

Chapter One: Understanding Unsustainability

“Understanding is the first step to acceptance - and only with acceptance can there be recovery”¹

J.K. Rowling

“Consider again that dot. That's here. That's home. That's us. On it everyone you love, everyone you know, everyone you ever heard of, every human being who ever was, lived out their lives.”²

Carl Sagan

On Christmas Eve of 1968, a photograph was taken which changed forever our human perspective on our planetary home. It shows the Earth from a quarter of a million miles away, one hemisphere shining blue in sunlight, the other in the shadow of night-time, rising above a barren lunar landscape in the vast emptiness of space. This picture, known as *Earthrise*, was captured by the crew of Apollo 8 as they returned from orbiting the Moon. It is said of this image that it transformed human thinking about our relationship with our planet and, in doing so, inspired the modern environmental movement.³

The following year, man stepped onto the Moon. For many people, this crowning achievement of the Apollo space mission created a euphoric sense that all of our worldly

problems could one day be overcome by science and technology. We were newly reminded of the seemingly unique conditions that enable life only on our planet - and of our expanding human imprint on these. But, at the same time, the growing concerns of a minority for the Earth's continuing ability to sustain us were dismissed in popular consciousness as being entirely solvable by human ingenuity.

In the years between the Moon landing and our present millennium, we have assimilated into our lives computers, satellites, digital communications, and many other far-reaching technologies. We are now able to watch events as they occur on the far side of the world on mobile devices we can carry in our pockets, each one of which holds more computing power than was available to the whole Apollo programme in 1969.⁴ But such life-changing innovations have brought us no closer to solving our fundamental problems of sustainability. They have only made plainer the extent of these and how much they have worsened, not improved. Forty years and more after walking on the Moon, scientific solutions still elude us and belatedly we are realising that we must search also for other answers.

Sometimes, when confronted by seemingly unsolvable problems, it helps to step back from their perplexing details and view them in the context of a bigger picture. Being able to perceive our lives on Earth as they appear from outer space profoundly affected many people's thinking about our human values and purposes. In the same way, we might better understand our complex modern problems of sustainability when we consider these against the broad backdrop of our human evolution.

For the most part, the story of our species from hunter-gatherer origins in tropical rainforests to settled agrarian communities spread across the planet has been one of barely

discernible changes taking place over hundreds of thousands of years. For untold generations, our ancestors lived as tiny kinship groups entirely within the means of their landbases to sustain them. As environmental conditions changed or resources were outstripped, these groups split up and moved on. No doubt the lives of individuals were, as ours are, fast-moving, competitive and emotionally demanding at times. But the adaptive processes of our physical and psychological evolution were protracted and incremental.

When, ten thousand years ago, humans first settled down to farm, they sowed the seeds of the civilisation we know today. But even the dramatic changes that agriculture brought about were still absorbed slowly and minutely in lives that altered little through the passing millennia. By contrast, a tiny instant of evolutionary time since the Industrial Revolution has witnessed extraordinarily rapid changes; from wind, water and muscle power to nuclear, from animal transportation to space flight, from predominantly rural lives to mass urbanisation, from limited local horizons to globalisation. No less remarkable has been our human adaptability in adjusting in so short a time to lives of continuous and accelerating change.

The catalyst for these extraordinary advances came in harnessing the energy of fossil fuels; first coal and, most recently, crude oil and gas. In particular, the one-off geological gift of oil has facilitated our most rapid progress and now underpins all the staples of modern life that today we take for granted - everything from plastics and high-yield agriculture to anaesthetics, sanitation, cheap air travel, hypermarkets, mass car ownership, instant news and entertainment, and a globalised system of consumer-driven economic growth.

But in the course of less than a single lifetime it has become shockingly apparent that our reliance on fossil fuels to improve and enrich our lives has also come to threaten our survival.

