

Introduction

But the ‘environment’ is where we all live; and ‘development’ is what we all do in attempting to improve our lot within that abode. The two are inseparable.

– Chairperson Gro Harlem Brundtland (WCED, 1987, p. xi)

In May 1983, the United Nations General Assembly (UNGA) established the World Commission on Environment and Development (WCED) and tasked it with formulating a ‘global agenda for change’ (ibid., p. ix). The need to formulate an agenda was part of an urgent call by the UNGA to propose long-term environmental strategies for achieving sustainable development, including the need to define sustainable development goals for the world community. On 19 October 1987, Chairperson Gro Harlem Brundtland officially presented the Commission’s report, *Our Common Future*, to the UNGA.¹ Though the report neither formulated an agenda nor defined the goals, it nevertheless provided the world community with the sustainable development concept that has structured international debate about the environment and development ever since (Lafferty & Meadowcroft, 2000; Bernstein, 2013). Moreover, the report provided the world community with the authoritative definition of sustainable development: ‘Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs’ (WCED, 1987, p. 43).

The authoritative definition did not come easily though. It was the result of years of discussion within the Commission – a discussion that started with deciding on the Commission’s name. Its original name, given by the UNGA on 19 December 1983, was a ‘Special Commission on the Environment for the Year 2000 and Beyond’. However, early in 1984 Chairperson Gro Harlem Brundtland, Vice Chairperson Mansour Khalid, and Secretary General Jim MacNeill agreed to change the name. They saw that their central task would be to overcome the conventional view that the environment could be addressed separately from the overall social and economic set-up of the world, and that economic development and environmental protection were two distinct and incompatible goals. Rather, they soon came to realize that the links between poverty, inequality, and environmental degradation must form a major theme in their analysis and recommendations. Thus, they changed the name of the

Commission, first to ‘World Commission on Environmental Development’, and then to ‘World Commission on Environment and Development’ (Borowy, 2014). Indeed, those changes were important. They influenced the wording in the authoritative definition and made it much easier to overcome the tensions between commissioners representing low-income countries in the South and those representing high-income countries in the North.

It would take almost three decades before the world community formulated and agreed an agenda and defined sustainable development goals. On 25 September 2015, the UNGA adopted the 2030 Agenda for Sustainable Development, *Transforming Our World*, which included 17 global sustainable development goals (SDGs) and 169 targets to guide world development towards 2030 (UN, 2015). It is promising that ‘the Heads of States and Government and High Representatives’ on behalf of the people commit themselves ‘to working tirelessly for the full implementation of this Agenda by 2030’ (ibid., p. 3). On 1 January 2016, the SDGs officially came into force. While the SDGs are not legally binding, governments are expected to take ownership and establish national frameworks for the achievement of the 17 goals. Countries have the primary responsibility for follow-up and review of the progress made in implementing the goals, which will require high-quality, accessible data and timely data collection. It is fair to say that the 2030 Agenda and its accompanying SDGs constitute an impressive achievement. The mere fact that the world community has finally agreed upon common sustainable development goals and committed themselves to work tirelessly in implementing them is a success in itself. Nevertheless, we believe that there is considerable room for improving the SDGs. This book suggests some improvements.

Formulating the 2030 Agenda and defining the SDGs would have been much easier if the world community had already reached a consensus on how to define and operationalize sustainable development. Alas, the 2030 Agenda has not received much help from academia in reaching such consensus. The ink was not dry in the *Our Common Future* report before critics queued up to express their scepticism about the sustainable development concept. O’Riordan (1988) described it as a potentially meaningless concept. Jacobs (1991), and later Giddings *et al.* (2002), called it a contested concept randomly shaped by people’s preferences and worldviews. Daly & Townsend (1992) famously commented that sustainable development was an oxymoron.² Hopwood *et al.* (2005) saw it as an unclear concept that did not provide sufficient meaning to guide policy. More recently, Stafford-Smith (2014) and

Stokstad (2015) have described it as vague, weak, and fragmented.³ And indeed, these examples represent just a tiny fraction of the critique.

