1 | INTRODUCING JUST SUSTAINABILITIES

Why just sustainabilities?

The ideas of 'sustainability' and 'sustainable development' began to achieve prominence in the 1980s among local, national, and international policy-makers and politicians, together with policy entrepreneurs in non-governmental organizations (NGOs). A significant contributing factor was the 1987 World Commission on Environment and Development's report *Our Common Future*, or more commonly, the Brundtland Report. Following the 1992 United Nations (UN) Conference on Environment and Development (the so-called Rio Summit or Earth Summit), there has been a massive increase in published and online material dealing with 'sustainability' and 'sustainable development.' This has led to competing and conflicting views over what the terms mean, what is to be sustained, by whom, for whom, and what is the most desirable means of achieving this goal. To some, the sustainability discourse is too all-encompassing to be of any use. To others, the words are often unthinkingly prefaced by 'environmental' and 'environmentally,' as in 'environmental sustainability' or 'environmentally sustainable development.'

Beginning as a critique of what I eventually called the 'equity deficit' (Agyeman 2005, 44) that still pervades most 'green' and 'environmental' sustainability theory, rhetoric, and practice, the *just sustainabilities* concept began to take shape in the early 2000s, when I, Bob Bullard, and Bob Evans wrote:

> Sustainability cannot be simply a 'green', or 'environmental' concern, important though 'environmental' aspects of sustainability are. A truly sustainable society is one where wider questions of social needs and welfare, and economic opportunity are integrally related to environmental limits imposed by supporting ecosystems. (Agyeman et al. 2002, 78)

Integrating social needs and welfare, we argued, offers us a more 'just,' rounded, and equity-focused definition of sustainability and

sustainable development, while not negating the very real environmental threats. A 'just' sustainability, we argued, is therefore:

> The need to ensure a better quality of life for all, now and into the future, in a just and equitable manner, whilst living within the limits of supporting ecosystems. (Agyeman et al. 2003, 5)

While defining 'just sustainability,' we used the term 'just sustainabilities' because we acknowledged that the singular form suggests that there is one prescription for sustainability that can be universalized. The plural, however, acknowledges the relative, culturally and place-bound nature of the concept. For instance, a piece in the *New York Times* (9 October 2011), 'When the uprooted put down roots,' highlighted the growth across the US of 'refugee agriculture' among, for example, Somalis, Cambodians, Liberians, Congolese, Bhutanese, and Burundians. This story gave me pause to think about the potential of new agricultures to help us reimagine what constitutes 'local foods.' Is it, for example, what our increasingly diverse populations want to grow and buy locally as culturally appropriate foods, or is it what should be grown locally according to the predominantly ecologically focused local food movement? A just sustainabilities approach would suggest the former.

Similarly, the environmental movement with its dominant 'green' or environmental sustainability discourse does not include strategies for dealing with current or intra-generational inequalities and injustice issues within its analysis or theory of change. While researching a BBC TV program in the early 1990s, I asked a Greenpeace UK staffer if she felt that her organization's employees reflected the diversity of multicultural Britain. She replied calmly: 'Equality? That's not an issue for us. We're here to save the world.' I can understand what she means. She thinks, as do a lot of environmental organizations, that as her organization is saving the world, the environment, for *everyone*, an inherently equitable act, there's no need to look at, for instance, who's at the Greenpeace table in terms of the workforce, the board of directors, and, in short, who's setting the agenda.

Twenty years on, however, British researchers Wilkinson and Pickett (2009) have changed the debate. Now equality is an issue, and a big one. In *The Spirit Level: Why equality is better for everyone*, they revealed what many of us had suspected. Based on 30 years'

research, the book convincingly demonstrates that societies that are more unequal are bad for most everyone – rich as well as poor. The data and the comparison measures Wilkinson and Pickett use in their book allow global comparisons. The differences are striking, even among the supposedly 'rich' countries. Virtually every contemporary social and environmental problem – violence, obesity, drugs, physical and mental illness, life expectancy, carbon footprint, community life and social relations, long working hours, teen birthrates, educational performance, prison populations, you name it – is more likely to be worse in less equal societies.

In terms of moving toward just sustainabilities, and especially combating climate change, Wilkinson, Pickett, and De Vogli (2010) argued that there are three reasons why greater equality is necessary. First, inequality drives competitive consumption, or the desire for materialistic satisfaction ('keeping up with the Joneses'). People with materialistic values exhibit fewer pro-environmental behaviors and have more negative attitudes toward the environment. This drive toward materialism, to consume, pushes up carbon footprints. Second, cohesion and levels of trust are higher in more equal societies, leading to more public-spirited actions toward the common good. Evidence they cite includes smaller ecological footprints, higher levels of recycling, fewer air miles, lower levels of consumption of water and meat, and less waste production. Finally, developing sustainable communities needs high levels of adaptability, innovation, and creativity. They cite that more equal societies show higher levels of patents granted per capita, positing that this is because people are more socially mobile and possess higher qualifications.

Educational attainment requires investment in human capital and potential. As a geography teacher in the UK in the early 1980s, I was confronted by a student of mine called David, who said: 'Sir, what do thickies [dumb kids] like me do now we've finished our exams?' Nothing in my education had prepared me for this. David was not dumb. He was an average kid who felt he'd failed himself and us, his teachers. He hadn't. We'd failed him in our inability to help him flourish and find out what he was good at. We were, of course, far too quick to tell him what he wasn't good at and he'd internalized this, probably to this day. Twenty-five years later I was traveling in Ghana and was stopped by a young woman selling hot peppers. She asked me if I wanted to buy her peppers, and quickly assured me

that I shouldn't think of her only as a seller of peppers – she was trying to make money to pay for her education.

Two instances, thousands of miles and 25 years apart, made me fully realize the need for a just sustainabilities approach to development. People around the world are simply trying to flourish, to develop their capabilities, and to realize their potential. In the environmental movement, the loss of environmental potential is rightly lamented: 'Every acre of rainforest we lose might have held a cure for cancer.' To me, however, David in the UK, the Ghanaian hot pepper seller, and African American men generally, more of whom are in prison than in college,[1] comprise the tip of the iceberg of global inequality. They represent a desperate planetary waste of human potential and denial of capability. These could be the future researchers discovering those cures for cancer.

This loss of potential is every bit as profound as the loss of environmental potential as we destroy the rainforest and other ecosystems. Of course, a focus on increasing both human potential and environmental potential is necessary if the spirit level is to balance. So what's the message? From global to local, human inequality (the loss of human potential) is as detrimental to our future as the loss of environmental potential, and only a just sustainabilities approach to policy, planning, and practice has an analysis and theory of change with strategies to transform the way in which we treat each other and the planet.

Toward just sustainabilities

The definition of just sustainabilities above focuses *equally* on four essential conditions for just and sustainable communities of any scale. These conditions are:

- improving our quality of life and wellbeing;
- meeting the needs of both present and future generations (intra-generational and intergenerational equity);
- justice and equity in terms of recognition (Schlosberg 1999), process, procedure, and outcome; and
- living within ecosystem limits (also called 'one planet living') (Agyeman 2005, 92).

I will take each of these four conditions in turn and expand on them. Of course, in reality, just sustainabilities can only be fully

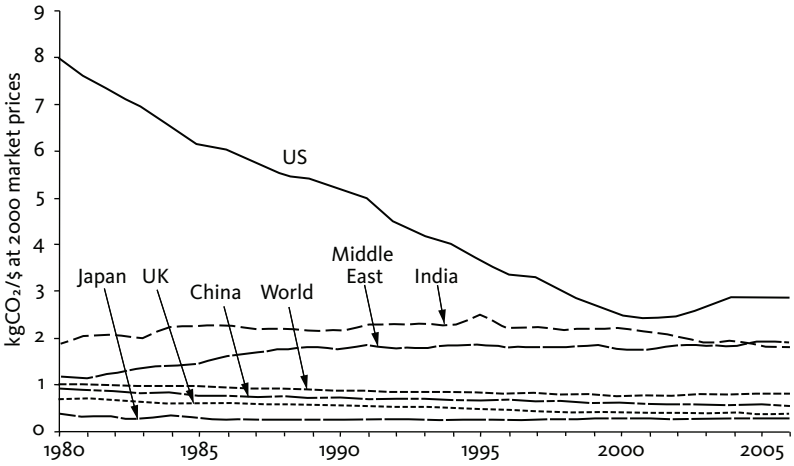
interpreted as an integrated whole, and these conditions are deeply interconnected (and thus their separation here is somewhat arbitrary).

Improving our quality of life and wellbeing In this section I will explore why improvement in wellbeing is essential for both justice and sustainability, and why economic growth cannot be relied upon to deliver just sustainabilities. I will also ask whether wellbeing can be delivered without continued economic growth. I will consider better yardsticks for progress that are based on wellbeing and will begin to consider the sort of economic models that might enable social wellbeing and flourishing.

There are several reasons why the achievement of just sustainabilities requires improvement in wellbeing and quality of life. For the vast majority of the world's people – in poorer developing economies – there are patent shortcomings in health and wellbeing. Some of these can be overcome through conventional economic growth and increased material consumption. But even in wealthy societies it is arguable that the majority of people are not able to experience a good quality of life, as a result of various sources of stress. However, justice implies that all people should have the capability to flourish (Sen 2009), and flourishing must mean more than simply survival. Moreover, it is also fairly obvious that, in a democratic system, winning public support for policies inspired by just sustainabilities would require the delivery of some sort of improvement in quality of life.

Growth and wellbeing Conventional economic growth cannot be relied upon to deliver wellbeing and quality of life for a number of reasons. First, there is serious doubt over the ability of the economy to continue to generate rates of growth adequate to allow for population growth and consumption increases (Harvey 2011). Second, there are potentially serious limits to the growth model arising from environmental factors (notably climate change). Finally, there is little evidence of a sustained relationship between growth and wellbeing, especially at higher levels of income and consumption.

Setting aside for a moment the underlying challenge of environmental sustainability, the capacity of the economy to generate continued growth has been cast into question by the crises of recent years, which were predicted by economists such as Stiglitz (2002). Neo-Marxists such as Harvey also suggest that the last phase of growth was achieved



1.1 Carbon dioxide intensity of GDP across nations: 1980–2006 (*source*: Jackson 2009, 70)

through an unsustainable credit boom, which saw long-term increase in indebtedness, finally running aground on the economic impossibility of making secure loans to the unemployed and insecure in society (Harvey 2011). Harvey suggests that following the financial sector boom and bust, further bubbles might arise in 'green technology' or healthcare, especially on the frontiers of nanotechnology. However, future cycles of boom and bust in these areas seem unlikely to provide the levels of global growth required to provide increased wellbeing in conventional economic models.

In terms of environmental sustainability, while there is clearly still further scope to sidestep problems such as peak oil by paying ever more to obtain it, achieving continued compound growth, while at the same time successfully limiting carbon emissions to a sustainable level, is a technological challenge beyond anything previously achieved. Jackson (2009) reports that the carbon intensity of every dollar came down by a third in the last three decades, but total carbon emissions have still increased by 40 percent since 1990 (see Figure 1.1).

For everyone to have a chance of having a standard of living equivalent to those in Western Europe by 2050, Jackson calculates that we would have to increase our technological efficiency 130-fold, ten times faster than anything that has happened in the past. While authors such as von Weizsäcker et al. (1997) have offered convincing

models for achieving a decoupling of economic activity from environmental consumption at up to four times the current level, and others have identified targets between 20 and 50 times the current level (Reijnders 1998), a factor of 130 would seem to lie in the realm of science fiction.