The physical reasons for this predicament have been well-explained elsewhere⁵ but, in summarising these, we begin to recognise their interconnecting patterns. Cheap abundant energy derived from oil has driven growth in the human population from less than one billion two hundred years ago to seven billion today and an anticipated ten billion by 2100⁶, creating unprecedented new demand for energy, food, fresh water and other finite biological resources. At the same time, it has fuelled a massive industrial expansion, creating pollution on a scale so large as to have destabilised the Earth's climate and disrupted the life-enabling systems of its biosphere. These already serious trends are compounded by the certain decline of energy available from fossil fuels, partly because of increased demand from a burgeoning population, partly because the production of cheaply accessible oil has now peaked⁷, and partly because of the need to stop burning carbon-emitting fuels if we are to avoid the worst effects of global warming⁸.

Taken individually, there are variables in each of these trends which make their impacts difficult to predict with certainty. But taken together, it is clear beyond doubt that we are over-reaching the planet's ability to sustain us. For the first time in our long existence, we have no new habitat to colonise and our species is confronted by the possibility of extinction. Yet, to date, our collective response to this evolutionary emergency has been one of disbelief, procrastination and avoidance. The reasons for our failure to mobilise are multiple and complex and exploring these to find ways to overcome them is the purpose of this book. Not the least of these is the overwhelming speed at which we have arrived at our predicament, well beyond our psychological capacity to absorb it. And another, of course, is our understandable difficulty in accepting that it is ourselves and our expectations to make infinite material improvements in our lives that we must mobilise against.

A central premise of this book is that, in becoming so adjusted to our modern technocentric lifestyles, we have lost sight of our absolute dependence on the natural biological systems that sustain them. We spend the largest part of our lives in human-constructed environments, sheltered from the elements by technologies that are mostly beyond our common comprehension and occupied in activities that no longer require intergenerational knowledge of nurturing subsistence from soil. We think of ourselves as having evolved beyond nature and so are unmindful of our true place in the interactive natural systems that together make up the “web of life”.⁹ So we have crucially failed to acknowledge that the problems we are facing today are the same as those faced by our distant primate ancestors - ones of our ecological survival.

In 1962, President John F. Kennedy proclaimed the quest to reach the Moon as “the most hazardous and dangerous and greatest adventure on which man has ever embarked”.¹⁰ We should go there, he said, not because it was easy, but because it was hard and it tested the best in us. Fifty years on, we are confronted by hazards and dangers of a kind unprecedented in all of human history, yet seem incapable of responding. It is, of course, none of our fault that the lives we were born into have so estranged us from our planetary habitat. Nor is it our fault that the fossil fuels we still benefit from burning today are so endangering our future. But we might think less of ourselves if, now understanding the error of our ways, we do not attempt to change them. Finding the resolve, the means, and the solidarity to work together to make our lives sustainable has become the defining human challenge of the 21st century.

Differing interpretations of ‘sustainability’

In rising to meet this challenge, then, our starting point must surely be to define what we mean by ‘sustainability’ and what exactly it is that we mean to sustain. But, beyond reviewing some

prevalent definitions in the context of *ecological* sustainability, this handbook does not provide its own. Instead it aims, through the learning experiences it contains, to inspire each of us to reflect on what is ecologically sustainable and unsustainable in our own lives and to act on our conclusions to the extent of our abilities to do so. Without such direct and personal engagement, even the most comprehensive definitions have proved open to interpretations that dilute their meaning and obscure their relevance to us.

This book proposes that we are best able to define ‘sustainability’ by considering the ways in which our current lives and living systems are *unsustainable*. Human ecological unsustainability is well explained by nine conceptual ‘planetary boundaries’¹¹ identified by an international team of earth scientists as being uncrossable if we are to have the chance of a viable future. (*Fig.1*). Three of these - climate change, the rate of extinction of species, and human disruption of the natural nitrogen cycle through intense agriculture - have already been transgressed, requiring that we ‘back-pedal’ urgently. Others, such as ocean acidification, damage to the ozone layer, and human demands for land and fresh water, are now being pushed to the limits of safety. This already severe prognosis is made worse when we realise that all of these nine boundaries are interacting and crossing any of them has dangerous potential to force one or more others.