We think the critique is unfair. The definition of sustainable development provided by *Our Common Future* expresses anything but a vague, weak idea – meeting basic needs, recognising environmental limits, and acknowledging the principle of justice within and between generations. This idea endures because it captures the essence of the problems of environmental protection and development confronting the modern world. It resonates with society's sense of sustainability. We agree, however, with the critique that sustainable development is difficult to define and hard to operationalize. Nevertheless, it is important to have such a definition and a model that operationalizes it, and achieving these two aims provides the rationale for this book.

The authoritative definition is elegant and quotable, but it does not really tell us what sustainable development is. What are 'the needs of the present generation'? Are we merely looking at satisfying basic needs to prevent extreme poverty or are we looking at some sort of enhanced needs that take into account people's aspirations for a better life? And what can possibly be the needs of future generations? Do we know what they are? We do not. Only future generations themselves, not the present one, will know what their needs are. To what extent can we sacrifice the needs of the present generation for the uncertain needs of future generations? Equally puzzling, what does 'compromise the ability' mean? Apparently, that has something to do with the environmental state of the planet. Although we struggle to say anything specific about the needs of future generations, it is probably safe to say that maintaining a healthy planet is high on that list. Admittedly, *Our Common Future* gives some clues, but these are indeed open for interpretation. As early as 1992, only five years after the report was launched, the report's lead author Jim MacNeill wrote that 'a new way to define infinity was the ever-expanding number of self-serving definitions of sustainable development' (Borowy, 2014, ix) . So, what exactly *is* sustainable development? Sustainable development says something about what we should do. But exactly what is it that we should do? To guide us further, we need a *normative definition* of sustainable development.

Ultimately, sustainability needs to be addressed globally. However, although national territories, economies, and societies constitute only one level of system organization, it is perhaps the most significant level because governance is presently strongest at the national

level (Dahl, 2012). National governments possess the most significant means and the capacity to use them to address all relevant imperatives of global sustainable development. Thus, our model presented in chapter 5, though globally rooted, manifests itself primarily on a national level. This does not mean that local sustainability, for example in cities, communities, firms, and households, is unimportant. Local unsustainable behaviour can trigger global unsustainability. Moreover, the local level possesses many of the measures and means by which to promote global sustainability. Also, the necessary debate about sustainable development's normative foundation takes place locally. Therefore, we need a multilevel approach in pursuing sustainable development. Nevertheless, local sustainability must be rooted in the global imperatives too, though differently than at the national level (see chapter 8).

This book has three main messages.

- We claim that sustainable development is an ethical statement, from which we can derive three equally important moral imperatives: satisfying human needs, ensuring social justice, and respecting environmental limits. Sustainable development's key themes must come from theories that are fundamental to the understanding of those imperatives, not merely reflecting stakeholders' parochial preferences or a short-term political consensus. Since *Our Common Future*, the ethical importance has seemingly waned. Thus, the book is part of, we believe, a much needed ethical (re)turn in defining and operationalizing sustainable development.
- We claim that the moral imperatives define a sustainable development space that constitutes constraints on human behaviour. Different countries will choose different pathways to get into that space, thereby reflecting the sustainability challenges they face (e.g., reducing poverty or mitigating climate gas emissions) or the means they prefer (e.g., economic measures, or command and control measures). Within the sustainable development space, countries are free to pursue the pathways they prefer and value, and different countries and different regions will likely follow different paths.
- We claim that we need numbers to assess where countries stand in relation to the sustainable development space and, consequently, to state the challenges they face to enter that space. Moreover, we must develop positive narratives to see how different countries

can find inspiration and useful illustrations to enter the sustainable development space. In doing so, we need to understand what the main challenges are that countries face and we need to understand the similarities and differences in their chosen development paths.

The book has two parts. The first part (chapters 1–5) is strictly normative, and presents concepts, theories, the model, and the sustainable development space. Chapters 2–4 present theories that are fundamental to understanding the imperatives of human needs, social justice, and environmental limits. These chapters serve as an introduction to the theoretical foundations of sustainable development. Those who are more interested in the sustainable development model, or those who already are familiar with specific parts of the theoretical foundation could jump directly to chapter 5. The second part (chapters 6–9) is more applied, and presents country data, describes narratives, discusses local sustainability, and points at some overall policy implications of the book.