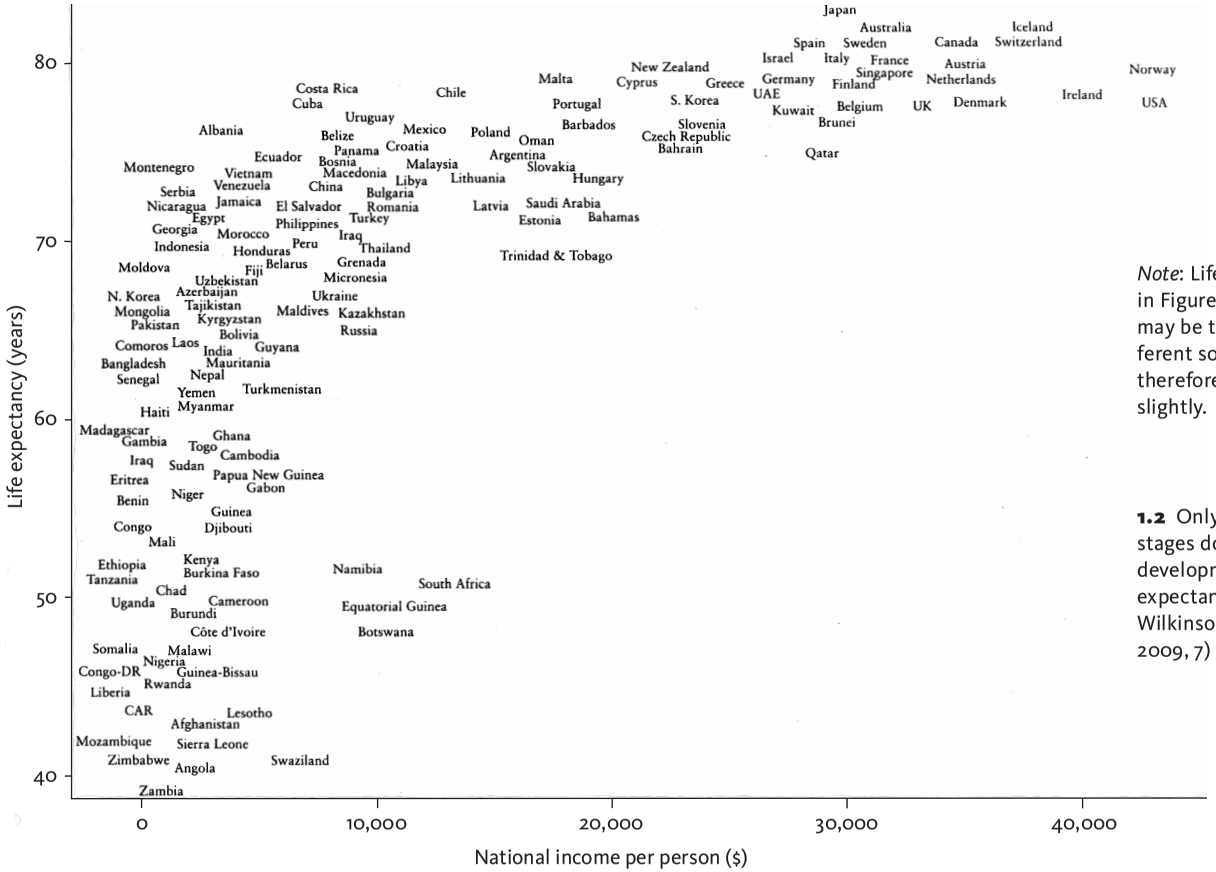
Sarkar (2011, 165) also argues that technological solutions are impractical. He suggests that our unpaid debts to nature are a source of our present prosperity:

> Exhausted deposits of non-renewable resources … cannot be refilled. Since the future generations will most certainly have to live in an environment degraded by us, we can say that the impoverishment of our descendants, which we accept without the slightest qualm, is also a source of our huge present-day surplus.

Even if high rates of growth could be sustained, past evidence suggests that this would not deliver increased wellbeing for all. The failure of growth to trickle down to benefit poorer groups in all societies is well documented, and can be seen most dramatically in India, where income inequality has widened rapidly alongside high growth rates. Nair (2011) argues that the Chinese experience, despite creating a massive middle class, is little different. His conclusion is that in the face of resource and environmental constraints, Asia as a whole must seek new models of consumption, which he terms 'consumptionomics.'

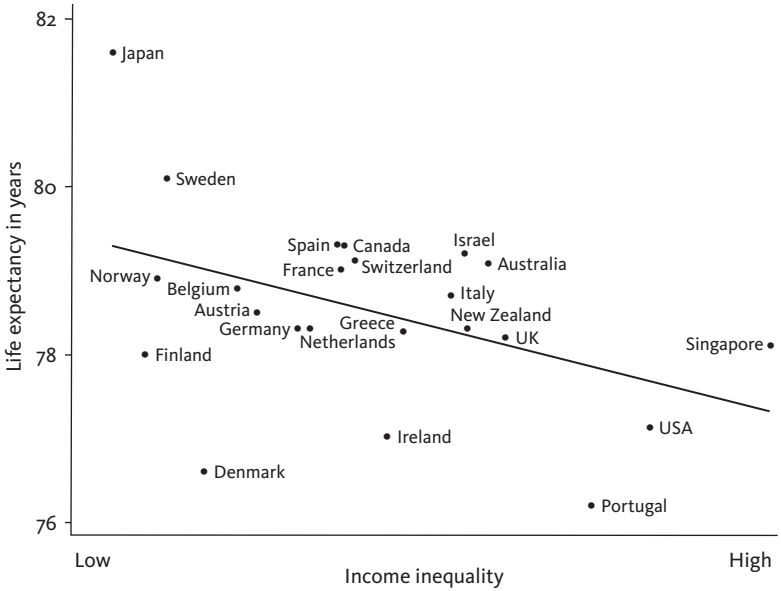
At the other end of the scale, Wilkinson and Pickett's (2009) work on the corrosiveness of inequality has strongly confirmed previous claims that continued growth in rich societies adds little if anything to wellbeing (see Figure 1.2). In wealthy societies they find much stronger relationships between income distribution and health and wellbeing. In other words, above a certain threshold, greater equality makes far more difference to real lives than greater income. In particular, the relationship between the material standard of living and rising life expectancy observed in 'developing' countries breaks down, and is partly replaced by a positive correlation between greater equality and longer lives (see Figure 1.3).

All this could be taken to suggest that economic depression or recession should be welcomed as a positive trend for just sustainabilities. However, without a guided transition to a different economic system, this is not so. Jackson (2009) notes one real dilemma arising from the role of growth as a 'stabilizer' for the economy (mopping



Note: Life expectancies in Figures 1.2 and 1.3 may be taken from different sources and may therefore appear to vary slightly.

1.2 Only in its early stages does economic development boost life expectancy (*source*: Wilkinson and Pickett 2009, 7)



Note: Life expectancies in Figures 1.2 and 1.3, and income inequality in Figures 1.3 and 1.8, may be taken from different sources and may therefore appear to vary slightly.

1.3 Life expectancy is related to income inequality in rich countries (*source*: Wilkinson and Pickett 2009, 82)

up productivity increases). He sees 'no clear model for achieving economic stability without consumption growth' (ibid., 10) but suggests that sharing out work and increasing leisure time might help stabilize output, and that with higher savings rates the challenge may be more manageable (both permitting higher investment in sustainability infrastructure, and reducing current consumption rates). In other words, he appears to propose a transfer from private to public consumption. Jackson also notes the positive relationship between growth and wellbeing at low income and consumption levels.

This suggests that growth remains desirable in much of the world. Moreover, if growth simply stalled within the current system, it would do nothing to reduce inequality, and could equally well trigger further retrenchment and domination by elites. Finally, current economic infrastructures for energy generation, food production, and transport are environmentally intensive, and unless they are replaced, even a

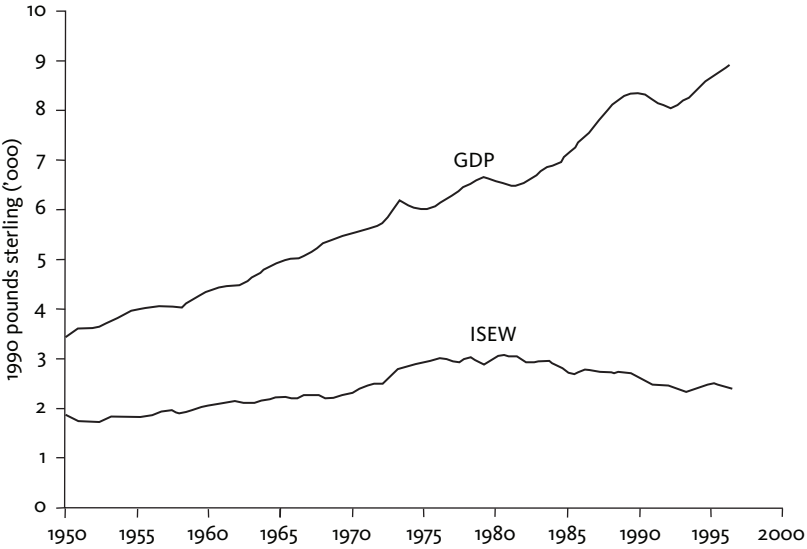
low- or no-growth economy will still be likely to exceed environmental constraints within a few decades.

Intriguingly, there is also evidence that the failure of the growth model to address inequality is a fatal internal shortcoming in that, far from the economy requiring inequality to function, inequality is a source of economic instability and thus detrimental to wellbeing.[2] Authors from a range of economic traditions, including Harvey, as noted previously, have suggested that growing inequality lay at the heart of the global financial crisis. We can conclude not only that growth per se does not necessarily deliver wellbeing, but that greater equality could both enhance wellbeing and stabilize economies. One consequence of such an analysis is that relying on economic measures as indicators of wellbeing is undesirable.

Measuring wellbeing The foregoing is clearly much more than just a critique of the use of gross domestic product (GDP) as an indicator of wellbeing. But the fetishism of GDP is a serious part of the problem, and one that was brought starkly to US attention in a 1995 *Atlantic Monthly* article by Clifford Cobb, Ted Halstead, and Jonathan Rowe: 'If the GDP is up, why is America down?' Institutions respond to the indicators they measure: politicians routinely promise GDP growth, call it 'progress,' and seek to deliver it regardless of the consequences. A wide range of alternative indicators have been suggested that attempt to measure what matters. Typically, they either adjust economic measures such as the Index of Sustainable Economic Welfare (ISEW) (Jackson et al. 1997) or the Genuine Progress Indicator (Cobb et al. 1999), or combine economic indicators with others, such as health and education, to create a composite indicator such as the Human Development Index (HDI) (Klugman 2010).

For example, the ISEW adjusts GDP to take account of defensive expenditures on environmental protection and healthcare, and to value leisure and unpaid work (primarily carried out by women in the home). From this it can be seen that even simply adjusted economic indicators can be much more just. The ISEW also confirms an apparent divergence between wellbeing, which is stagnating, and growth, which has continued in 'developed' economies since the 1970s (see Figure 1.4).

In 2010, the HDI was adjusted to account for inequality in all three of its components, recognizing that 'significant aggregate progress in health, education and income is qualified by high and persistent



1.4 UK Index of Sustainable Economic Welfare (ISEW) contrasted with GDP per capita, 1950–96 (*source*: www.parliament.the-stationery-office.co.uk/pa/cm199798/cmselect/cmenvaud/517-iv/8042116.htm)

inequality, unsustainable production patterns and disempowerment of large groups of people around the world' (ibid., 85). The report estimates that global aggregate HDI is reduced by almost a quarter as a result of inequalities.

The innovative Happy Planet Index (HPI) (Abdallah et al. 2009) takes life expectancy, self-reported life satisfaction, and ecological footprint into account to create a measure of the ecological efficiency of delivering long and happy lives. Costa Rica is top of the table in this respect. While the HPI does not take equality directly into account, the work of Wilkinson and Pickett (2009) suggests that equality can be expected to correlate strongly with both life expectancy and life satisfaction.

Stiglitz et al. (2011), in a report commissioned by former President Sarkozy of France, also call for a shift to measuring what matters – from measuring economic production to measuring people's wellbeing. The report distinguishes between an assessment of current wellbeing and an assessment of sustainability. Wellbeing arises from both economic resources, such as income, and from non-economic aspects of people's lives. Whether this wellbeing can be sustained over time

depends on whether stocks of capital that matter for our lives (natural, physical, human, and social) are passed on to future generations.

Among other things, Stiglitz et al. call for indicators that broaden income measures to include non-market activities and give more prominence to the distribution, not only of income, consumption, and wealth, but also of non-economic 'quality of life' factors. Quality of life depends on both people's objective conditions and their capabilities. Stiglitz et al. call for steps to improve measures of people's health, education, personal activities, and environmental conditions, including robust and reliable measures of social connections, political voice, and insecurity that can be shown to predict life satisfaction.

Stiglitz et al. also recognize the pitfalls of single measures such as ecological footprint. They conclude that sustainability assessment requires a dashboard of indicators that represent variations of some underlying 'stocks' (of natural, physical, human, social, and economic capital). In addition, they find a need for a clear indicator of our proximity to dangerous levels of environmental damage (such as that associated with climate change or the depletion of fishing stocks).

These alternative indicators typically have common features: direct measures of wellbeing, attention to inequality, and a recognition that conventional economic measures can be misleading. Importantly, it is not only nations that are beginning to think this way. In 2009, the US state of Maryland formed 'an inter-agency workgroup to explore how government could measure social wellbeing and develop an alternative metric to traditional economic indicators' (Maryland Genuine Progress Indicators). In 2011, the city of Seattle, WA, made a Happiness Proclamation[3] and the city of Somerville, MA, in its local census asked: 'On a scale of 1 to 10, how happy do you feel right now?'[4]

There are profound implications for the economic models that might be designed if more politicians and decision-makers pursued an agenda based on just sustainabilities, maximizing and optimizing such alternative indicators of happiness and wellbeing. It is no coincidence that the state of Maryland and the cities of Seattle and Somerville are also creatively looking at issues of food, space, and culture, the focus of the chapters of this book.

Alternative economic models An alternative model must address the shortcomings of the conventional model in delivering wellbeing and

an overall improvement in people's quality of life. These shortcomings include, crucially, the phenomenon of jobless growth (Rifkin 1995). One of the main mechanisms by which economic prosperity can be turned into wellbeing is through the provision of fulfilling employment (helping to meet a range of personal and social needs, not just income). If growth does not generate additional jobs, then it does little to meet needs and increase wellbeing. Rifkin (ibid.), while identifying the trend of jobless growth early, saw it as largely a product of technology, to which we should adapt. He describes the coming challenge as redefining the role of the individual in a near workerless society, with new models for informal work and for income distribution. As we will see below, new models offer scope for more than informal work, but Rifkin (ibid.) usefully highlights the importance of the distribution of work, as well as the distribution of income.