Put simply, these boundaries represent the safe limits of the stable biological conditions that enable our lives on the planet, beyond which the Earth could cross a threshold into a new state that will likely support life¹², but not human life or the lives of other species that enable human life. Because the majority of us are largely uninformed about these limits or, at any rate, unmindful of them in our daily habits and routines, we are unable to agree on other limits – to

industrial growth, to pollution, to population, to consumption, and to over-exploitation of natural resources - that might enable us to reverse these terminal trends and stay within the planet's ability to sustain us.

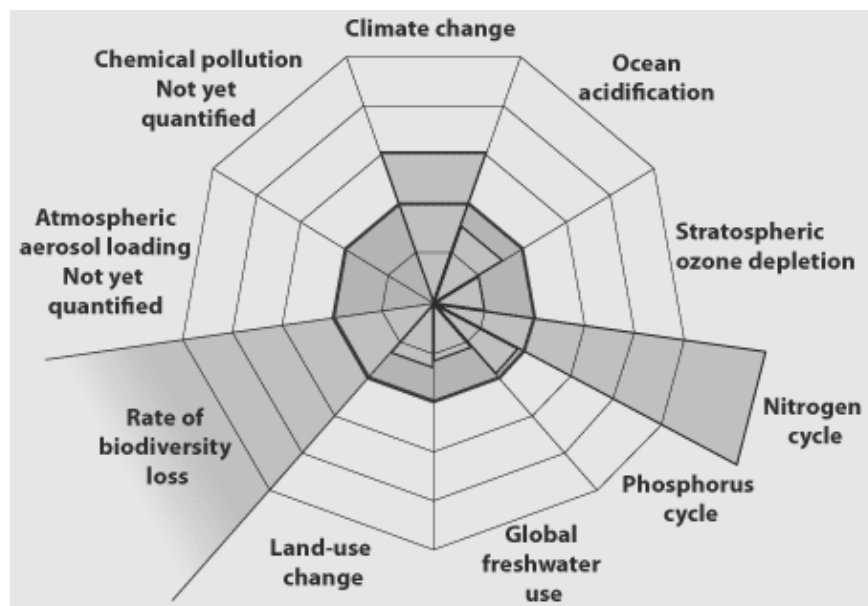


Fig 1. Planetary boundaries

In everyday parlance, the terms ‘sustainability, ‘sustainable development’ and ‘sustainable growth’ are now used so interchangeably that frequently we suppose we are all talking about the same thing. But do we mean, for instance, by ‘sustainable growth’ the desire to make our present industrial economic model hold up indefinitely? Or do we mean growth towards the intellectual and spiritual maturity of a culture capable of observing the biological limits of its habitat? By ‘sustainable development’, do we mean a social and economic system which ensures that “real incomes rise, that educational standards increase, that the health of the nation improves, that the general quality of life is advanced”?¹³ Or do we mean to ‘contract and

converge’¹⁴ our rich world living standards to enable equal development opportunities and fair shares for all?

In 1987, the Bruntland report to the United Nations provided the best known definition of sustainability as “development which meets the needs of the present without compromising the ability of future generations to meet their own needs.”¹⁵ That this definition is well-known is not to say that its implications are widely understood. From the perspective of what we now know about the *ecological* unsustainability of modern industrial systems, it seems to require nothing less than their complete redesign. But, as the influential environmental educator Professor David Orr has pointed out, industrial civilisation “was not designed at all; it simply happened” without any knowledge of “ecological wisdom” or “ecological design”.¹⁶ Instead, once set in motion by ingenious uses of fossil fuels, it has largely determined its own course and momentum. So it is perhaps unsurprising that we have not yet agreed on the necessity of remaking it – or even of how to slow it down sufficiently to do so.