The content of the individual chapters is as follows:

Chapter 1 starts by asserting that sustainable development is an ethical statement, from which we can derive three equally important moral imperatives of sustainable development: satisfying human needs, ensuring social justice, and respecting environmental limits. These moral imperatives constitute a sustainable development space that establishes constraints on human development. The chapter continues with a discussion about what sustainable development is not. We argue that economic growth is not one of the imperatives of sustainable development. Thus, economic growth is neither inherently sustainable nor inherently unsustainable. Likewise, we argue that deploying new technology is neither inherently sustainable nor inherently unsustainable. The chapter also presents a critique of the three-pillar model of sustainable development and of the UN's SDGs. The chapter ends by presenting the six key sustainability themes (which come from dominant theories of the moral imperatives) and some thoughts on local sustainability.

Chapter 2 presents some influential theories on human needs. A proper theoretical understanding of what human needs are and how they can be satisfied is a prerequisite for identifying the key sustainability themes in our model presented in chapter 5. This chapter has three sections. The first briefly presents *Our Common Future*'s take on human needs. The second section presents Max-Neef's, Maslow's, and Doyal and Gough's theories on basic

needs, all of which provide a natural starting point in satisfying human needs. The third section presents Sen's capability approach, which acknowledges that satisfying human needs is more than merely satisfying basic needs. Overall, a theory of human needs can be seen as a two-stage process. First, people must be provided with the means and opportunities to avoid poverty and deprivations. Second, people must be provided with an enhanced set of capabilities to do things they have reason to value.

Chapter 3 presents some influential theories on social justice. A proper theoretical understanding of what social justice is, and how the concept can be encapsulated, forms a prerequisite for identifying the key sustainability themes in our sustainable development model. This chapter has three sections. The first briefly presents *Our Common Future's* take on social justice, including justice between generations as well as justice within generations. The second section presents John Rawls' theory of justice (1999), including a short introduction of utilitarianism, which he strongly rejects. The third section presents Sen's idea of justice (2009). Rawls' two principles of justice constitute the basis for the two key sustainability themes related to social justice: democratic participation and fair distribution of primary goods. Sen's comparative approach to justice serves as the basis for our discussion of local sustainability.

Chapter 4 gives an account of the status of the global natural capital, how human activities interact with and depend on these resources, and how we can define thresholds for critical natural capital in order to sustain the services of nature. An important message in the chapter is that there are planetary boundaries that we must respect in order to ensure a safe operating space for humans over time, and the two most important (out of a total of nine) are planetary boundaries related to climate change and biosphere integrity (Steffen *et al.*, 2015). Respecting these boundaries leads to a discussion of what part of natural capital should be sustained for the future – all, or part of it – resulting in the notions of weak and strong sustainability. We conclude the chapter by comparing various contributions in economics and showing how they can help us understand, measure, and deal with environmental limits.

Chapter 5 presents a five-step, normative model of sustainable development. The first step acknowledges that sustainable development is a normative value system, which consists of three moral imperatives. The second step presents relevant theories that give weight to those imperatives. The third step derives key themes from those theories. The fourth step suggests

headline indicators for each key theme. The fifth step assigns thresholds to the indicators and thus completes the model. The six thresholds form a six-dimensional space within which we find the sustainable development space. Simply speaking, being inside the sustainable development space means that a country has achieved sustainable development, whereas being outside it means that a country is in an unsustainable state. Importantly, each country faces specific challenges in its pursuit of sustainable development. Thus, low-income countries face different challenges than high-income countries do; the former need to focus on increasing human development, whereas the latter need to focus on decreasing climate gas emissions.

Chapter 6 complements the normative model developed in chapter 5 by deriving indicators and thresholds for each of the model's key themes. We discuss alternative ways of measuring the essence of such indicators and thresholds and of quantifying the limits of the sustainable development space. The focus of the quantitative analysis is on the level of nations for two main reasons: First, national governments currently offer one of the most powerful levers to push a global sustainable development agenda. Second, national accounting systems and international efforts to harmonize and compare national data sets are major steps towards achieving standardized, high-quality data. In addition to the selection of measures for the sustainable development model, chapter 6 establishes and discusses links to the relevant UN SDGs.