Similarly, to increase wellbeing, an alternative model will need to redistribute consumption between private and public forms. Increased private consumption is closely related to the inequalities and related social problems identified by Wilkinson and Pickett (2009), and by Schor (1999a). A larger share of public consumption, providing more shared resources, and a revived public realm or sphere and public spaces, especially in cities, is a key tool for improving quality of life and wellbeing, as I will demonstrate in Chapter 3.

Indeed, Low and Smith (2006, 6) argue that 'an understanding of public space is an imperative for understanding the public sphere' and that 'investigating the means of making and remaking public space provides a unique window on the politics of the public sphere, suggesting an even more powerful imperative to the focus on public space' (ibid., 7). People around the world continue to fight for, create, and re-create public spaces in light of the 'neoliberal onslaught,' which brought a 'trenchant reregulation and redaction of public space' (ibid., 1). From pocket parks to PARK(ing) Day, they are carved from the commerce of urban centers, the abandoned industrial structures of yesteryear, and even the automobile-lined streets. These spaces are used for everything from people-watching to Occupy movements, and other political (r)evolutions.

In the US a national alliance called the Right to the City (RTTC) emerged in 2007 as a unified response to gentrification, with a call to halt the displacement of low-income people, lesbian, gay, bisexual,

and transgendered (LGBT) individuals, and youths of color from their historic urban neighborhoods. Harvey (2008, 23) casts the net wider: 'The freedom to make and remake our cities and ourselves is … one of the most precious yet most neglected of our human rights.' He highlights the common impacts and causes of slum clearances in Seoul and Mumbai, and the privatization of public spaces in US cities.

One of the environmental implications of such privatization is increased environmental consumption resulting from the loss of shared resources. However, one of the more hopeful of recent trends is the re-emergence of resource-sharing and collaborative consumption in many major cities. Typical is Shareable.net:

> The online magazine that tells the story of sharing. We cover the people and projects bringing a shareable world to life. And share how-tos so you can make sharing real in your life. In a shareable world, things like car sharing, clothing swaps, childcare coops, potlucks, and cohousing make life more fun, green, and affordable. When we share, not only is a better life possible, but so is a better world. The remarkable successes of sharing projects like Zipcar, Wikipedia, Freecycle, Kiva, and Creative Commons show this. They tell a hopeful story about human nature and our future, one we don't hear enough in the mainstream media.

Clearly, delivering wellbeing justly and sustainably requires a change in market structures, not just in the content of what we purchase (Holt 1999; Frank 1999). This takes us far beyond the current fad of green consumerism or its food equivalent, 'voting with your fork' (see Chapter 2), and even beyond the clearly growing ability of consumers to influence companies' social responsibility throughout their supply chains through the use of social media (Hertz 2009; Mainwaring 2011).

But even changing the content of consumption to reflect justice or sustainability has been slow. Consumption, as Schor (1999b) points out, is defended as a personal choice and a matter of liberty. As a result, green consumerism is seen as a voluntary, choice-based policy – choice-editing[5] – which, despite the strong advocacy of bodies such as the former Sustainable Development Commission in the UK, has made little headway in terms of delivering change. Witness also the media and corporate outcry when unlimited choice to travel by air is challenged, and the way in which policy options such as personal carbon allowances or other forms of rationing are seen as extreme

options. It might be argued, especially in the US, that personal liberty to consume is part of the freedoms that constitute justice. But this would be an extreme interpretation. Sen (2009) reminds us that justice is measured in more than consumption or even wellbeing. It is measured in capabilities and freedoms, too. He also points out that with freedoms come accountabilities – in this case justifying state intervention.

Insofar as consumption is a signal of status, it is also likely to have an impact on health through the same psychosocial mechanisms that create a relationship between hierarchy and health. Research (primarily in workplaces) shows that poor health is correlated with subordinate positions and lack of autonomy (Wilkinson and Pickett 2009). Improving quality of life therefore not only requires changes in consumption, but also in production, particularly to provide more autonomy. Wilkinson and Pickett (ibid.) speculate that much could be achieved with the wider deployment of organizational models such as cooperatives and other mutuals.

At a fundamental level, any potential economic model based around just sustainabilities will need to recognize the dependency of the economy on a diverse, healthy society. Such a society would have a healthy public sphere, a healthy public space, and a healthy environment, rather than assuming that a larger economy can in some way compensate humans for damage to society, places, and the wider environment. As we shall see, both social and environmental health are dependent, to a large extent, on greater justice and equality.

Co-production One suggestion is that the concept of just sustainabilities lends itself to the idea of co-production as a possible alternative economic model. In its broadest sense, reflecting the capabilities approach of Sen (2009), it sees people as assets rather than burdens, invests in their capacities, and uses peer-support networks in addition to professionals to transfer knowledge and capabilities. In narrower, economic terms, co-production refers to the involvement of the user or consumer in the design, manufacture, and delivery of the goods and services they consume, thereby blurring the distinction between the producer and the user/consumer.

Co-production is already emerging in several diverse arenas. While some of the trends (an increase in self-assembly of furniture) offer little benefit, others (domestic energy generation, timebanking/time-dollar schemes, self-build co-housing, open source software) exhibit key

benefits in that people are reclaiming and reinventing work, refusing to be directed by the logic of capital, engaging their individual and collective capacities to invent, create, shape, and cooperate without monetary incentive.

The New Economics Foundation (NEF 2008, 11–12) notes:

> The past three decades have produced many successful examples of co-production in action around the world. People living in the squatter camps of Orangi in Karachi successfully provided themselves with drainage and mains water faster and at a far lower cost than the more accepted top-down method. Habitat for Humanity has made houses more affordable by including work building other people's homes into the mortgage payments. Some programmes – notably the Bolsa Escuela scheme in Brazil that pays mothers to make sure their children attend school – have made direct payments to clients or their families to recognise the efforts they are making.

One can contrast the co-production model with labor specialization in the capitalist model, which leads to excess 'leisure' for some – that is, the unemployed – and all the lack of purpose and stigma the label brings. This model also leads to overwork for those who are employed, with the stress-related health effects that can bring. These extremes, together with the commodification of leisure itself, mean there is even less potential for self-fulfillment. Co-production differs from the Scandinavian and Dutch social contract models of capitalism. It would theoretically deliver some of the same outcomes in terms of sharing costs and responsibilities between employer, employees, and state, but through mechanisms that in many respects pool or aggregate individual freedoms into collective freedoms on a much smaller scale than that of the nation state. The results are impressive:

> If you are discharged from the Lehigh hospital outside Philadelphia, you will be told that someone will visit you at home, make sure you're OK, if you have heating and food in the house. You are also told that the person who will visit you is a former patient, not a professional, and that – when you are well – you will be asked if you could do the same for someone else. The result is a dramatically cut re-admission rate, and all by using the human skills of patients and their own needs to feel useful. (ibid., 18)

In the UK, the charity Nesta,[6] working in partnership with NEF, sees:

> Co-production [as] a new vision for public services which offers a better way to respond to the challenges we face – based on recognising the resources that citizens already have, and delivering services *with* rather than *for* service users, their families and their neighbours. Early evidence suggests that this is an effective way to deliver better outcomes, often for less money.

Through a series of groundbreaking reports such as *The Challenge of Co-production*, *Public Services Inside Out* and *Right Here, Right Now*, Nesta deepens our understanding and puts forward a convincing argument and evidence base for co-production across a range of public services, and recommends a radical reimagining of policy to support the diffusion of co-production (see Figure 1.5). With widespread, contagious uptake (and co-production is reliant in many ways on the existence of social networks), no longer could waged jobs be assumed to define people, and no longer could they be a key basis for politics. Further, nor could consumerism hold such powerful sway over politics if greater levels of wellbeing were generated by such participatory activity, rather than by consumption of the end products.

		Responsibility for design of services		
		Professionals as sole service planner	Professionals and user/community as co-planners	No professional input into service planning
Responsibility for delivery of services	Professionals as sole service deliverers	Traditional professional service provision	Professional service provision but user/community involved in planning and design	Professionals as sole service deliverers
	Professionals and users/communities as co-deliverers	User co-delivery of professionally designed services	Full co-production	User/community delivery of services with little formal/professional input
	Users/communities as sole deliverers	User/community delivery of professionally planned services	User/community delivery of co-planned or co-designed services	Self-organized community provision

1.5 User and professional roles in the design and delivery of services (*source*: adapted from Tony Bovaird 2006)

In *Wikinomics*, Tapscott and Williams (2006) see co-production as a function enabled by new technology (especially participatory web-based networks – the eponymous 'wiki'), emerging first in fields such as software and cultural products, and extending with the development of modular design and decentralized fabrication technologies (3D 'printers') to many other sectors, including industrial products. The growth of small-scale (domestic and community) renewable energy schemes and, similarly, of local food production and distribution schemes offers an insight into how co-production can build capacities and increase freedoms (in terms of providing security from unstable and insecure global markets for food and energy).

Other emerging emanations of co-production may involve the commoditization of leisure, which could be a dangerous development in that it could bring even more of life into market spheres. Here, the mechanisms and institutions will be critical if play and innovation are to become a foundation for co-production and sustainability (Kane 2011a), rather than co-opted into a new cycle of conventional economic development. Kane suggests that:

> play can help redirect our passions from consumption to craft, from lifestyle narcissism to joyful participation, and thus live lighter (though just as richly) on the planet.

Kane also highlights:

> the importance of craft – the personal construction of objects and services, as a route to meaning, mastery and autonomy … [and] the power of festivity and carnival – forms of collective, organised behaviour whose end is experiential pleasure, and whose means is participatory involvement.

He concludes:

> Communication and game platforms can amplify and coordinate this new, joyful activism. But the aim is to re-channel our playful natures from serving an isolated, subjective escapism, to supporting a civic, inter-subjective engagement.

It is the potential of co-production to meet needs. These needs include not only the desire for novelty, entertainment, and freedom, but also the need for security, community, solidarity, and identity. Further, that these needs will be met while transforming economic

models away from the treadmill of growth and consumption is what makes the potential of co-production so exciting. Next, I turn to a deeper consideration of needs.

Meeting the needs of both present and future generations In this section I explore further the relationship between material consumption and needs. In particular, I consider the extent to which justice and equity are needs, and how inequality damages our capabilities for flourishing and our ability to meet our needs. More specifically, I examine health, the need for social identity, and how the current role of consumption in defining social identity could be supplanted in a more just and sustainable manner. I then turn to issues of international and intergenerational justice arising from the uneven distribution of natural resources.

The concept of sustainable development, while contested (see, for example, Jacobs 1999; Gunder 2006), embodies a process in which reasonable material needs are met. Despite legitimate critiques regarding various and culturally specific definitions of 'development,'[7] Larrain et al. (2002) helpfully describe from a global south perspective the concept of the 'dignity line' – a culturally specific minimum level of material consumption needed to allow a life lived with dignity. Dignity, however, is not simply a matter of overcoming material scarcity. For instance, as Sen (1999) has convincingly argued, famines typically occur in the presence of plenty, but in the absence of democracy. At the global scale, too, we produce more than enough food to feed everyone well, but too much is wasted – that is, dumped to maintain prices – and too much is consumed by individuals whose health is threatened by overconsumption. A policy focus on trade liberalization without protections for those with fewer capabilities to benefit from markets has exacerbated the situation, especially in the absence of land reform to allow fair distribution of productive resources (Shiva 2002). Justice is clearly the missing element (see box).

Inequality and ill-health Equality and justice are not only important in terms of material needs. As Wilkinson and Pickett (2009) have shown, material inequality harms mental and physical health and wellbeing with consequences including shorter life expectancy, greater incidence of obesity, and lower overall health. For example, Americans generally

Food justice

In recent years, food has become one of the key arenas in which conflicts around justice and sustainability have played out, particularly as a result of the opposing trends of globalization and localization of food production. In the US especially, as Chapter 2 shows, the interplay of race[8] and class has had a profound effect on food policy, politics, production, distribution, and consumption (Alkon and Agyeman 2011). Globally, as with other key environmental resources, absolute scarcity has not been the principal driver of conflict, although it may yet prove to be so (Godfray et al. 2010). Rather, the issues have been about distribution and the sustainability of production methods.

Controversy over genetic modification (GM) of food crops has encompassed potential concerns for health, environmental impact, and control over the food chain. In India, serious opposition to GM has mainly reflected concerns regarding the food chain and the efforts of agri-businesses to patent and control crop varieties. This is only an extreme example of the debates over food security in developing countries as their markets have reoriented toward exporting foodstuffs to the richer world. This has typically improved food security for those involved in formal agriculture, but has often undermined it for those on the margins, whose access to land and other resources has been reduced. Across the developing world, justice movements have begun to talk not of food security but of 'food sovereignty'[9] (Holt-Giménez 2011). The food sovereignty paradigm treats access to food as a human right and seeks to reorient production to prioritize self-sufficiency.

The challenges raised by global markets have been further highlighted by the impacts of biofuel production. Conceived as a means of helping mitigate climate change, demands for biofuel feedstocks have grown rapidly, and have been widely blamed as a contribution to rising food prices and scarcity. The control of productive land for biofuel production, especially in Africa, has been one element bringing the practice of 'land-grabbing' by European companies to public attention.