Also not surprising, then, that most recent definitions of sustainability have emphasised more convenient aspirations that seek to make the status quo a little more sustainable through still-to-be realised advances in technology and efficiency.¹⁷ Nor that the seemingly unequivocal Bruntland definition has usually been taken to imply that the consequences of present unsustainability will impact mostly on future generations, so permitting us to defer addressing them while we attend to more pressing concerns. We have failed to notice the report’s key message that we do not have “an environmental crisis, a development crisis, an energy crisis”, each to be responded to separately according to its perceived urgency, because, in human ecological terms, “they are all one”.¹⁸ And as a generation unborn at the time of the report has

now grown up with children of their own, it is clear that more pressing concerns are ever present and demanding of our attention. Whilst a new vocabulary of sustainability has entered our lives, a common understanding of what it means for us has yet to do so.

It is, of course, a good thing that we have become used now to hearing the word ‘sustainable’ joined up with others like ‘energy’, ‘agriculture’, ‘fisheries’, ‘housing’, ‘transport’, ‘communities’, and ‘jobs’. Also that we have ‘sustainability professionals’ employed in businesses and local authorities, along with ‘sustainable schools’ and ‘sustainability education’. But our growing familiarity with these terms gives rise to a false impression that sustainability experts are well on the way to making our lives sustainable for us, just as we might imagine an army of research scientists to be busy inventing technological solutions, so relieving us of the obligation to engage personally.

The reality is that, at best, current sustainability initiatives are the hard-pressed efforts of a few under-resourced individuals and organisations who on their own can only scratch at the thick skin of cultural and institutional inertia.¹⁹ At worst, they are the ‘greenwash’ marketing ploys of dissembling vested interests. And, reassuring though it would be to think that our schools and universities are preparing young minds for the immense challenges ahead, our societies continue to educate for the world as we have known it rather than for the uncertain world to come. Sustainability is still little more than an add-on at the periphery of our education systems, far from where it needs to be at the centre of learning, teaching and research.

All current indications are that humanity is further now from sustainability than ever before - and still moving relentlessly in the wrong direction²⁰. We can no longer hope to avert all the impacts of environmental crises, only to lessen them and to adapt to those that are inevitable.

But there is an ever-growing likelihood that, without a widespread public commitment to make radical but still manageable changes in our lives, deteriorating conditions will force changes upon us for which we are wholly unprepared. As sustainability educator Professor Stephen Sterling has observed, “the difference between a sustainable future and a chaotic one is [in] learning”.²¹

A failure of education

A further premise of this book, then, is that our failure to face up to emerging and converging crises of sustainability is, in large part, a failure in how we are educated. The education provided in Western countries is increasingly standardised and mechanistic and based on the needs of industrial and consumerist societies, not sustainable ones.

In 1970, the year after the Moon landing, the sociologist Alvin Toffler warned presciently that the modern education curriculum “is not based on any well thought out conception of contemporary human needs” and, “still less... on any grasp of the future”.²² He wrote:

“It is no longer sufficient for Johnny to understand the past... [or] the present, for the here-and-now environment will soon vanish. Johnny must learn to anticipate the directions and rate of change. He must... learn to make repeated, probabilistic, increasingly long-range assumptions about the future. And so must Johnny’s teachers.”²³

At around the same time, the pioneering environmental economist E.F. Schumacher noted that as “the volume of education ... continues to increase, yet so do pollution, exhaustion of resources, and the dangers of ecological catastrophe. If still more education is to save us, it

would have to be education of a different kind: an education that takes us to the depth of things.”²⁴ And the late scholar and educator Theodore Roszak put it like this:

“We are used to hearing our schools assailed by critics who want to know why ‘Johnny can’t read, Johnny can’t write’ and who call for a return to ‘the basics’... But why do we stop worrying there? ... Why not worry that Johnny can’t dance, can’t paint, can’t breathe, can’t meditate, can’t relax, can’t cope with anxiety, aggression, envy, can’t express trust and tenderness? ... that Johnny does not know who he is? ... Let us admit that the basic skills have nothing to do with Johnny’s health, happiness, sanity, or survival, but with his employability. Whose interest, then, is Johnny’s education serving?”²⁵

Four decades on, we are confronted by environmental challenges of a scale and urgency we have never known before. Meanwhile, our public education remains modelled on the outmoded “values and methods... that created many of these challenges in the first place”.²⁶ We have still to recognise that to transform ourselves to sustainability, we must transform how we are educated.

