



**PAUL MURRAY**

# **The Sustainable Self**

A Personal Approach to Sustainability Education

**Paul Murray**



**earthscan**

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# **The Sustainable Self**

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# Introduction

In 2004, my university won a multimillion pound bid to create a centre of excellence in education for sustainability. One of the centre's first acts was to invite the well-known American eco-educator, David Orr, to run some workshops and lectures for staff and students. It was David Orr's visit that led me to write this book. Gifted as he is, it was not Professor Orr's oratory that affected me or the content of his lectures. Indeed, I already agreed with virtually everything he told us. What changed things was an interruption that occurred during an afternoon workshop when David was extolling the virtues of embracing sustainability in our work. During this session a young Georgian researcher stood up to ask:

*We all know about sustainability, and we have a pretty good idea what needs doing about it. Why then does nothing change? Why doesn't anyone do anything about it?*

I do not recall David's response because the question and the way it was asked had an instant and deep impact on me; 'aha' insights came flooding in. I realized that what this young woman was asking was not about what we may or may not do at the fringes in the name of sustainability, but why are we not changing as people? What came to me even more strongly is that her question applied to me.

If asked at the time about my 'sustainability credentials' I could list a number of achievements. I had initiated one of the early environmental advice initiatives in the UK property industry, devised the UK's first environment-themed undergraduate degrees in construction and had won a number of awards for my university based on my work. But what I saw at *that* moment in *that* lecture room was that I had

been treating sustainability as a 'professional' issue, not a personal one. Paul Murray the academic might have been able to tick a few boxes at work, but he, himself, had changed very little. I pursued sustainability professionally because it interested me, but sustainability concerns barely influenced my private and personal choices. I knew I was not a 'bad' person and so started to wonder why it was like this. This led me to realize that the sort of personal change the world needs would not arise on its own, or quickly.

For me, these insights were profound, and timely. They came just after I had been awarded a substantial sum of money by the UK government to spend on any research and development work I chose to pursue. What I decided to do over the next five years was to use this award to develop teaching, learning and training techniques that could connect people at a personal level with what was probably going to become the biggest issue of our time. The main fruit of this work was a range of face-to-face activities I loosely called sustainability training, which I initially piloted with close colleagues at the University of Plymouth, and then with groups of volunteer students. I enjoyed and learned from the training so much, and the pilots were so well received that it seemed I could be on to something useful. Helped by my wife, the training workshops were honed and expanded over the next four years, and were undertaken by over 600 academics, students and industry-based professionals, as well as local and national government officers. This book translates the training into written form.

My overriding purpose in producing *The Sustainable Self* is to provoke deep thought and reflection about our role as individuals in what we currently call the sustainability agenda. As a result, this book is a little different. First, the content places personal values, attitudes and beliefs centre-stage in how we respond to sustainability as individuals and professionals. Second, the content is interactive, with most chapters containing activities designed to deepen understanding and to provoke thought. Third, the coverage is broad, covering the technical, psychological and developmental aspects of working and living sustainably. So it is true to say that this book is as much about personal development as sustainable development, as I firmly believe that the two are unequivocally linked.

I had a number of different target audiences in mind in writing this book:

- *Educators:* University and college lecturers face increasing pressure to take on 'new' ideas like sustainability in times of ever-diminishing financial resources. Consequently, many academics feel they lack the time, expertise and curriculum space to properly embed sustainability in their teaching programmes. Understanding this, I wanted to produce a resource that hard-pressed colleagues from any discipline and background could use as a self-contained, motivational learning tool on sustainability with their students. The book can be used as a supplement to, or a replacement for, formal lectures or both. It is also suitable to use as an enquiry-based core text to engage students and to help them think more deeply about sustainability issues and their role in the world. Alternatively, individual chapters and groups of chapters can be used to support specific learning outcomes. In addition, many of the exercises contained in the text have been adopted as formal staff development training for university staff at all levels and disciplines.
- *Students:* Hundreds of undergraduate and postgraduate students from varying disciplines have undertaken my sustainability training programme. However, there are limits to what can be achieved in a day's workshop and limits to the number of people I can deliver to face-to-face. Consequently, I decided to produce a book that could be used in lieu of the training. Over the past 30 months, students have been piloting draft chapters from the book to help me enhance them. The result, I hope, is a text that learners of all types and persuasions will find accessible and rewarding to read and use as an integral part of their formal studies.
- *Industry-based professionals:* Professionals in practice are at the sharp end of sustainability whatever their discipline. Deliberately 'non-technical', my training techniques have been well received by working professionals, and the book has been written very much with this in mind. The content can be considered as structured professional development, accounting for around 30 training hours if all the activities are fully undertaken.
- *The general public:* *The Sustainable Self* is primarily about individual engagement. Therefore, I have tried to write the content in a style accessible to members of the general public who are interested in sustainability and need to develop their confidence about how best to move forward on this important and emerging agenda.



- *Trainers:* Training providers interested in or dealing with sustainable development may find the approach and the activities contained here useful in their programmes. Separate 'train the trainers' sessions are available from the author.

There have been a variety of influences on the book's content. I have adapted a number of Neuro Linguistic Programming (NLP) techniques, which have proved to be helpful in engaging individuals with sustainability. NLP can be described as a 'fast track' form of applied psychology. It is a controversial discipline for some, yet I know through my own personal experience how profoundly useful some NLP approaches can be, particularly in terms of understanding our intrinsic motivations and developing a sense of self-empowerment. Aspects of social psychology have had a strong influence on the personal development aspects in the first half of the book. I have concentrated my efforts on putting forward the relevant theories at a level that the generalist can understand and use. Buddhist wisdom and practice has made a mark in places, not so much in a 'spiritual' context, but because Buddhism is overtly about individuals learning to inflict less harm on the world. Much in Buddhist philosophy complements modern psychology, offering practical guidance on developing positive thinking patterns and self-observation, both significant components of sustainable behaviour. Finally, I have drawn upon the work of other authors. Stephen Covey's work has been particularly influential, his ideas on empowerment and time management have been adapted in Chapters 6 and 10. In addition, Bob Doppelt's work on sustainability thinking has proved helpful, particularly his notion of 'sustainability thinking blunders' (see Chapter 5).

In producing this work, I have made every effort to locate appropriate and authoritative sources for the various facts, arguments and approaches the book contains. I take this opportunity to apologize in advance for any undetected errors or faults. I have also assiduously tried to avoid the trap of evangelism and sought to stamp out any 'you should's or 'we need to's, as if I know best. The purpose here is not for me to tell anyone what they should do or think but to provide a range of means that can help us make sense of what appears to be, at times, an increasingly crazy world.

Paul Murray  
28 July 2010

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# We Matter

*There is one thing stronger than all the armies in the world;  
and that is an idea whose time has come.*

(Victor Hugo, 1802–1885)

## The big idea

Put 'save the planet' into a good internet search engine and you will obtain over 50 million results. This gives the impression that saving the world is an idea whose time has come. But is this the right message? The premise underlying this book is that with the evidence building on biodiversity loss, pollution, atmospheric warming and the depletion of natural resources, a stark reality is emerging. Simply put, it seems that the development model we have been using since the industrial revolution can no longer be sustained. If so, what is actually at risk is not the planet but the future of our species and many of the others we share the world with. Given this, we can respond either by accepting this reality and fundamentally changing our ways or by carrying on as we are, tinkering around the edges of the mounting problems. The difficulty with the latter is that the burdens we are imposing on the environment will continue to escalate until, eventually, the point is reached when nature can no longer support our civilization. So it is not the world that needs saving but us; we need saving from ourselves and to save ourselves we need to embrace fundamental change. This is unfortunate because, as we all know, most people are fundamentally averse to change.