At the other end of the food chain, in rich countries we have seen continued intensification of production and monopolization of food retailing by a handful of supermarkets. We have, however, also seen emerging forms of co-production in food systems, driven by largely niche preferences for local and organic food, and to some extent by demands for fair trade food. These have led to popularization of farmers' markets, box delivery schemes, and growing demand for urban agricultural spaces or allotments (in the UK). On one hand, on a global scale, the International Assessment of Agricultural Knowledge, Science and Technology for Development (2009) has called for 'sustainable intensification' but has recognized that, for example, GM is not required to feed the world. On the other hand, lower meat consumption may be a necessity in the rich world if equity is to be achieved in food systems.

are healthier and living longer, but there are sectors of the population who are in poor health, defined principally by race/ethnicity, socio-economic status, geography, gender, age, disability status, and risk status related to sex and gender. The 'health disparities' agenda (often called 'health inequalities' outside the US) aims at eliminating health disparities for these vulnerable populations. This agenda could be yet another area where a co-production model might work. Betancourt et al. (2003, 299) note: 'Given the strong evidence for socio-cultural barriers to care at multiple levels of the [US] health care system, culturally competent care is a key cornerstone in efforts to eliminate racial/ethnic disparities in health and health care.' A co-production approach would prioritize culturally competent care.

In their comparative studies of the Organisation for Economic Co-operation and Development (OECD) nations and US states, Wilkinson and Pickett (2009) demonstrate that benefits from greater equality would arise across all income deciles, even the wealthiest. In other words, everyone suffers from the stresses of competition, or what Wilkinson and Pickett (ibid.) call 'evaluative anxiety.' The data is, however, not of a fine enough grain to tell whether the true elites in the modern world, the wealthiest 1.0 or 0.1 percent, also experience worse mental and physical health. What is true, clearly, is

that in more unequal societies even the richest elites incur additional defensive costs (high security and insurance costs, for example).

Wilkinson and Pickett (ibid.) stress that different mechanisms operate in developed and developing countries. In the rich world, inequality does damage via status and psychosocial effects, while in the poor world, the impacts of absolute poverty also come into play, impairing the health and capabilities for flourishing of the poorest. In the rich world, the psychosocial impacts they identified reinforce the effects of competitive consumption (Frank 1999; Schor 1999b), which means that large segments of even the middle classes in rich nations such as the UK and US report 'difficulty getting by' on their incomes.[10]

Evaluative anxiety has also increased as a result of social and technological changes resulting in the disintegration of settled communities (as we will see below, this factor is potentially a key trigger in changes in the basis of social identity) and what Bauman (2005) describes as 'liquid life.' For Bauman, liquid life is a state in which life circumstances change more quickly than our actions can be consolidated into habits or norms. Thus it is a 'precarious life, lived under … constant uncertainty' (ibid., 2).

In this situation, increasing inequality would seem likely to have more severe psychosocial impacts, and thereby dramatically impair capabilities – thus undermining justice, in Sen's (1999) sense. As Wilkinson and Pickett (2009, 42) put it: 'People's sense of identity … [has been] cast adrift in the anonymity of mass society … As a result, who we are, identity itself, is endlessly open to question.' In such circumstances, combined with the power of marketing highlighted by McIntosh (2008), vulnerability to the pursuit of identity through consumption is high. McIntosh suggests we have fallen prey to a numbing culture of violence. Combined with the motivational manipulation of marketing, McIntosh argues that this numbing culture of violence has established an addictive consumer mentality. In such a fractured and uncertain culture, vulnerability to divisive group identity creation is also high.

Reimagining needs At this point, it is essential to consider what we mean by 'needs.' Neoclassical economics uses the term interchangeably with 'wants' or 'desires,' but there is a substantial and critical literature examining the nature and definition of needs. Maslow's (1954) hierarchy of human needs offers a solid foundation. He sets

out the case that, as immediate (and fairly obvious) physiological and safety needs for things such as food and shelter are met, humans are motivated, sequentially, by needs for belonging, esteem, and finally self-actualization. As we will see later, in a capability-based approach to justice, one can also consider rights and liberties as needs (Sen 2009).

Max-Neef (1991) and Schwartz (2006) have sought to develop universal approaches to human needs and values, respectively. These authors both recognize the complexity of needs and values, and the potential contradictions that arise between them and as a result of different ways of satisfying them (Max-Neef calls these various ways 'satisfiers'). Max-Neef rejects the proposition that 'human needs tend to be infinite, that they change all the time, that they are different in each culture or environment and that they are different in each historical period' (1991, 17). He also rejects the idea of a hierarchy, such as the one proposed by Maslow, while recognizing the overriding effect of unsatisfied subsistence needs. Needs may have evolved through a hierarchy in evolutionary time, but for modern humans the idea of a hierarchy is potentially unjust. Of course, it would be unfair to suggest that it would be acceptable to seek to meet only the basic needs of poor people or people in poorer countries, but a hierarchical conception of needs can be interpreted in such a way. Not all people will express the same needs in the same ways, so a hierarchy may therefore appear to exist. In the context of justice, this implies that all people are entitled to the same capabilities and recognition of their needs (and values), which is in line with the thinking of Sen (1999), Schlosberg (2007), and Schlosberg and Carruthers (2010), as outlined below.

Max-Neef (1991, 32–3) organizes human needs on two interacting axes: 1) the existential needs of being, having, doing, and interacting; and 2) the axiological needs of subsistence, protection, affection, understanding, participation, idleness (leisure), creation, identity, and freedom (see Table 1.1). Each combination of existential and axiological can have multiple satisfiers that may change over time. For example, food and shelter are merely one form of satisfiers for the having and doing needs of subsistence. He distinguishes carefully between 'destructive' satisfiers that may fulfill one need but damage another (consumerism comes to mind) and those – education for example – that are *synergistic* and fulfill multiple needs.

Schwartz (2006, 2–3) has constructed a circle or spectrum of values

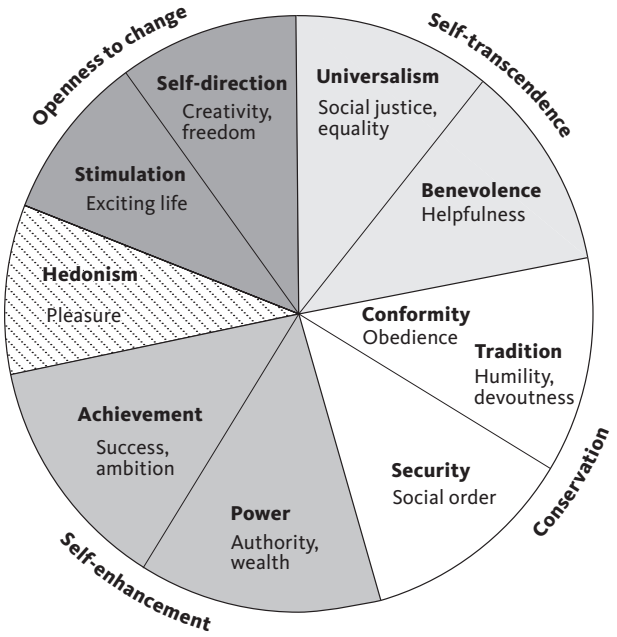
TABLE 1.1 Needs and satisfiers in Max-Neef's model of human-scale development

Fundamental human needs	Being (qualities)	Having (things)	Doing (actions)	Interacting (settings)
subsistence	physical and mental health	food, shelter, work	feed, clothe, rest, work	living environment, social setting
protection	care, adaptability, autonomy	social security, health systems, work	cooperate, plan, take care of, help	social environment, dwelling
affection	respect, sense of humour, generosity, sensuality	friendships, family, relationships with nature	share, take care of, make love, express emotions	privacy, intimate spaces of togetherness
understanding	critical capacity, curiosity, intuition	literature, teachers, educational policies	analyse, study, meditate, investigate	schools, families, universities, communities
participation	receptiveness, dedication, sense of humour	responsibilities, duties, work, rights	cooperate, dissent, express opinions	associations, parties, churches, neighbourhoods
leisure	imagination, tranquillity, spontaneity	games, parties, peace of mind	daydream, remember, relax, have fun	landscapes, intimate spaces, places to be alone
creation	imagination, boldness, inventiveness, curiosity	abilities, skills, work, techniques	invent, build, design, work, compose, interpret	spaces for expression, workshops, audiences
identity	sense of belonging, self-esteem, consistency	language, religions, work, customs, values, norms	get to know oneself, grow, commit oneself	places one belongs to, everyday settings
freedom	autonomy, passion, self-esteem, open-mindedness	equal rights	dissent, choose, run risks, develop awareness	anywhere

Source: www.rainforestinfo.org.au/background/maxneef.htm

that has profound similarities to Max-Neef's system. These are listed in Figure 1.6 below along with the related motivations (or needs):

1 *Self-direction*: independent thought and action; choosing, creating, and exploring.
2 *Stimulation*: excitement, novelty, and challenge in life.
3 *Hedonism*: pleasure and sensuous gratification for oneself.
4 *Achievement*: personal success through demonstrating competence according to social standards.
5 *Power*: social status and prestige, control, or dominance over people and resources.
6 *Security*: safety, harmony, and stability of society, of relationships, and of self.
7 *Conformity*: restraint of actions, inclinations, and impulses likely to upset or harm others and violate social expectations or norms.



Organized by motivational similarities and dissimilitarities

1.6 Theoretical model of relations among ten motivational types of values (*source*: Schwartz 2006; http://segr-did2.fmag.unict.it/Allegati/convegno%207-8-10-05/Schwartzpaper.pdf)

8 *Tradition*: respect, commitment, and acceptance of the customs and ideas that traditional culture or religion provide the self.
9 *Benevolence*: preserving and enhancing the welfare of those with whom one is in frequent personal contact (the 'in-group').
10 *Universalism*: understanding, appreciation, tolerance, and protection for the welfare of all people, and for nature.

Schwartz (ibid., 4) notes that his:

> structure can be summarized with two orthogonal dimensions. *Self-enhancement vs. self-transcendence*: On this dimension, power and achievement values oppose universalism and benevolence values. Both of the former emphasize pursuit of self-interests, whereas both of the latter involve concern for the welfare and interests of others. *Openness to change vs. conservation*: On this dimension, self-direction and stimulation values oppose security, conformity and tradition values. Both of the former emphasize independent action, thought and feeling and readiness for new experience, whereas all of the latter emphasize self-restriction, order and resistance to change. Hedonism shares elements of both openness and self-enhancement.

Even these dimensions are not wholly mutually exclusive, although most people hold these various values to greater or lesser degrees, and are more likely to jointly hold values that are adjacent in the circle than those that are more distant. Rose (2010) has adopted a similar values analysis to identify three broad groups in society: *settlers* (sustenance driven, with values dominated by Schwartz's 'conservation' group); *prospectors* (outer-directed, with values dominated by self-enhancement, and openness to change); and *pioneers* (inner-directed, with values of self-transcendence). Rose argues that these groups are fairly exclusive and, implicitly, that there may be a (slow) progression between them (following Maslow).

From a just sustainabilities point of view, it is important to recognize that people hold different and fairly robust non-material values. While conflicts may arise if their consequent needs are met in particular ways, those needs can be met through different satisfiers, which thus at least theoretically raises the prospect of there being both socially just and environmentally sustainable ways of fulfilling them. I also want to emphasize the importance of a secure self-identity as universal among people's non-material needs. Even identity

is not a simple concept, as it typically involves a balance between two needs, for assimilation or conformity, and differentiation. The combination of these has been described as 'optimal distinctiveness theory' (Brewer 2003). For Brewer, distinctiveness is the motive determining the selection and strength of social identities. Optimal distinctiveness theory states that distinctiveness within an in-group must be equalized by assimilation, which is an independent yet opposing motive for group identification.

As I outline below, both these motives can be clearly seen in the construction of modern social identities through consumption, with damaging consequences for justice and sustainability.

Consumption and identity Schor (1999b) argues that our sense of social standing and belonging comes from what we consume and, moreover, that consumption habits and patterns are central to the reproduction of class inequality, alienation, and power. This is particularly true in contemporary consumerism, with its emphasis on 'bling': luxury, expensiveness, exclusivity, rarity, uniqueness, and distinction. Schor sees modern consumption as a comparative or competitive process in which individuals try to keep up with the consumptive practices of the social group with which they identify. She suggests that in the modern consumer society, our reference points are no longer neighbors or workmates, but rather a wealthy elite.

Several authors (see, for example, Lamont and Molnár 1999) have offered a (multi)cultural critique of Schor, arguing that she focuses too narrowly on conventional white, middle-class consumption patterns (in the rich world). Schor's model, they argue, is 'that of a single individual entering a shopping mall and *choosing* among goods to maximize the investment of his or her resources, with the primary goal of accumulating goods to gain status,' whereas 'an alternative, more cultural, model would frame consumption as a social act – shopping, for example, is often done with a friend or family member and with someone else's needs in mind.'

In another paper, Lamont and Molnár (2001, 42) stress the use of consumption practices to define positive ethnic and racial identities in the face of discrimination:

> Consumption is uniquely important for blacks in gaining social membership. Their experience with racism makes the issue of

> membership particularly salient, and consuming is a democratically available way of affirming insertion in mainstream society.