Teachers might comment wryly that change is a constant in our education systems. But, as Stephen Sterling points out, “current changes are largely about moving education suited to the modern industrial age to one appropriate for the post-modern information age”.²⁷ In any case, he continues: “Most mainstream education *sustains unsustainability* – through uncritically reproducing norms, by fragmenting understanding, by sieving winners and losers, by recognising only a narrow part of the spectrum of human ability and need, by an inability to explore

alternatives, by rewarding dependency and conformity, and by servicing the consumerist machine...”²⁸ “Without an ecological understanding, we are in real danger of creating post-modern learning institutions whose graduates are able to exploit others and the environment more efficiently and effectively than their predecessors.”²⁹

This observation appears especially true of English-speaking Western nations where education is increasingly viewed as one of few remaining ‘public goods’ that may be run for private profit.³⁰ It seems no coincidence that these same countries, notably the US, the UK and Australia, have also been the crucible of deliberately mis-educative global warming ‘denialism’³¹ - or that, among their populations, concern for the environment has slumped in recent years.³² By contrast, throughout most of Europe, public concern has remained consistently high,³³ providing a mandate for the European Union to push for the most demanding of international climate change targets.

In the Nordic countries of Sweden, Denmark, Norway and Finland³⁴, humanistic educational principles have to some extent resisted the growing marketisation of education to remain relatively intact; not only in schools and universities, but also in a widespread tradition of popular education. Life-long learning takes place through citizen ‘study-circles’, part-funded (though not directed) by the state, which can involve up to a quarter of adult populations at a given time.³⁵ This self-initiated education has commonly included study of issues of national and global importance, such as the role for nuclear power and for sustainable agriculture, so contributing to a well-informed participatory democracy.³⁶ These same countries also place high value on environmental education and much of their populations’ recreational time is famously spent out-of-doors. Again, it seems more than coincidence that environmental concerns figure

high on these countries' public agendas and that their capital cities are amongst the 'greenest' in the world.

Critics might argue that Nordic adult education practices are unlikely to transfer readily to societies without such a strong culture of life-long learning. It is certainly true that, where popular sustainability education has taken hold in other societies, this is mainly amongst small minorities who are already predisposed to 'transitioning' to sustainability. It is also true that such initiatives seem unlikely to roll out quickly across whole populations. But we might notice too how new informal learning communities have sprung up spontaneously in recent times in response to worsening social and economic circumstances for increasing numbers of people. In the US, local 'common-security clubs' and 'resilience circles' are creating new mutual-aid networks whereby hard-pressed citizens can pool ideas and resources.³⁷ In austerity-stricken Greece, food and clothing banks and other informal and co-operative 'self-help' economies have quietly emerged alongside much more publicised street protests and demonstrations.³⁸

Ecological entrepreneur Paul Hawken has estimated that there may now be as many as two million disparate and often leaderless grassroots movements around the world already working in diverse ways to create the conditions for "environmental sustainability and social justice".³⁹ So, whilst it may seem naively optimistic to aim to inspire widespread new interest in sustainability amongst apparently unwilling majorities in Western populations, a continued unravelling of social conditions may well attract even highly resistant people towards such communal learning and activism. Moreover, recent study of so-called 'tipping-points' has indicated how the small but significant actions of only a very few people can spark off social movements and trends which rapidly become widespread.⁴⁰ There is other good evidence to

show that gaining the active commitment of as little as ten percent of overall populations can precipitate mass consent to social change.⁴¹ When seen in this light, normalising a population-wide shift to sustainability through motivating the committed engagement of only one-in-ten of families, friends, colleagues and neighbours might seem a less utopian goal. Some may still object that such an aim amounts to the social-engineering of sustainable behaviour⁴², in the same way as consumer behaviour is manipulated by well-targeted product exposure and endorsement. But such concerns are obviated by the self-determined and open-ended approaches to learning that are advocated in the pages that follow.

