chapter 4.

The disagreement essentially comes down to *one* key issue with which scientists are still grappling, and may not even establish in the foreseeable future: the precise extent to which humans are forcing the climate, essentially creating the ‘second nature’ introduced at the start of the chapter. And the reason why this is relevant is because it influences how societies respond politically, with potentially far-reaching consequences. Imagine, for example, the effect of altering taxation regimes in a country to make fossil fuels more expensive, and the concomitant impact on productivity or energy costs. However, if one nation acts alone there is a possibility that business and capital will simply move to other countries where there may be lower burdens on industry. This emphasizes the need for global agreements, but these require strong arguments and if we wait for absolute proof then the impacts may be impossible to prevent or already be widely experienced. In this sense, climate change science has become politicized, which is a critical point to bear in mind when considering how similar issues are discussed in environmental planning.

The world is becoming increasingly interconnected, and just as the actions of one nation can affect another, the impact of a single global trend – in this case that of population growth – can have wide consequences for energy requirements, resource use, food production, deforestation or space for crops and living. Contemporary civilization is centred on the consumption of resources and production of waste, a practice that is exaggerated in more advanced cities. As the rise in urbanization is predicted to be concentrated in less developed countries that understandably want to replicate the consumption-intensive lifestyles enjoyed in affluent countries, this will create a huge demand for effective environmental planning.

This discussion shows that environmental planning is far more than a narrow focus on regulation or policy. Reading this section, the description of these impacts and their possible long-term effect on people and the environment may seem very persuasive. If this is the case, then why does significant action seem not to occur? This is where the political and policy angles become really interesting and relevant. This argument also highlights how this subject is interwoven with variable spatial and temporal dimensions, a challenging perspective to accept. Fundamentally, environmental planning concerns how we use *space* over *time* – to live on this planet is to affect it: societies need to develop on land and consume resources, and there will be impacts from this, but where, who or what is affected, and to what extent? To develop this point further we shall now briefly explore how environmental challenges may be prioritized differently between people and places.

Ascertaining environmental “priorities”

‘The warnings about global warming have been extremely clear for a long time. We are facing a global climate crisis. It is deepening. We are entering a period of consequences.’

(Al Gore, 2005)

‘With all the hysteria, all the fear, all the phony science, could it be that manmade global warming is the greatest hoax ever perpetrated on the American people? I believe it is.’

(United States Senator James Inhofe, 2003)

Carrying forward the climate change example from earlier in this chapter, it is clear that the topic has received a great deal of attention,

particularly in the USA, a country perceived to be critical to the success of any global initiatives. However, it is also where those in public office hold particularly fervent and polarized views: for example, former Democrat vice-president, Al Gore, became the focus for the film 'An Inconvenient Truth' and received the Nobel Peace Prize for his efforts in disseminating knowledge about man-made climate change. Meanwhile, his Republican counterpart, Senator Inhofe, made his well-known 'hoax' remark while chairman of the influential Senate Select Committee on Environment and Public Works. Widely divergent opinions such as these are commonplace when discussing issues connected with environmental planning. Disagreement is not only limited to the importance or value of individual concerns, but also between the severity of competing environmental issues and those who argue for a policy focus on economic or social priorities instead. We shall now investigate this matter by looking at that initial step for most environmental planning activities: establishing the nature and severity of the issue to be addressed, whether it is a global concern, the protection of a much loved local space, or even a threat that has yet to materialize.

Imagine you are in charge of your country and have the power to set the agenda regarding what should be the top environmental concerns. Quite quickly you should appreciate the difficulties in assigning priorities; readers from differing cultural backgrounds may find themselves caught among a host of contending issues such as biodiversity, climate change, urban sprawl or even overfishing. They all seem to be very important, but in a world of competing priorities, 'beauty' may well exist in the eye of the beholder and problems can change over time as new evidence emerges. To help illustrate this argument, let us now turn to the 'answer' to our exercise, the top environmental priorities of selected countries and agencies at local, national and global levels.

Reflecting on a selection of publications designed to provide a geographical and scalar contrast, from the United Nations (UNEP 2012), China (Ministry of Environmental Protection of the People's Republic of China 2011), the UK (Environment Agency 2000), the USA (United States Environmental Protection Agency 2010) and Glasgow City Council (2010) in Scotland there are a few noticeable factors. First, not only is there no consensus, but it is illuminating to reflect on which issues may be missing, and why. For example, climate change is not mentioned as a priority in China, which is consistent with their 'economy first' stance in international discussions on this topic (Dimitrov 2010). In addition, priorities are

framed very differently: some are thematic, such as those pertaining to water and air, while others, such as health and well-being, are cross-cutting. However, there is less difference over scale than you might expect, with, for example, Glasgow City Council and the United Nations both identifying energy as a key consideration. There are some spatial and cultural aspects noticeable, with China being concerned about pollution, a growing problem in that nation, while the UK's Environment Agency aims to reduce the risk of flooding, which occurs frequently in Britain. The data also demonstrates that the way we have governed the environment shapes intervention; for example, the distinctive institutional remit of agencies appears to play a key role with both the US Environmental Protection Agency and the UK Environment Agency both designing agendas directly aligned to their specific political mandates. In this regard, every agency might have its own environmental priorities, from local councils, to the EU, to a non-governmental organization (NGO) or pressure group.