Is there a way of creating positive individual and collective identities that is not consumer-driven? McIntosh (2008, 143) suggests that it may be pointless to seek a positive model of consumerism:

> Violence hollows out the capacity to have an inner life. It does so by desensitising the ability to feel and to relate to others … it opens up the gnawing emptiness of in-authenticity in human relations … this is the chasm into which the retail therapy of consumerism pours, and here are the roots of nihilism.

Marketing and advertising designed to create new addictive and self-destructive 'needs' flood through the 'chasm.'

Taken as a whole, these analyses lead to three conclusions: 1) that excessive consumption must be curbed, perhaps through some form of progressive consumption tax mechanism; 2) that the operations of the advertising industry must be more strictly regulated; and 3) following from Lamont and Molnár (2001), that we must redouble our efforts to end racism and discrimination, since we know that, in addition to their moral repugnance, they are also drivers of identity-based consumption.

The role of consumption in the global economy is equally pivotal. In the face of contemporary Western calls for China to accelerate consumption rates to create a consumer-led boom to rescue the faltering global economy, Nair (2011) suggests that Asia as a whole should instead reject Western models of consumer economics. He argues that if Asians were to achieve consumption levels taken for granted in the West, the results would be environmentally catastrophic and geopolitically destabilizing as nations scrambled for diminishing resources. He calls for new models of capitalism with strong states, greater equality, and high investment in sustainable resource management, especially sustainable land use. Clearly any such model would have to retain or incorporate tools to constrain competitive status consumption.

Jackson (2009) also recognizes the importance of moving away from consumerist economies. He describes the need as one for 'alternative hedonism' – sources of identity, creativity, and meaning that lie outside the realm of the market. Both Nair and Jackson are echoing the concept

Consumerist riots?

In summer 2011, several UK cities experienced rioting and looting. Initially triggered by a police shooting in Tottenham, London, these events occurred largely with no obvious political cause. Looting of fashionable clothes, sports shoes, and gadgets was typical. While many stores in London's Clapham Junction were looted, Waterstone's bookstore was left untouched! Many commentators have subsequently made connections with inequality and with consumerist values and identities, combining the sense of loss of other forms of value and identity with the dominance of consumerist values.

A range of other factors, of course, contributed. Some examples of such factors include government cuts in services, and loss of trust in unjust institutions and individual actors in politics and the media (notably arising from recent scandals of Members of Parliament abusing expense allowances, and the Murdoch-owned *News of the World* hacking mobile phone voicemail accounts). Further factors included failings in policy measures designed to support multiculturalism (especially from the mistrust exhibited by security forces in the misplaced 'war

of 'sufficiency,' as elaborated by McLaren et al. (1998), which seeks to combine understandings of the environmental and of the personal implications of consumption. This paradigm of sufficiency suggests that there might be an optimal level of consumption. An optimal level of sufficiency refers to one that meets both material and non-material needs associated with consumption, but does not damage other needs, such as environmental quality, social equality, or individual health. McLaren et al. (ibid.) also propose that policy measures to promote sufficiency would increase the wellbeing achieved for every unit of consumption, acting as a multiplier with 'efficiency' measures that reduce the environmental impact of each unit of production.

Given the importance of consumption to identity, and the importance of reducing consumption (at least in wealthy societies), a key question arises: can we envisage a way to square the circle? Is there any opportunity to establish different sources of identity? Social identity theory (for example Turner et al. 1987) suggests that a significant

on terror'), and the increasing loss of a shared public realm as public spaces in our cities are privatized and consumerized. But the role of inequality, consumerism, and specific reference groups, in particular, is well summed up by one blogger:

> These kids aren't rioting for the right to a job in traditional sectors threatened by neo-liberalism … No, this generation is cursed with semiotic plenitude. They have been super-conditioned by all kinds of powerful media and branding to think they live in a world sprinkled with stardust. A world where self-expression and recognition, not just through the medium of art (*X-Factor*), but via the basic interactions of their lives (*Big Brother*), is what essentially matters. If you don't have the talent … then you have to buy into the lifestyle that at least evokes such stardom. When you realise you are always going to fall far short of the spending power to live that lifestyle, that's a recipe for permanent, corrosive dissatisfaction. What's different compared to the seventies is the explosion of media – meaning the explosion of ways to get a tantalising, frustrating taste of the consumer identity you know you'll never quite possess. (Kane 2011b)

part of individual identity is established through the way in which people identify themselves as part of specific groups (in-groups) in terms of factors such as race, ethnicity, class, occupation, and education, and consumption patterns clearly signal such self-identification. The social identity literature suggests, however, that individuals can undergo identity shifts as part of significant life transitions such as career changes, or enforced external events such as the return of Hong Kong to China (Brewer 2003). Schwartz (2006) notes three systematic sources of value change in adulthood: historical events that impact on specific age cohorts (e.g. war, recession), physical aging, and life stage (e.g. family formation).

Experience with state-building in Eastern Europe offers an interesting perspective here. Kuzio (2002) highlights not only the contradictions between democratization and marketization in post-Communist states, but also the incompatibility of state institution-building and civic nation-building with democratization and marketization. In particular,

Socio-economic system	Peasant societies	Industrial societies	Consumer societies	Post-material/ post-capitalist societies
Dominant values modes	*Settlers (security, belonging)*	*Settlers/ prospectors (security, esteem)*	*Prospectors (esteem/ novelty)*	*Pioneers (novelty/ personal growth)*
Source of identity	Land/place	Work/union	Wealth/ possessions	Co-production community?
Key trends	Political and economic freedoms increasing Resource use/consumption increasing ... ... **de**creasing Equality increasing ... ... **de**creasing ... **in**creasing			

1.7 The identity transition (*source*: McLaren PowerPoint slide)

he emphasizes the importance of national identity within the former processes, but bemoans the failure of the actors involved to even recognize the task of national identity-building as a process that can be guided. Of course, Smith (1981), who foresaw an ethnic revival in the USSR, might argue that the survival of national and ethnic identities underlay the collapse of the Soviet Union, but still Kuzio has identified a real missed opportunity. Rifkin (2010) picks up a similar thread in his book *The Empathic Civilization*, in which he argues that national identity is a progressive step forward from religious and blood-kin identity, but one that needs to be supplanted by the extension of empathy from our countrymen (and -women) to the global population and indeed to other species.

These examples suggest that deliberate and large-scale intervention in identity formation may be possible. McLaren (2011a; pers. comm.) has also speculated that, over time, the dimensions on which in-group and out-group categorizations (and thus social identities) are primarily determined have changed in the past, sequentially from place, to job, to consumption patterns (see Figure 1.7).

Social identities may have become more fluid (indeed, in Bauman's 'liquid life,' it might even be suggested that they are temporary and multi-layered, if they have time to form at all). However, the work of

Schor, Jackson, and Lamont and Molnár, cited above, confirms that consumption habits are critical – perhaps increasingly so, at present – in establishing identity in modern society. The idea of a transition allows us to consider what might replace consumption as the central source of identity in a society based around just sustainabilities.

Castells (2010) suggests a model for the transformation of identity that involves identifying three basic forms: 1) *legitimating identity*, 2) *resistance identity*, and 3) *project identity*. The third is a deliberate collective effort by social actors to reshape identity, potentially following the definition of resistance identities that are rooted in factors such as ethnicity and locality, but that are used to resist the stigmatizing effect of being defined in terms of a dominant or legitimating identity. On a global scale, he suggests that both feminism and environmentalism have been largely successful project identity transformations.

It might be argued that the very definition of in-groups and out-groups is inimical to justice, and that just sustainabilities should be about eliminating such constructions (in the way Rifkin implies). However, the psychological and sociological literature suggests convincing reasons why humans make such constructions as a consequence of evolutionary interactions (Ridley 1996). To even change the basis of social identity would constitute a major transformation, and that is what is suggested here.[11] My proposition is that a shift to an economic model of co-production would allow (and perhaps even demand) such an identity transition, with much more dominant roles in identity formation being found in creativity and within the multiple and overlapping in-groups of co-productive activities.

Needs and resource scarcity I cannot leave the issue of meeting present and future needs without considering the implications of the scarcity of material and environmental resources, for both international and intergenerational distribution. Both renewable and non-renewable resources can be the objects of scarcity. Overexploitation of renewable resources, such as forests, runs down our natural capital stocks, thereby reducing future productivity. The use of finite, non-renewable resources leaves fewer – and typically lower-grade – resources for future generations.

The conventional response to resource shortages has been colonization of new territories, with neocolonial land-grabbing and resource-grabbing going on to this day, concentrating resources and capabilities

in the hands of the relatively rich and powerful. Conventional theories of justice such as Rawls (1971) find it difficult to address international justice questions, as they rely on the shared democratic institutions of the nation state to deliver justice, while weak and unelected international institutions cannot play the same role.

In some respects it should not be surprising that there are no international agreements regarding the distribution of material resources, and that even agreement over common property resources such as fisheries, oceans, and the atmosphere is the subject of fraught negotiation. Nonetheless, principles of equity, vulnerability, and capability are frequently cited and often incorporated to some degree in international relations. But the dominant international institutions – that is, the World Trade Organization (WTO), International Monetary Fund (IMF), and World Bank – are dominated by neoclassical economic ideologies of distribution, thus leaving consideration of justice at the margins.

In considering intergenerational distribution, Rawls (ibid.) suggests that each generation should put itself in the place of the next and ask what it could reasonably expect to receive. He presents this thought experiment so as to identify 'just savings.' Sustainability theorists have suggested that sustainable or fair rates of use of finite resources could be calculated in relation to the rate at which alternative ways of meeting the same needs are created. For example, it might be sustainable and just for one generation to use fossil fuels in the creation of a renewable energy infrastructure able to meet the needs of following generations.

This example, of course, is made more complex by the implications of fossil fuel use on climate change, and it is here that consideration of large-scale environmental justice has been developed most. Here, consideration of justice and distributional issues has led to the development of a number of proposals for climate justice, such as Meyer's (2000) *Contraction and Convergence*, which is the idea that emissions should not only gradually contract to an overall sustainable level, but also eventually converge upon equal per capita levels in all countries. Despite its apparent simplicity, this concept has yet to win widespread support even from poorer nations, perhaps because it effectively postpones equity to a future date and does not include any compensation for past inequality. Some, such as McLaren (2003), have termed these past inequalities 'climatic' or 'ecological debt.'

Alternative schemes such as Greenhouse Development Rights (Baer et al. 2008) seek not only to take account of these critiques, but also to take account of intra-national equity. Intra-national equity refers to attributing to each country a degree of responsibility (based on cumulative emissions) and capability (based on income available to those living above a relevant poverty line), and suggests that rich developed nations must shoulder more of the burden of emissions reduction than contraction and convergence would suggest.

The conventional economic approach to climate change is to see it as an externality, and thus seek to include it in market prices through the creation of carbon markets. This carries a real risk of establishing a new financial bubble and further economic instability, rather than actually reducing emissions. The challenge of climate change is also revealing new finite resources such as geological carbon storage capacity, which is also unevenly distributed (with apparently much more capacity in Europe, for example, than in India). The implications of the use and allocation of storage between countries and over time have only just begun to be considered (McLaren 2011b). The distributional implications of both climate vulnerability and adaptation and emerging geo-engineering proposals are also significant. Adaptation to higher temperatures and lower rainfall in tropical climates will be far more difficult than in temperate climes, while the countries affected also typically have fewer capabilities to adapt, and more pressing poverty alleviation demands. The distributional implications of geo-engineering methods of lowering global temperatures are also poorly understood as yet. It does appear, however, that the widely touted option of stratospheric sulfur injection could have dramatic negative impacts on the behavior of the monsoon across the Indian sub-continent.

Walker (2011) provides a summary of three key dimensions of distribution in addition to the distribution of environmental goods or burdens: 1) vulnerability, 2) need, and 3) responsibility. All these might be considered in establishing justice. Further, he argues that these distributive aspects must be supplemented by both procedural justice and recognition. Such considerations suggest an urgent need for the development of assessment methodologies and appropriate governance mechanisms and institutions if future societies are to enjoy any prospect of meeting the needs of future generations. Next, I turn to the characteristics and principles of justice that must underlie appropriate governance, institutions, and objectives.

Justice and equity in terms of recognition, process, procedure, and outcome In this section I consider the theoretical conception of justice appropriate to our understanding of just sustainabilities. Following Sen (1999; 2009) and Schlosberg (1999; 2004; 2007), I take a multidimensional approach. I then consider implications in practice, including the role of political and economic freedoms in just sustainabilities, and the procedural mechanisms – from human rights to corporate accountability – that might be deployed to enable justice in a sustainable society. I also reflect on the role of democracy in just sustainabilities.

Understanding justice Justice is not a simple concept. Different ideological foundations can lead to very different conclusions and outcomes. For example, utilitarian (justice as the most beneficial outcome for wider society), egalitarian (justice as meeting individuals' needs), and libertarian (justice as fulfilling merit) perspectives can differ radically. Sen (2009) takes this as reason to argue for a goal of reducing manifest injustice, rather than seeking perfect justice. Sen also, and wisely, emphasizes the significance of actual outcomes in practice and the behaviors of individuals, as well as the nature and processes of institutions in moving toward justice. He criticizes much of modern philosophy for its focus on the design of perfect institutions.