Notwithstanding the nature of our predicament, there are reasons to be positive about the future. Knowledge about human impacts on the environment has never been greater and institutions, governments and businesses are starting to take the situation more seriously. UNESCO, for example, declared 2005–2014 as the *Decade for Education for Sustainable Development* and the World Business Council for Sustainable Development, a coalition of over 200 global business leaders, has become increasingly influential in promoting sustainable practices. Meanwhile, national governments are pursuing the international agreements needed to respond to the threat of climate change. Despite all this, progress is painfully slow, encumbered as it is by a lack of personal engagement amongst the general population. Without this vital but missing ingredient, resistance to change will continue to dominate and sustainable development will remain unachievable.

Personal engagement in the context of this book is about accepting we have a personal stake in the future. Without this sense of connection, we are unlikely to support the positive changes needed to secure that future. While countless people around the world are actively promoting sustainability in their workplace, community or home, most either pay it lip service or ignore it altogether. This lack of engagement seems to relate to an unwillingness to recognize the potential seriousness of our situation. Peter Schmuck and Wesley Schultz writing in *Psychology of Sustainable Development* cite research from the late 1940s that supports this possibility. The research analysed the life histories of refugees from Nazi Germany. One of the key conclusions was that people appear to harbour an inability to 'realise the imminence of catastrophic change' (Allport et al 1949 cited in Schmuck and Schultz 2002). While this finding has some resonance in current times, a premise underlying this book is that we humans are very capable of overcoming such instinctive shortcomings and will engage with positive agendas like sustainability if we feel sufficiently motivated, empowered and equipped to do so. This is not idle speculation. The barriers to sustainable behaviour are well recognized and while some, such as poverty, are external, many are internal, associated with the way we think. The aim of this book, therefore, is to provide guidance on how we can acquire the mental attributes we need to approach sustainability with confidence and competence at a personal and professional level. The content is structured in three

parts. The first two chapters build an understanding about our role as individuals and our connection with so-called sustainability issues. Chapters 3 to 6 introduce a range of personal development techniques for motivating and empowering positive personal change. The remaining chapters review the knowledge, skills and approaches we need to equip ourselves to live and work sustainably. This first chapter sets out the case for addressing change at the level of the individual by exploring the overall need for change, the role of technology, the significance of behaviour change and why individual engagement is so critical.

## The need for change

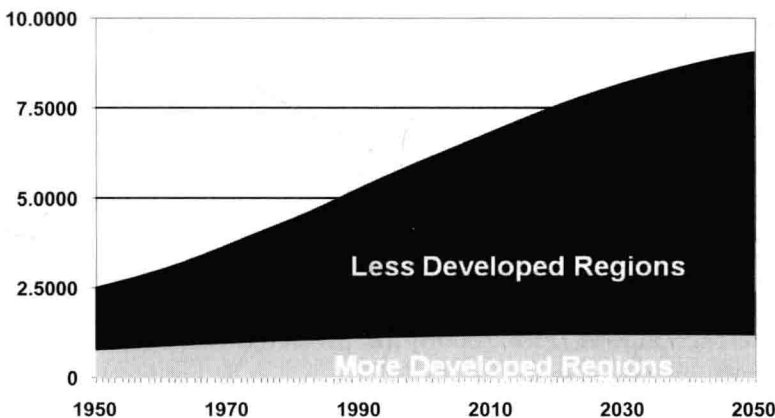
If sustainability is about change and adaptation, humankind is surely masterful at the latter. Our species has successfully colonized virtually every habitable corner of the planet and evolved different physical traits to suit different climates. But our real genius has been our ability to adapt the physical environment to suit our physical and psychological needs. Our buildings, urban infrastructures, arts and technologies all testify to this brilliance. What then is the problem? The answer is simple; as a species, we are just too successful.