Chapter 7 presents the narratives, using the model in chapter 5 and the numbers in chapter 6. Our final choice of key theme indicators and thresholds is guided by the need to avoid correlation between them to the maximum extent possible. Avoiding correlation between them is a prerequisite for the multi-dimensional statistical analysis performed in chapter 7. We first locate countries relative to the sustainable development space by judging their performance over time, and then group countries by using cluster analysis. Such a grouping allows us to identify countries with similar societal development patterns, simultaneously accounting for all three imperatives of the sustainable development model. The cluster analysis helps us to derive attention points for a sustainable development, from which we ultimately create a quantitative narrative of change.

Chapter 8 discusses whether and how the global concept of sustainable development can be applied at the local level. Thus local sustainability means translating the global model to

municipalities, cities, communities, societal sectors, firms, programmes, products, projects, and individuals. Building on the works of John Rawls and Amartya Sen, this chapter presents two very different routes to sustainable development: the comprehensive route and the comparative route. Whereas the comprehensive route aims at the perfect, or ideal, definition, the comparative route to sustainable development is much more sensitive to people's actual lives. Thus, whereas the comprehensive route aims at achieving sustainable development, the comparative route aims at advancing sustainable development. Although the comprehensive route is our first-best option, we realize that sometimes it is insufficient at the local level. Sometimes, comprehensive sustainability is not relevant. Sometimes, the means by which to achieve comprehensive sustainability are not available. We go as far as we reasonably can, taking into account the conditions under which actors actually live and the possibilities they have. The comparative sustainability route reflects the challenge of working with sustainability at the local level.

Chapter 9, the concluding chapter, refers to this introduction to highlight the original thinking behind the book, and its essentially moral and normative starting point, but thinking that is tempered by realism about the priorities for change. The chapter discusses the uncertainties about technological optimism, the need to think about more stringent thresholds, and the balancing of the human dimensions with those of the biosphere, but simultaneously acknowledges that there is no unique solution, only different pathways that can be followed. The chapter also returns to the need for measurement and high-quality data that allow for analysis and an understanding of the different narratives that have been followed. It also looks ahead by identifying four issues that cut across all three imperatives, issues that are also likely to be central to achieving sustainable development. These include population and urbanisation, resources (including energy, material resources, and technology), health (including planetary and human health), and governance (including involvement and participation). The final section builds on these four issues, opening a debate on whether the current consumption-based paradigm is sustainable, or whether alternatives must be examined that would result in less consumption by the richer countries.

Looking back over the past quarter century, Jim MacNeill claims that a shift to a more sustainable society has barely begun.⁴ In 2008, Barack Obama observed that sustainability required something of a paradigm shift. History shows that paradigm shifts do not happen

overnight. If they were to happen at all, they would happen very slowly, resisted all the way by the vested interests of the status quo and by other forms of inertia. The UN SDGs could well challenge the status quo and be the start of a paradigm shift towards sustainable development.

It is, however, crucial to acknowledge that the magnitude of the challenge we are facing requires difficult choices about how humankind is living on this planet. *Transforming Our World* does not acknowledge that we must make difficult, even conflicting choices. Rather, the report excitedly envisages a world in which every country enjoys sustained, inclusive, and sustainable economic growth: ‘It is an Agenda of the people, by the people and for the people – and this, we believe, will ensure its success’ (UN, 2015, p. 12). *Our Common Future*, on the other hand, was much more concerned about the difficult choices: ‘Sustainable global development requires that those who are more affluent adopt life-styles within the planet’s ecological means [...] We do not pretend that the process is easy or straightforward. Painful choices have to be made’ (WCED, 1987, p. 9). These choices are central to the thinking behind this book.

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Notes

¹ The report was officially released on 27 April 1987 in London, and (with minor changes) adopted as resolution 42/187 by the UNGA on 11 December 1987 (Borowy, 2014).

² Daly and Townsend argued that the term ‘sustainable development’ was often used as a synonym for ‘sustainable growth’. The term ‘sustainable growth’ when applied to the economy is, they argued, ‘a bad oxymoron—self-contradictory as prose, and unequivocal as poetry [...] It must be saved from this perdition’ (1992, p. 267).

³ Stafford-Smith (2014) and Stokstad (2015) attack the sustainable development goals adopted by the UNGA in 2015. However, their respective critiques are indirectly an attack on the concept of sustainable development.

⁴ Jim MacNeill’s foreword in Borowy (2014, p. x).