Instead of striving for perfect institutions, both Sen (ibid.) and Nussbaum (2000) suggest that the notion of capabilities for flourishing plays a central role. Nussbaum's full capability list includes: life, bodily health, bodily integrity, senses, imagination, thought, emotions, practical reason, affiliation, other species, play, and control over one's environment. Sen, on the other hand, suggests that communities must be involved in listing their own set of capabilities. He recommends this approach more because control over the conditions of life is necessary for justice than because capabilities may be culturally specific. This latter factor, however, should not be ignored.

This central positioning of capabilities within justice should not be confused with the modern political compromise of the left that argues for 'equality of opportunity' in a quasi-libertarian fashion. Sen does not disregard outcomes, and the capabilities approach still recognizes that justice requires institutions, resources, social and physical environments, and behaviors that permit individuals to flourish. Basic freedoms are indeed a critical part of this, but so is recognition

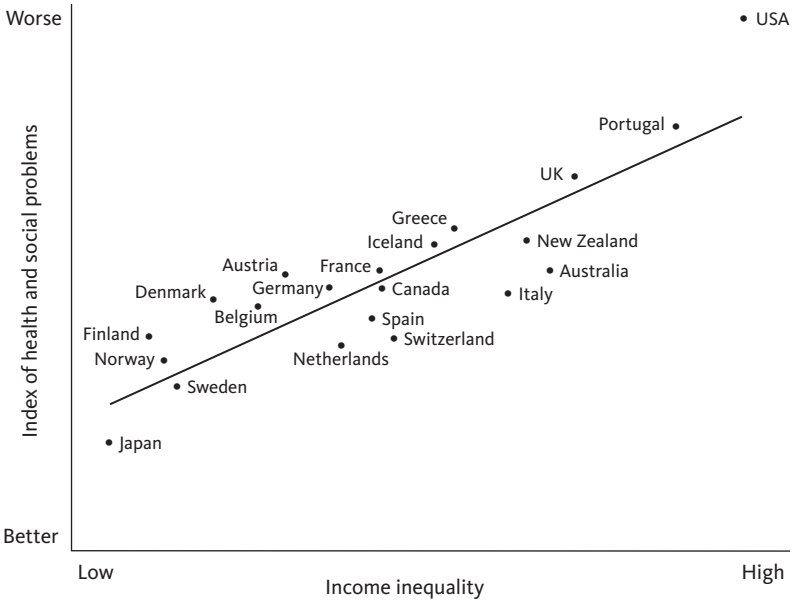
of individual character and capacities within society (Schlosberg 2007). Recognition goes beyond non-discrimination. Moreover, for Sen, greater freedom does not imply impunity but, on the contrary, establishes responsibility and accountability for our actions.

Schlosberg concurs with Sen that justice is not only about securing a fair distribution of material goods or consumption. Indeed, neither gives primacy to material wellbeing, but rather to social factors. Schlosberg (2004; 2007) argues that just treatment involves recognizing people's membership of the moral and political community, as well as providing for the capabilities needed for their functioning and flourishing, and ensuring their inclusion in political decision-making. Schlosberg (2007) further argues that distribution, recognition, capabilities, and participation are interrelated and interdependent.

Recognition is a critically important dimension of justice in multicultural and intercultural societies, where other dimensions of justice might be culturally distorted. This is discussed more fully in Chapter 2, 'Food,' Chapter 3, 'Space and place,' and Chapter 4, 'Culture.' Recognition of the rights of those with sexual and gender differences (including LGBT individuals), among other forms of difference, is an area where much progress can be identified in the last few decades, at least taking Sen's maxim of seeking to mitigate manifest injustice (an ideal form of justice is clearly still lacking for LGBT people, as it also is for women). Urban planning's traditional focus on distributive and procedural justice is challenged by Milroy (2004, 48), among others: 'Planning-related literature of the last decade or so illustrates that resource distribution is just one fundamental dimension of the politics of urban life. The other is recognition.'

Our understanding of justice and equity also includes material outcomes, which in turn further determine capabilities. Material income and wealth provide very real capabilities to meet needs for shelter and security, and thus to avoid the stresses and insecurities of life without sound financial resources. Material inequality, measured in terms of income or the standard of living, is also harmful to physical and mental health (Wilkinson and Pickett 2009) and a fairer distribution of material consumption would improve health and reduce other social ills (as noted previously; see also Figure 1.8).

Here it should be noted that Wilkinson and Pickett (ibid.) identify psychosocial mechanisms – specifically social networks, social status, and stress in early childhood – that have an impact on health as a



Note: Income inequality in Figures 1.3 and 1.8 may be taken from different sources and may therefore appear to vary slightly.

1.8 Health and social problems are closely related to inequality in rich countries (*source*: Wilkinson and Pickett 2009, 20)

result of material inequality. There is every reason to expect that injustice measured in other dimensions, such as racism, discrimination, or lack of recognition, could equally powerfully trigger such psychosocial mechanisms.

Justice and human rights From the foregoing, it should be clear that a key potential tool for just sustainabilities is the recognition and exercise of human rights. Despite significant experience in defending individual social freedoms, some groundbreaking cases in the US, and in Europe using the European Convention on Human Rights, there is little evidence that human rights legislation as yet provides an effective tool for defending environmental rights. There are at least three reasons why this is so. First, human rights legislation typically does not directly recognize rights to a clean and healthy environment. In places where such rights are constitutionally recognized, rights in general are often poorly defended in the law. Second, human rights

legislation focuses on the rights of individuals rather than those of groups. Schlosberg (2007) argues more broadly for an ecological justice where concern is not solely for individuals but for social groups and ecological systems as well. A focus on individuals, and specifically present rather than future individuals, creates additional difficulties for a legal defense of environmental rights. Third, procedural rights of access to information, participation, and justice are patchy even where governments have adopted measures designed to provide such rights.

There are signs of progress in all three of these areas. The UN recently recognized a right to clean water and sanitation, which provides a strong foundation to press for the recognition of wider environmental rights. In 2007, the UN adopted a Declaration on the Rights of Indigenous Peoples, embodying important justice principles such as free prior informed consent. The declaration provides a framework in which we can consider the rights of other collectivities. The Aarhus Convention, adopted in 1998, has led to European Union (EU) directives on freedom of information and, in a limited form, environmental participation. While implementation of the convention's third pillar – access to justice – has been especially patchy, there were moves afoot to ratify the globalization of the convention – currently a UN Economic Commission for Europe (UNECE) instrument – as part of the agenda for Rio+20: the 2012 Earth Summit. This did not materialize. However, at Rio, Ireland bought the number of Parties to the Convention to 46 and the Parties to the Amendment on GMOs (genetically modified organisms) to 27.

Justice and property rights A further reason why legal approaches to just sustainabilities have been limited lies in the implications of other rights that are robustly defended by legal systems worldwide: property rights. Property rights are applied to land, physical, and intellectual property, all of which exhibit highly inequitable distribution. Land rights, as Wightman (2010) demonstrates for Scotland, are in many ways a fabrication to defend the past acquisition of land by force. Even where ownership is demonstrably legal, a host of measures, including rules of inheritance, follow the interests of the already wealthy. For example, Wightman highlights the injustice of primogeniture on Scottish landed estates where the law leaves widows and younger children disinherited.

Whether considering the land or intellectual property, there are

dramatic implications for justice defined in terms of capabilities and control. Access to land, resources, and technologies are basic capabilities for development and poverty alleviation, all of which can be denied to billions of people in the modern world insofar as it suits the financial interests of already wealthy elites and corporations.

Directly contrary to conventional economic approaches to environmental problems, which seek to privatize currently common property resources – by creating carbon markets, for example – a just sustainabilities approach would look to create new forms of common property through land reform, and to develop 'open-source' solutions that do not rely on proprietary technologies or intellectual property rights. Harvey (2011, 233) calls for 'a wholly new conception of property – of common rather than private property rights' to underpin 'radical egalitarianism.' The work of the late Nobel Prize-winner Elinor Ostrom suggests that this might be compatible with a 'polycentric' nested series of democratic structures to provide more flexible governance (Ostrom 2009).

Justice, democracy, and freedom There are both moral and instrumental reasons for treating just sustainabilities issues as issues that concern rights. Sustainability concerns rarely take center stage in political conflicts, but struggles for increased freedoms and rights for groups or peoples can dominate them. In my understanding, such campaigns constitute no less of a demand for just sustainabilities than would explicitly environmental activism:

> [Just] sustainability is, at its very heart, a political construct rather than a technical or scientifically objective notion. The policy goal of [just] sustainability can be usefully understood as what might be termed an 'over-arching societal value'. In this sense, it is more akin to notions like 'freedom', 'justice' or 'democracy' than to specific policy commitment. (Agyeman and Evans 1995, 36)

Such struggles also illustrate that social change typically has a non-linear nature. From the emancipation of women and slaves to current struggles to globalize sexual freedoms, and the 'Arab Spring' revolutions, tipping points have been surpassed, usually as the result of targeted campaigning and mobilization, reinforced by evolving social change, and subsequently enforced through the emergence of new norms. The rate of such social change is arguably increasing together

with the power of new communication technologies, reinforcing the enabling effects of previous generations of technologies that have played a role in earlier social transformations.[12]

In the Arab Spring revolutions, as in previous struggles in Eastern Europe and South Africa, progressive struggles for social, cultural, or political rights have spread contagiously. It is important to recognize that in all these cases economic freedoms have been a significant part of the agenda. People have actively sought to participate in free(r) markets for labor or goods and services, and to enjoy the benefits of consumerism. The consequences of such transformations are likely to include increased resource consumption and environmental impacts.

Efforts to prevent such examples of progressive struggles because of their short-term environmental outcomes would be misplaced for at least three reasons. First, there are overriding benefits to be obtained from the reduction of manifest injustice. Second, a reasoned approach to environmental sustainability will require recognition of all those who have a stake in the earth's resources, present and future generations alike. If injustice and discrimination persist against particular groups or populations, solutions to global environmental problems are likely to remain remote. Third, democracy is arguably a minimum requirement for justice. Sen (2009) sets out how democratic participation is a necessary capability. Democracy is also a minimal requirement for a system of public reasoning, and is necessary to determine what is just in a given society.

Environmental overconsumption and degradation prevent many people from enjoying a decent quality of life. As Sen or Schlosberg might say, without a clean environment and a fair share in the earth's resources, our capabilities to flourish are constrained. But for the majority in the world, environmental issues and constraints are not a pressing matter of rights, freedoms, or liberties. Exceptions are severe, such as communities displaced by land-grabbing, or those who have had their health damaged by living close to dirty industry, but these are by no means the normal experience for the majority of people.

Few would conceive of environmental issues as a matter of rights, and even those who would like to are apt to see them as less pressing than rights issues arising from discrimination and poverty. Even progressive organizations such as Amnesty International struggle to frame environmental concerns as matters of rights, despite real willingness to do so (see, for example, Sachs 1995). But by properly

integrating environmental issues and rights into the framework of just sustainabilities, the two become inseparable.

Rights, responsibilities, and accountability The connection must also be made in respect of the flipside of rights: responsibilities. Like Sen, I recognize that freedoms come with accountabilities, and rights with responsibilities, but in this context the issue is more about the responsibilities that arise not for individuals but for states and for non-state actors such as companies as a result of the definition of individual and collective human rights.

States are clearly responsible for establishing and enforcing a framework of law, and for complying with international treaties that they have ratified. However, like environmental treaties, rights conventions also typically lack strong compliance mechanisms. For example, the Aarhus Convention compliance committee may rule that a state is in breach, but it can do nothing more than make recommendations as to how it might establish compliance. Worse, where there is an apparent conflict between responsibilities under such conventions and economic obligations enforced by the WTO or the international financial institutions, there is a massive imbalance. The latter enjoy effective sanctions, whether formal (as under the WTO, which can authorize the use of punitive trade sanctions) or more informal (such as those enjoyed by the IMF and World Bank with their discretion to make and withdraw financial backing).

The responsibilities of corporations are an even greyer area. Increasingly multinational in nature, corporations enjoy many powers and privileges, and their decisions – on anything from mining to advertising – have a daily impact on human rights and the capabilities of individuals and communities to flourish. Even if there appear to be grounds for a legal challenge to a corporation, it is often debatable in which jurisdiction a company should be challenged. So far, there has been only a handful of successful cases brought against the most egregious impacts, such as Shell's widely discussed involvement in the execution of Ogoni activist Ken Saro-Wiwa. Typically, even 'successful' cases are settled out of court with a fairly token monetary settlement.

However, the recent report by John Ruggie, Special Representative of the UN Secretary-General on business and human rights, opens the door to a fuller and more consistent approach to corporate accountability. Ruggie (2011) confirms that companies do bear responsibilities

to respect human rights and to address human rights issues arising in the conduct of their business, regardless of liability.

In the context of just sustainabilities, corporate accountability means more than respect for human rights, and extends to the wider environmental and social impacts of corporate activities. Without controls over the activities of corporations, justice is unachievable – and inequality will continue to grow. McLaren (2004) suggests a need for regulatory frameworks for governance and investment to provide a degree of accountability.