The activities and approaches of this handbook are intended to contribute to existing sustainability education, both in formal education and in the popular learning and research that is already underway in visionary grassroots movements from Transitions to Occupy. But, more than this, they are aimed at extending learning beyond the already active by being appealing to the interests and motivations of much less engaged populations. So the experiential activities compiled in **Part Two** are intended for use not only in classrooms and formal training venues, but also by social groups in local community halls, congregations in places of worship, work colleagues in company cafeterias, and family and friends in kitchens and living rooms; in short, any setting where people come together to explore what it will mean for our lives to flourish in a low-carbon, resource-constrained world. And, of course, many of them are not intended to take place indoors at all, but out in the natural world where insights and learning about human and ecological sustainability can be most profound.

A failure of information

A few minutes spent in searching the internet reveals that there is no shortage of readily available information about growing environmental threats. But much of this, whether communicated by governments, campaigning NGOs or self-appointed opinion-setters, suffers from being partial, over-simplified, lacking in context and, not infrequently, misleading.⁴³ Moreover, the sheer quantity of information, far from motivating our purposeful engagement, can just as easily overwhelm us and numb us to the precariousness of our predicament.

The principal means by which our views are formed and informed is through the reports and commentaries of the media.⁴⁴ But most media coverage has focused narrowly on climate change alone, to the detriment of broader awareness of other simultaneously occurring environmental crises. And even this single-issue reporting has been heavily skewed by a media tendency to offset the consensus of climate science⁴⁵ with a disproportionately large representation of contrarian voices.⁴⁶ This bias has resulted not only from editorial policies and the demonstrable influence of powerful interests, but also from our modern expectation to be perpetually entertained. As David Orr has observed, “to entertain, it is necessary to create conflict and dramatic tension, often where none exists”. Hence, media coverage of highly consequential issues is dressed up as ‘info-tainment’ and so-called balance achieved by “equating the views of [NASA] with those of the Flat Earth Society”.⁴⁷ So complex scientific probabilities have melded in our minds with disaster movie fantasies, none of which are borne out by our daily experiences. In this way, large numbers of people have become mistrusting of the science and ever more distanced from the all-too-real and urgent issues that underlie our unsustainable trajectory.

Over the past decade or so, successive population-wide campaigns have been promoted by governments and NGOs aiming to better inform us and thereby inspire mass social changes to sustainability. But these messages too have been over-simplified by focusing on climate change alone and their credibility obscured by the inconsistent advice and actions of governments and the obfuscation of the popular media. During this same period, human emissions of greenhouse gasses, mostly from vast scale industrial and military activities that are beyond the influence of ordinary citizens to control, have risen to record levels. And years of intergovernmental negotiations, involving hundreds of meetings and thousands of delegates, have proved unable to agree binding targets that are anywhere near sufficient to avoid irreversible impacts.⁴⁸ So it is unsurprising that, in the absence of unequivocal information and action from governments and institutions, the solidarity being asked of their publics to mobilise for the common good has failed to materialise.

The majority of public information campaigns have used social marketing techniques intending to progressively ‘nudge’ us into sustainability by first promoting unambitious behaviour changes such as replacing our light bulbs, recycling our waste and reducing our use of plastic bags. But, important though these actions are, the failure of this approach has been that they are relatively “simple and painless” to adopt and, crucially, have not led to the much more substantial and difficult behavioural changes that sustainability truly requires. Tom Crompton, a ‘change strategist’ with WWF-UK, has examined how our willingness to suffer inconvenience and difficulty in adopting sustainable behaviour is directly related to our psychological motivations for doing so. (*See Chapter 7: Making Common Cause*). He has found that “individuals who engage in behaviour in pursuit of ‘intrinsic goals’ (of personal growth, emotional intimacy or community involvement) tend to be more highly motivated and more

persistent in engaging in this behaviour than individuals motivated by extrinsic goals (for example, of material goods, financial success, image and social recognition).”⁴⁹ Thus, people with strong intrinsic values more readily adopt sustainable behaviours whereas others with more material motivations are likely to feel they have much to lose by doing so.