Our key 'successes' relate to the increase in our numbers and our ability to create and exploit ingenious new technologies. Over the past 10,000 years the human population has grown exponentially with the rate accelerating sharply after the Industrial Revolution, becoming a spurt in the last 50 years (Figure 1.1). With numbers expected to peak

**8000 BC**  
(New Stone Age)  
Population  
5 million humans

**2008**  
Population over  
6700 million  
humans  
A rise of more than  
1340%

Source: Haub 2002;  
PRB 2008.



**Figure 1.1**  
World population  
growth to 2050

Source: Population  
Reference Bureau 2009a.

at over 9 billion in 2050, our species is placing unprecedented pressure on the natural environment. Prior to the 18th century, when there were less than a billion people on Earth, our ecological impacts were geographically isolated and relatively local in scale. Even so, ignoring them could be hazardous.

Professor Sing Chew of the Helmholtz Centre for Environmental Research is one of many authorities who have documented the disappearance of pre-industrial civilizations such as the Sumerians (900 BC), the Romans (AD 100) and the Mayans (AD 1200). Chew identified that in large part the decline of these societies stemmed from the environmental problems they created. As they flourished, their technologies developed and their population grew, increasing demand for the available natural resources, particularly fuel, which was normally wood. The resulting deforestation not only stripped away their primary source of energy, it led to the loss of fertile soil due to erosion. In the early 1970s, scientists Paul Ehrlich and John Holdren devised an equation called the IPAT identity to represent this type of predicament.

$$I = P \times A \times T$$

where I = impact; P = population; A = affluence; T = level of technological advance.

The IPAT identity sees the sum of human impacts on the environment increase with population (more people, more consumption), affluence (more income, more consumption) and technology (more available technology, more consumption, more resource use and more pollution). Applied to the 21st century, IPAT implies that we face an untenable position as all the components in the equation seem to be advancing simultaneously. Clearly, the human population has been growing at an alarming rate. This is largely because while global mortality rates have declined due to advances in medical science, fertility rates (the number of children born per woman) in large parts of the world remain stubbornly high. This is particularly true in less economically developed countries (LEDs), where access to education and family planning is poor, which is why the Population Reference Bureau (PRB 2009b) has predicted that 97 per cent of population growth will occur in LEDs, which do not (yet) have the resources to make the comprehensive cultural changes needed to bring

down their fertility rates. However, those of us living in more economically developed countries (MEDCs) cannot sit back on our laurels because as Fred Pearce, author of *Peoplequake* wrote in 2010:

*A woman in rural Ethiopia can have ten children and her family will do less damage, and consume fewer resources, than the family of the average soccer mom in Minnesota, Manchester or Munich.*

**Typical Fertility Rates (children per woman)**

1.6 in MEDCs

3.2 in LEDCs

Up to 6 in some parts of Africa

Source: Hunter 2008

Affluence is set to increase worldwide as previously underdeveloped nations, most notably China and India, frantically industrialize as a means of achieving economic growth. The 2007 World Bank Development Indicators reveal that only 20 per cent of people live in wealthy countries. Of the rest, around half live below the \$2.50/day international poverty line and 1.4 billion of these experience *extreme* poverty – poverty that kills. The remainder of the 80 per cent live on less than \$10 a day. Bearing in mind that it is our natural human instinct to desire a better life, up to 5 billion humans (and rising) are aspiring to higher living standards. Lifting these people out of poverty is a noble priority, yet commonsense and the IPAT identity indicate that raising the worldwide standard of living to ‘western’ levels would have catastrophic environmental implications. Something has to give. If we accept that within the next 40 years there is unlikely to be much respite in either population growth or the pursuit of affluence, perhaps then technology might save us?