The revised OECD guidelines for multinational enterprises are a move in the right direction, requiring due diligence on environmental, social, and human rights impacts, and effective consultation, and clearly apply to the whole supply chain and to financial industry activities too. But the guidelines still fall well short of genuine stakeholder participation and lack an effective enforcement mechanism (Wilde-Ramsing et al. 2011).

It remains open to question whether even with substantial reforms, such as strict liability for environmental and social impacts to balance the fiduciary duty to shareholders, the public, stock market-listed corporation can be made into a just institution.[13] If not, then an alternative economic model for just sustainabilities can no longer include such organizations. In this case, many of their roles may be taken on by mutual and cooperative companies, or by public bodies.

A just transition? The implication of public, stock market-listed corporations being incompatible with just sustainabilities is that the economic transition faced by workers may be even more dramatic than foreseen by the 'just transition' literature (such as TUC 2008; Lee and Carlaw 2010), which considers how workers' rights can be protected in the transition to a low-carbon economy. This transition will involve the replacement of many major firms and sources of employment with different and more sustainable ones.

The just transition approach, however, is critical to managing changes in employment patterns fairly, without a decline in working conditions. It also seeks to ensure fair implementation of other environmental policies (such as green taxes, which could otherwise exacerbate existing income inequality). Just transition typically also demands high levels of employee representation and involvement in decision-making.

While the challenges faced by workers as a result of the need to change the content and nature of economic activity are severe, it is not only workers who need just treatment. The challenges faced in preventing further reproduction of unemployed and undereducated underclasses of the sort that have persisted for more than a generation in deprived urban areas in the US and UK (at least) are even greater.

Processes of just transition are needed to eliminate the structures and institutions that reproduce injustice. Our economic alternative must involve the co-production of justice. But such alternatives cannot be unconstrained in their use of environmental resources. The need to live within ecosystem limits is a hard reality if collapse is to be avoided, and it is to this that I turn next.

Living within ecosystem limits In this section, I begin with a short discussion of the concept of environmental limits, explaining the nature of such limits and discussing their implications for distribution and equity. I make the case that environmental limits result in unfair distribution of environmental 'goods,' thus exacerbating the effects of unfair distribution of environmental 'bads.' I also call for an environmental politics of redistribution, as well as a practical root and branch redesign of economic practices and institutions.

Environmental limits Despite several decades of research, the very concept of environmental limits remains controversial, especially in the US. The Club of Rome report (Meadows et al. 1972) framed the debate in terms of 'limits to growth,' a concept that stimulated very powerful and well-funded counterarguments and rebuttals. By the 1990s, in public and political discourse in the US especially, the very idea of 'limits' had been discredited both by its challenge to the invincibility of the American Dream, and by the apparent failure of predicted shortages of natural resources to emerge.

Ecosystem limits, however, are very real. Whether they constitute a fundamental limit to economic growth probably depends more on the nature of the economy than on the economy of nature. What is clear is that, as constraints on natural resources have emerged, the capitalist economy has sidestepped them by shifting the crisis in space, in time, or between domains. For example, shortages of material resources have been overcome by exploitation of lower-grade ores, requiring more energy to extract and process them. The approach of peak oil

has triggered the cry of 'Drill, baby, drill!' exhorting us to exploit oil in yet more remote locations, and to develop unconventional gas and oil sources through fracking and tar sands extraction. Both of these methods involve significantly higher carbon emissions than conventional fossil fuels. As a result, apparent limits in resource availability have been translated into still greater pressure on the climate system.

It is important to note that limits are not entirely unchanging physical absolutes. The resilience of natural systems changes over time. For example, simplified ecosystems are typically far less resilient than complex ones, even if they have the same gross productivity. In considering the implications of limits we also need to consider resilience and vulnerability – including the vulnerability of affected human populations.

Environmental space In the 1990s, research at the Wuppertal Institute in Germany and elsewhere made a determined effort to measure and characterize environmental resource constraints. Following initial Dutch research (Opschoor and Weterings 1994), Spangenberg and others estimated the boundaries of 'environmental space' as defined in terms of sustainable rates of use of key resources such as fossil fuels, timber, and fresh water (Spangenberg et al. 1995; Hille 1997; McLaren et al. 1998). Sustainable rates were estimated globally in terms of per capita consumption levels. Different constraints pertain to different resources. Two examples include fossil fuel and timber use. Fossil fuel use is seen as limited by the implications of climate change. Timber use is restricted by the sustainable harvest possible without reducing biodiversity.

In most cases, the resource is treated as global, and estimates of sustainable consumption rates require some form of distributional allocation. The environmental space approach typically chooses equitable per capita allocation according to a share of forecast global population in 2050. Advocates of the environmental space approach acknowledge that this is a crude simplification that ignores any economic, cultural, or geographical variation in need, and also overlooks any past historical inequalities (or 'ecological debts').

Environmental space analyses showed clearly that human societies were not pushing up against merely local limits or facing scarcity of individual resources. Rather, these analyses showed how we were approaching, or in some cases already exceeding, global limits for a

whole suite of fundamental resources. The concept of *environmental space* allows an equal right to resource consumption for all people in the world within the carrying capacity of the planet. In so doing, it provides a clear understanding that justice, equity, and rights, and environmental limits, are inseparable. It also demonstrates that consumption of environmental resources has a minimum for dignity, as well as a maximum – that is, a 'dignity floor' as well as a 'sustainability ceiling.' The Universal Declaration of Human Rights recognizes this, of course, albeit without explicit inclusion of the environmental dimension:

> Everyone, as a member of society, has the right to social security and is entitled to realization ... of the economic, social and cultural rights indispensable for his dignity. (Article 22)

> Everyone who works has the right to just and favourable remuneration ensuring for himself and his family an existence worthy of human dignity. (Article 23)

Since the 1970s, globalization, while in theory increasing economic efficiency and specialization, has further increased the interconnectedness of global economic systems. In the past, economies ran up against local or regional limits and devised ways to adapt, or they failed. In an era of globalization, the key strategy has been to circumvent local scarcity by drawing in resources from more distant locations. As a result, human society has claimed an ever greater share of net primary productivity, a greater share of incoming solar energy, and has approached genuinely global limits. The story of biofuels shows how encroaching limits in one area, the supply and emissions of fossil energy, have been translated into impacts on others, such as productive land, forest area, and food supply. While the economy does not care how energy to fuel vehicles is obtained, society actually needs a whole series of different environmental resources for sustainability.

Ecological footprinting At much the same time, William Rees and Mathias Wackernagel developed the ecological footprint methodology (Wackernagel and Rees 1996). This starts from much the same premise as environmental space – that sustainable supply of environmental resources is limited, and should be measured directly. However, it seeks to place all resource use on a single comparable axis, converting all

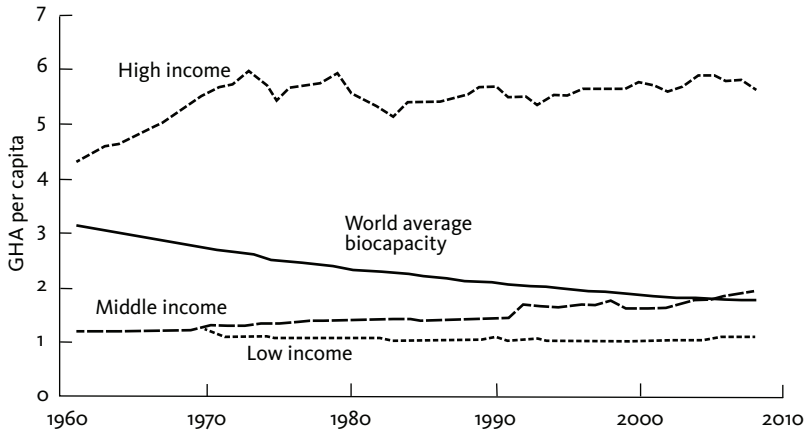
consumption into units of 'productive land area.' For the products of farming and forestry, this is fairly straightforward. For fossil fuels and other minerals, it is more challenging. In the case of fossil fuels, it is achieved by estimating the area of productive land required to recapture the carbon dioxide emitted by combustion of fossil fuels.

The result is a measure that has major communication advantages, notably exploited by WWF with the development of the concept of 'one planet living,'[14] but also has major, if not fatal, epistemological and methodological flaws. To assume that environmental resources are fungible is as erroneous as assuming that the environment is not physically limited, but that it can be traded off for a larger economy. Human survival and flourishing depend not only on a minimum quantity of productive land, but also, for example, on the maintenance of a stable climate, a minimum thickness of stratospheric ozone, clean water, and much more. Sustainability can be defined only in multiple dimensions, not shrunk to a single one, whether that one is measured in dollars or acres.

Morally, too, the ecological footprint approach has weaknesses. While Wackernagel and Rees typically compared per capita ecological footprints with a global fair share of productive land, many of their followers make aggregate comparisons or compare the footprint of a particular group (for example Americans, or Londoners) with the physical area of the territory the group controls, without regard for the underlying inequality of land distribution.

This error becomes particularly significant when considering the sustainability of cities. A crude use of ecological footprints typically states that cities, especially large ones, have an ecological footprint much larger than their physical area. This is implied to be a problem. But it is simply an artifact of high population density, which pays no regard to the actual or potential per capita footprints of different urban lifestyles. In fact, high-density, walkable cities can, and typically do, have much lower per capita footprints than low-density, car-dominated cities (Newman and Kenworthy 1999), and lower per capita footprints than suburban and dispersed rural settlements (when controlled for income). In other words, footprinting tends to imply that the city is bad for sustainability, when a more sophisticated approach may find that it enables both lower per capita impact and greater political freedom.

This is partly because, as I mentioned above, one key to reducing



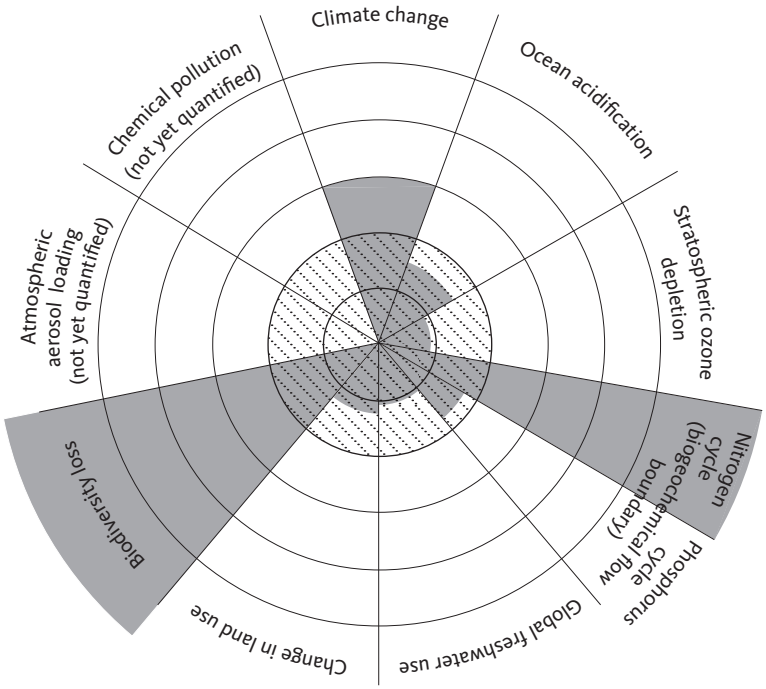
1.9 Changes in the ecological footprint per person in high-, middle- and low-income countries, 1961–2008 (*sources*: Global Footprint Network 2011; WWF *Living Planet Report 2012*, 56, http://awsassets.panda.org/downloads/1_lpr_2012_online_full_size_single_pages_final_120516.pdf)

environmental impact while enhancing capabilities is sharing resources and co-production. The private sector can do this, with leasing and rental mechanisms, but typically public services offer a much more intense level of sharing. Examples of such public services include public transport and libraries. The planning and management of cities are key tools in enabling sharing, yet in modern cities even basic shared public space is at threat, whether from insecurity or privatization. Urbanism is clearly compatible with sustainability (Sherlock 1991; Elkin et al. 1989), but, in practice, too often the potential is not met. Urban districts are redeveloped in ever less sustainable forms, with massive material consumption. Harvey (2011) argues that this is simply because capital surplus absorption needs a physical location. Urban redevelopment has kept the cycle of capitalism going. The built environment represents first an opportunity for, but before long an obstacle to, capital accumulation. Thus, redevelopment cycles are far shorter than would be environmentally or socially optimal.

Despite its shortcomings, ecological footprinting can be used to undertake valuable analysis if adequate data is available. This data needs to be properly normalized in order to compare, for example, the footprints of different income groups (see, for example, Chambers et al. 2000; White 2007).

Planetary boundaries: a safe operating space for humanity More recent research by an international team of earth system scientists has developed our understanding of global environmental thresholds and boundaries:

> Nine planetary boundaries [are] identified … the global biogeochemical cycles of nitrogen, phosphorus, carbon, and water; the major physical circulation systems of the planet (the climate, stratosphere, ocean systems); biophysical features of Earth that contribute to the underlying resilience of its self-regulatory capacity (marine and terrestrial biodiversity, land systems); and two critical features associated with anthropogenic global change (aerosol loading and chemical pollution). (Rockström et al. 2009a, 6)



The inner dotted shading represents the proposed safe operating space for nine planetary systems. The grey wedges represent an estimate of the current position for each variable. The boundaries in three systems (rate of biodiversity loss, climate change, and human interference with the nitrogen cycle) have already been exceeded.