Such findings help to account for the extreme polarity that has arisen in public debates which has proved so divisive in motivating a mass commitment to change. Because our social systems and cultural expectations are so deeply embedded in the individualistic motivational drivers of consumerism, wealth acquisition and material status and reward, it is not hard to understand why a collective shift to simpler, more communally oriented lifestyles has failed to gain traction. Recent social science research has borne out that “people who hold individualistic views, dislike political interference... and favour highly structured forms of social order, are more likely to be sceptical about climate change... [than] those with more egalitarian views, who favour less rigid and more communal forms of societal organisation”.⁵⁰ Moreover, research has also shown that a high level of affluence in societies correlates directly with a low level of public concern.⁵¹ Little wonder, then, that our conflicting views and personal motivations have led to deeply entrenched oppositional stances and much mistrust and uncertainty in between.

It is now abundantly clear that population-wide information campaigns, whether seeking to alarm us into action or else to persuade us of the well-being benefits of adopting sustainable behaviour, have been insufficient to overcome the types of motivational obstacles outlined above. A further premise of this book, then, is that information on its own, without opportunity for reflection and deliberation that make it real and relevant to people’s lives, will not precipitate mass social change to sustainability. Information about sustainability needs to be delivered at a

level, and in a context, capable of engaging people's core intrinsic values – of family, community, and reciprocal concern for the human and natural worlds - which Crompton and others have highlighted as being so vital and which we have good reason to hope and believe are universally shared.⁵² Sustainability educator Professor Paul Murray (*See Chapter 10: Evaluating Learning and Outcomes*) is among those who sense that “globally, there is little doubt that millions of dedicated and hard-working people share a common desire to make the world a better place and are at least willing to embrace change in order to do so.”⁵³ What is needed for this solidarity to manifest itself is, as Murray explains it, “the right knowledge at the right level”; knowledge that makes sustainability “personal” to each of us and equips us with the “motivation” and the “skilful means”⁵⁴ to be able to act on our learning and to cut through the plethora of misinformation that dissuades us from doing so.

Sociologist Kari Norgaard has advanced another compelling reason for the failure of information to mobilise us. Her investigation into people's responses to climate change in a township in environmentally-aware Norway has suggested that social inaction results less from lack of information than from the overwhelming emotions of “fear, helplessness and guilt” that internalising such information entails.⁵⁵ She proposes that, far from being unmoved and indifferent, we commonly see the problems of climate change as being so extreme as to be beyond our ability to respond. So, for ordinary life to continue, selective understanding and collective denial become socially normalised and the open and explicit conversations we need to have to be able to address our situation become taboo.

Psychologist Renee Lertzmann has also noted a paradox in our reactions. She suggests that public inaction is not because we are generally apathetic in our concerns for the environment. To

the contrary, she has found the majority of us to be very concerned about environmental degradation, particularly that of our own immediate environments. But our ability to act is inhibited by our internal dilemma between desiring the benefits of industrial civilisation and our rational understanding of the damage done by it.⁵⁶

To date, the technical aspects of our sustainability crisis have been much more thoroughly studied than our human responses to these and it is clear that more social science research is needed⁵⁷. But the significant findings that do exist emphasise the critical importance of creating widespread opportunities for people to engage in deliberative conversations about the issues.