Moving from the priorities of decisionmakers to those of the public, we can see similar complexities are at play. In February 2011, a survey was conducted of over 18,675 adults in 24 countries. Respondents were asked: 'In your view, what are the three most important environmental issues facing your country today?' Table 1.1 details the results of five of those countries: the UK, the USA, China, Russia and Brazil.

Reflecting on this data we can see that environmental concerns differ spatially, temporally and culturally – or, more succinctly, it depends where, when and of whom you ask the question. For example, with regard to Brazil and China it may be expected that deforestation and air pollution would be their top selections, because at the start of the twenty-first century they are high profile issues in those nations. However, there are still common concerns that have stretched beyond the nation state perspective towards what we may call environmental citizenship, in particular, climate change and dealing with the amount of waste generated. The link to economic output and standards of living is a further factor: future energy supplies and depletion of natural resources both scored highly as environmental concerns, but could also be classified as strong economic issues. This supports the argument that fears of economic impacts can mobilize political support for environmental intervention.

When a particular issue is strongly aligned with public opinion, as reported by polls or gleaned from political focus groups, there is

Table 1.1 *Public surveys of the most important environmental issues*

Country	Top-ranking issue and percentage	Second-ranking issue and percentage	Third-ranking issue and percentage
Brazil	Deforestation (53%)	Global climate change (42%)	Water pollution (40%)
China	Air pollution (41%)	Reducing waste (37%)	Depletion of natural resources (31%)
Russia	Deforestation (42%)	Emissions (42%)	Air pollution (38%)
UK	Energy sources and supplies (50%)	Reducing waste (48%)	Overpopulation (41%)
USA	Depletion of natural resources (50%)	Energy sources and supplies (50%)	Reducing waste (41%)

Source: Ipsos MORI (2011).

a good chance that it may achieve saliency and command the attention of politicians. For example, there are often short-term spikes in interest after a major disaster permeates the news cycle, which sometimes crowd out other, less spectacular, concerns. Yet, even the results of polls themselves can influence public opinion, as they not only passively relay findings, but can also be used or reported in such a way as to influence other members of the public as well as politicians. Indeed, that is a reason why some polls are carried out, most notably those by news organizations. However, if legislature attention is drawn to a specific concern, this usually means that focus is being drawn away from another. So, if public opinion is given too much emphasis during policy-making, it runs the risk of making the process seem a fleeting, reactionary pursuit punctuated by quick fixes and staccato agenda shifting. Box 1.2 deepens the discussion of environmental problems to include a consideration of those wider societal pressures that may underpin their existence, as was apparent in the Deepwater Horizon example cited earlier in the chapter.

Given the importance of gaining agreement and mobilizing the political will to address many environmental challenges, the complexities apparent within the early stage of identifying targets and priorities make environmental planning challenging in practice. It is not just a matter of experiencing problems and then working

Box 1.2 Societal pressures

‘Many women who do not dress modestly ... lead young men astray, corrupt their chastity and spread adultery in society, which increases earthquakes’ (Hojjatol-islam Kazem Sediqi). This quote is from an Iranian cleric, who argued that the real reason why Iran suffered an earthquake in 2003 was not because of any natural movement of the Earth’s plates but was because of women wearing revealing clothing (*The Guardian*, 2010). Similar observations have been made regarding many natural disasters throughout history. One Church of England bishop claimed that the 2007 UK floods were caused by ‘moral decadence’ (Wynne-Jones, 2007), while a US state senator blamed the prevalence of ‘gambling, sin and wickedness’ for bringing God’s judgement to bear on New Orleans via Hurricane Katrina (ABC News, 2005). In the more distant past, the philosopher Voltaire even criticized God for causing the 1755 Lisbon earthquake (Glacken, 1967). While these examples are extreme, they demonstrate a disconnect between cause and effect; a division that provides a real challenge for environmental planning.

We have just seen how the existence, severity and priority of environmental problems is subjective and contested, and we now build on that debate by exploring how similar uncertainties are visible when ascertaining those aspects of everyday life and society more generally that place the environment under pressure. These can include any relevant factor, from the number of people on the planet and how they behave, to the use and preference for certain types of energy or transportation. To take the example of the UK, research in this field reveals some interesting findings. With regard to the singular risk of flooding, 23 *societal* aspects were highlighted that could have an impact on the future ability to manage this *environmental* risk, such as urbanization and public attitudes (Evans *et al.*, 2004). More generally, the UK Environment Agency (2006) identified 51 broad drivers and prioritized 19 that they considered would place the most significant pressure on the environment up to the year 2030. To give an idea of the nature, scope and scale of key societal pressures, these critical issues were:

1. A rise in global population.
2. Globalization.
3. The uncertain future of international governance.