1.10 Beyond the boundary (*source*: Rockström et al. 2009b, 472)

TABLE 1.2 Beyond the limits: global limits and required reductions in resource consumption

Resource	Limiting factor	Sustainable level – reduction needed	Rockström et al. 2009 for comparison
Fossil energy	CO_2 emissions and climate impacts	50 to 75 percent cut	350 ppm CO_2 (would require emissions cut at the upper end of the e-space range)
Agricultural land	Impacts on soils, forests, water, and biodiversity	Up to 15 percent cut	Crop land no more than 15 percent of ice-free land surface (implies 30 percent increase sustainable)
Timber	Sustainable harvesting rates and impacts on biodiversity	Up to 30 percent cut[1]	Biodiversity less than 10 spp/million pa (currently 100 plus)
Water	Impacts on biodiversity, regional water balance	Regionally determined, 15 percent cut in the UK	Global: no more than 4,000 km^3 pa
Non-renewable resources	Impacts on human health, biodiversity, and productive land and forests	50 to 100 percent cut	Consider nitrogen and phosphorus; 75 percent reduction in nitrogen required
Chlorine	Impacts on health and ozone layer	100 percent cut	No more than 5 percent decrease in stratospheric ozone (currently within safe limit)
Cement	Material flows (and energy use)	50 percent cut	n/a
Aluminum	Material flows (and energy use)	50 percent cut	n/a

Note: 1. An increase of up to 30 percent may be possible through the development and widespread adoption of efficient sustainable harvesting techniques.

This research found that three of the system parameters are in overshoot: the climate system, biodiversity loss, and nitrogen loading (see Figure 1.10).

While rates of biodiversity loss mostly exceeded the researchers' best estimates of a sustainable level, neither biodiversity loss nor nitrogen loading are considered to experience 'global scale thresholds' that would hinder or prevent recovery.[15] The climate system, on the other hand, is known to experience such thresholds (from research into past system states).

Rockström et al. (2009a) note drily:

> The thresholds in key Earth System processes exist irrespective of peoples' preferences, values, or compromises based on political and socio-economic feasibility, such as expectations of technological breakthroughs and fluctuations in economic growth.

This can be seen as a response to the commonly held view – on both the right and left wings of politics – that societies cannot afford to bear the additional economic costs of environmental protection and that it is in some way unrealistic to expect rational economic actors to bear such costs. Rockström et al. remind us that physical realities are even less forgiving than economic ones.

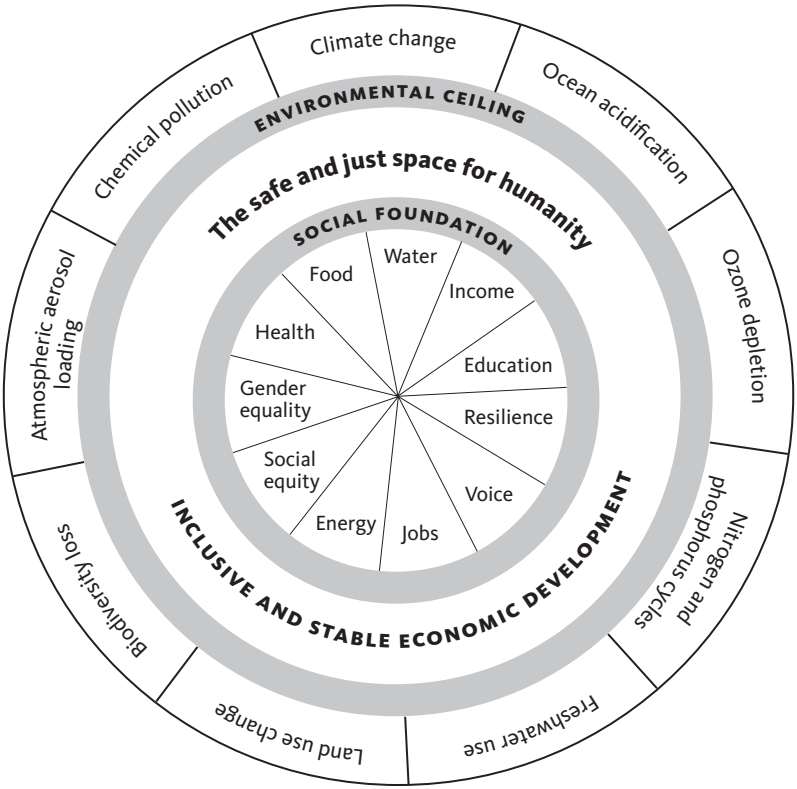
Oxfam's 'doughnut': a safe and just operating space for humanity Building on the 'environmental ceiling' of Rockström et al. (2009b), by developing a 'social foundation' Kate Raworth (2012, 4) notes that:

> The social foundation forms an inner boundary, below which are many dimensions of human deprivation. The environmental ceiling forms an outer boundary, beyond which are many dimensions of environmental degradation. Between the two boundaries lies an area – shaped like a doughnut – which represents an environmentally safe and socially just space for humanity to thrive in. It is also the space in which inclusive and sustainable economic development takes place.

She also states that:

> This framework brings out a new perspective on sustainable development. Human-rights advocates have long focused on the imperative of ensuring every person's claim to life's essentials, while ecological economists have highlighted the need to situate the

economy within environmental limits. The framework brings the two approaches together in a simple, visual way, creating a closed system that is bounded by human rights on the inside and environmental sustainability on the outside (ibid., 15; see Figure 1.11).



Note: The 11 dimensions of the social foundation are illustrative and are based on governments' priorities for Rio+20. The nine dimensions of the environmental ceiling are based on the planetary boundaries set out by Rockström et al. 2009b.

1.11 A safe and just space for humanity to thrive in: a first illustration (*source*: Oxfam: www.oxfam.org/sites/www.oxfam.org/files/dp-a-safe-and-just-space-for-humanity-130212-en.pdf.

Environmental overshoot and distribution Whether the yardstick is planetary boundaries, Oxfam's 'doughnut,' environmental space, or ecological footprint, there is little doubt that, overall, humanity is in a state of 'environmental overshoot,' consuming more environmental

resources than the planet can continue to provide (see Table 1.2). Thus, the current generation is accumulating an 'environmental debt' to future generations. But the aggregate impact on humanity is only one aspect of the problem. From a just sustainabilities standpoint, we need to ask: what is the cause of the overshoot? For whose use of the environment, and for what purposes?

The data that is available is fairly clear-cut. Environmental resource use by poor people in poor countries is typically considerably less than that of rich people in rich countries (see Figure 1.9). Resources to meet basic needs (such as food and shelter) constitute only a small part of the total. Considered in distributional terms, it is inequalities and the consumption patterns of the so-called developed world (as discussed at length earlier) that lie at the root of the problem. Countries that want to develop, and are doing so rapidly, such as China, are having to appropriate the environmental resources of Africa because they do not have the bio-capacity in their own country.

It is worth remembering that not only do poor people cause less environmental damage as a whole, but that pollution and resource degradation disproportionately impact the poor and disadvantaged, who are both more vulnerable to widespread effects such as climate change, and less able to resist the imposition of activities or developments with localized impacts, such as waste dumps, mines, or polluting factories.

Climate justice The issue of climate change has stimulated much thinking about justice, particularly as it has become clear that excess emissions have been, and remain, mainly the fault of high-consuming populations in rich countries, while the most immediate impacts of climate change on rainfall patterns, temperatures, and sea levels will be, and are being, experienced by low-consuming populations in poor countries. Disparities in per capita emissions are dramatic (Jones and Edwards 2009), and the inequalities become even more intense when the capability to act is considered.

The concept of Greenhouse Development Rights (Baer et al. 2008) makes an allowance for emissions to meet basic needs, and takes into account the capabilities available to reduce emissions (as a function of disposable income) in attempting to determine just targets for emissions reduction. Typically, such assessment (ibid., for example) concludes that rich countries need to make greater reductions in

emissions than current emissions levels. In other words, as well as reducing their own emissions to zero, they also need to take responsibility for financing additional reductions in poor countries, or develop technical means to remove carbon dioxide from the atmosphere, the so-called 'negative emissions technologies' (NETs).

The climate change issue also demonstrates clearly the critical importance of distribution in a world of limits. If growth in environmental consumption is (effectively) unlimited, it remains conceivable that inequalities in such consumption and the wellbeing which, up to a point, is derived from it could be overcome by disproportionate future growth in consumption, allowing poor groups and countries to 'catch up.' Where such consumption is globally limited at a smaller level than today, inequalities can be addressed only by redistribution.[16] But, as we saw earlier, the current response of existing global elites to scarcity (that is, to the threat of real or regulated scarcity) is to seek secure access to resources regardless of environmental or social impact, either through land grabs or by using unconventional hydrocarbons such as tar sands.

A growing literature confirms Rockström et al.'s conclusion that we are already in overshoot with respect to climate thresholds and that we face the risk of multiple positive feedbacks, such as the melting of Arctic ice, Amazon wildfires, thawing tundra, and melting methane clathrates – a class of compound that consist of a cage of molecules that can trap gases, such as methane; see Pearce (2007) for a good summary.

Fortunately, there is more inertia in the physical climate system than in the economic system affecting it. As a result, temperature increases and sea level rises lag decades, perhaps centuries, behind rising carbon dioxide concentrations. Humanity still has a window, albeit one that is rapidly closing, in which to address climate overshoot. The best efforts of climate modelers suggest that it may still be possible to avoid highly risky levels of temperature rise with fairly dramatic emissions cuts. Hansen et al. (2008) suggest that if we rapidly – that is, by 2030 – phase out unabated consumption of coal, avoid unconventional fossil fuels, and enhance natural carbon sinks such as forests, we might return carbon dioxide concentrations to a fairly safe 350 ppm by the end of the century. Translated into emissions targets, this sort of scenario suggests that net global emissions would have to fall close to zero by 2050. Any allowance of continued

growth in emissions for development in poorer countries would require even more rapid emissions cuts among the major wealthy emitters in Europe and North America, with reduction rates as great as eight to 15 percent per year, as calculated by Friends of the Earth (2011), even in scenarios where newly industrialized countries, including China, are achieving absolute emissions reductions by 2015.

Even those who think such rates of reduction are politically plausible have to consider alternative or complementary strategies such as adaptation and geo-engineering. Despite the inertia in the climate system, some degree of warming and sea level rise is certain to occur. Adaptation to those changes will be necessary, whether undertaken in a planned or a responsive fashion. Necessary adaptations will include managing coastal defenses and/or managed retreat (Agyeman et al. 2009), changing cropping systems and techniques, enhancing urban cooling in many regions, improved flood management, and new approaches to weather insurance. All these could also have distinctive distributional consequences.

Similarly, if geo-engineering technologies are implemented to slow the rate of temperature change via solar radiation management (SRM) or to accelerate the removal of carbon dioxide from the atmosphere, or carbon dioxide removal (CDR) through NETs, there are also distributional issues to be considered, of which 'who pays' is only one of the questions.

Triple decoupling Achieving climate justice is clearly necessary for just sustainabilities, yet climate change is caused by the use of resources to meet real needs and sustain real wellbeing. For climate, as well as for other environmental resources, there are three broad strategies that must be combined if we are to bring aggregate impacts within planetary boundaries in a socially just manner, as suggested by the Oxfam 'doughnut' (Raworth 2012).

These can be conceived as a process of triple decoupling:

- decoupling material consumption from energy/resource use (or 'efficiency');
- decoupling the delivery of wellbeing from consumption (or 'sufficiency'); and
- decoupling the delivery of fundamental needs such as political freedom and identity from consumption.

Progress on the first can be achieved within the conventional economic system. Failure to achieve progress on the latter two, however, would most likely result in higher consumption levels and no reduction in environmental overshoot. As I have suggested above, an alternative economic model is essential, and one founded in co-production seems to offer most potential, being apparently already poised for emerging change.

Conclusions

The idea of just sustainabilities arose in the early 2000s as a conscious effort to (re)place the issues of equity and justice into the growing sustainability agenda. Too many people thought that the environmental justice movement was 'dealing with' equity and justice issues so the sustainability movement could and would focus on 'green' issues. The work of Warner (2002) and Pearsall and Pierce (2010) in the US, together with my and Bob Evans's (2004) work in the UK, showed the need for this (re)placement. Since then, the argument has been won, and, as this chapter has shown, there is a robust and growing theoretically informed literature that draws on a diverse range of academic and scholarly areas.

What also seems to be happening is that, slowly, silos are breaking down and there is increasing evidence of 'joined-up thinking.' For instance, Rockström et al. 2009a developed their 'Planetary boundaries: exploring the safe operating space for humanity,' which focused on environmental limits or boundaries. This was subsequently 'joined-up' to an essential 'social foundation' by Raworth (2012) and her colleagues at Oxfam in their report *A Safe and Just Operating Space for Humanity: Can we live within the doughnut?* What this chapter has demonstrated, I hope, is that in terms of just sustainabilities, we have a pretty clear roadmap – we know what to do, but we're simply not doing it. In the following chapters, I hope to develop the roadmap some more.