## Is technology the answer?

Ehrlich and Holdren identify technology as a potential agent of ecological decline because the more advanced technologies become and the more they are used, the greater the depletion of natural resources and the greater the damage caused to the environment by pollution and other by-products of production and consumption. Nonetheless, the 21st century is seeing an increasing focus on creating technologies that consume less and pollute less. Is it possible then that the effects of a rising population and increasing affluence could be offset by newer and more efficient technologies? Can we design our way to a sustainable future? Without doubt, advances in medicine and engineering

**Will new technologies:**

Raise living standards?  
Be inspiring?  
Be more efficient?  
Be less wasteful?  
Be less polluting?  
Save lives?  
Improve mobility?  
Create jobs?

have enhanced the material well-being, mobility, health and longevity of people across the world. Products like the automobile, computers and mobile phones defined the last century and there are many who believe that cleaner, more efficient and more innovative technologies will define this one by solving the world's problems. But technological innovation also has a dark side; it produced the weapons of mass destruction that have the potential to destroy our civilization many times over and to inflict untold suffering on our 'enemies'. Undoubtedly, technology has to be harnessed for good to be beneficial, but even then, can it be relied on to safeguard our future?

Politicians and the media seem to be attracted to 'techno-fixes' such as giant solar shades in space and artificial volcanoes to mitigate global warming, particularly when they are expounded by authoritative bodies like NASA's Institute for Advanced Concepts and Britain's Royal Society. High technology solutions seem exciting and appear to offer many advantages (see the box, left), not least the potential to provide quick-fix solutions.

Given the complexity of the problems we face, it is unlikely that grand, 'quick-fix' ideas will get us out of trouble. Nonetheless, technology offers much more than mere hype. Engineering innovations have an outstanding record of improving industrial efficiency. Year-on-year, engineering technologists find ways of reducing pollution and increasing resource efficiency. Dupont reduced greenhouse gas emissions by 72 per cent between 1991 and 2007, and Dow Chemicals recorded 22 per cent gains in energy efficiency between 1994 and 2004 while confidently committing itself to a further 25 per cent reduction by 2015. With no shortage of proof that industrial efficiency can be vastly improved, the Rocky Mountain Institute (RMI) launched its *Factor Ten Engineering* (10×E) initiative in 2003 to transform the resource productivity of industry by a factor of ten through education and shared innovative practices. New technologies also offer direct solutions in the form of renewable energies (Figure 1.2).

New renewable energy technologies are continually being developed such as thin-film photovoltaic panels, which have the potential to make available cheap and efficient solar power in the future. The renewable energy industries also demonstrate how technology contributes to socio-economic development by providing new jobs. Figures for 2008 published by the World Watch Institute (Fenner 2008) indicate that 2.3 million people were employed globally within



## The potential of renewable energy technologies



Solar hot water systems could provide half the world's hot water



Solar cells could account for 10% of the US grid by 2030



Solar power plants located in southern US states could produce seven times the US electricity capacity



Wind power could provide 20% of world electricity, while off-shore wind could serve all of the EU's electricity needs



Biomass could replace a third of US oil use



Renewables have the potential to provide up to 50% of world energy in the second half of the 21st century

**Figure 1.2** *Renewable energy potential*

Sources: UNDP (2000) cited in World Watch Institute 2008; UNDP 2004.

Image: Translucent PV panels, Bedzed, England (courtesy: Brian Pilkington)

the renewable energy field and in Germany job growth in renewable technologies is expected to triple by 2030. Notwithstanding these benefits, the role of technology as the primary means of driving sustainable development is questionable for several reasons:

- 1 New technologies bring with them unintended as well as intended outcomes.
- 2 History demonstrates that technologies can fall prey to human error, with potentially disastrous effects.
- 3 Efficient technologies are only useful if they are taken up and used effectively.
- 4 The life cycle impacts of technological products can be more damaging than appearances suggest.
- 5 Eco-efficiencies in industry will only contribute to sustainability if they lead to a net reduction in resource use and pollution.
- 6 Single-mindedly focusing on technology can distract attention away from the urgent need for systemic change.

### Unintended outcomes

All human activity has unintended as well as intended outcomes. Unintended outcomes may be foreseen, unforeseen, helpful or unhelp-