On a single day in 2009, a Danish-led project, WorldWide Views, simultaneously involved 4,000 people from thirty-eight countries across six continents in facilitated small group discussions about climate change. The aim was to inform intergovernmental policy-making at the subsequent Copenhagen summit through giving voice to the opinions of ordinary citizens. The most striking outcome of this global conversation was that, after receiving balanced information and freely deliberating it with their peers, people from vastly different backgrounds in all parts of the world proved close to unanimous in mandating their leaders to take “fast and strong action” on global warming.⁵⁸

James Fishkin is a political scientist who since the 1990s has studied the processes of ‘deliberative democracy’. Also in 2009, he conducted an experiment in which 350 citizens from across the European Union met for three days of small group discussions and exchanges with experts about socially contentious issues from climate change to immigration. The results showed that, when exposed to other people’s perspectives and given opportunity to debate the

issues collectively, the participants became markedly ‘greener’ and more tolerant in their views. They also became more supportive of international collaboration and more convinced of the importance of personally exercising a vote.⁵⁹ Diplomat Carne Ross has noted that deliberative opportunities such as these are crucial to improving public engagement with issues of common concern. He reports that “participants pay greater heed to each other’s positions”, “there is a deeper consideration of facts [and] a greater degree of consensus within the group”, and that “the group feels a much greater commitment to decisions reached collectively... than decisions imposed by any other authority.”⁶⁰

From his own long experience of conducting focus group research, green marketer John Grant has noticed “something about the actual group discussions themselves – as small public forums – which [is]... quite compelling. A deliberately chosen mainstream and in some cases cynical group... often leave quite engaged and inclined to explore climate change further.”⁶¹ Grant has concluded that “centralised information campaigns won’t on their own create a ‘climate for change’. We need to create forums where people can take it all in, reflect on it and come up with their own plans, trade-offs and ideas.”⁶²

Psychotherapist and educationist Rosemary Randall (*See Chapter 3: Facilitating Transformative Learning*) has created just such opportunities for intimate group conversations about climate change⁶³ which mirror elements of Nordic ‘study circles’. She believes that impersonal behaviour change campaigns are largely ineffective because they are unconcerned with people’s subjective emotions and feelings. Instead, they target “only our behaviours as the problem to be solved”, making us the source of the problem rather than the solution. In order to change, she says, we need “supported opportunities” in which to question our assumptions and to

face up to inner conflicts and ambivalence. “Words like empathy, compassion, relationship and respect that are fundamental to the practice of psychotherapy and which make it possible to face this bigger picture are missing from the language of behaviour change.”⁶⁴

The chapters and case-studies that follow describe a range of approaches to facilitating peer-to-peer conversations that move people beyond superficial *reflexive* responses to enable a deeper *reflective* engagement with the issues that underlie unsustainability. Many of the learning activities in **Part Two** foster high levels of interpersonal trust and co-operation, enabling the mutual sharing of commonly-felt anxieties and dilemmas about sustainability that we seldom express in our everyday lives. Some people might feel reluctant to take part in such ‘therapeutic’ learning for the same reasons that we are often shy of revealing in public our innermost feelings and emotions. But widespread symptoms of avoidance and denial are not indicators of strong psychological health, either in individuals or societies. The experiential approaches of this handbook aim to overcome such inhibitions by engaging people in enjoyable learning activities which progress naturally into exploration of our deeper values and motivations at a pace and level determined by participants themselves. And, whilst some might still feel put off by presupposing only hair-shirts, stricken consciences and cheerless self-denial, once actively involved in communal learning about sustainability, participants frequently find themselves in the company of notably upbeat, friendly and dynamic people.

A lack of experience

In addition to the educational and informational shortcomings so far advanced, this book proposes that a further reason for our failure to respond to emerging sustainability crises is that, as yet, we lack directly attributable personal experiences of severe consequences.⁶⁵ Historically,

societies have acted on sustainability only at times when they have experienced scarcity and crisis first hand.⁶⁶ We are much less capable of responding when our lives still seem adequately provided for and clear and present signs of danger remain largely invisible to us.

Generations born into developed countries during the ‘long peace’ between advanced nations since 1945 have known only living standards which have been vastly improved by economic growth and industrial progress. Relatively few in our societies today have experience of war or of extreme oppression and even fewer have first-hand knowledge of major catastrophes such as flooding in Pakistan, drought in the Horn of Africa or mass toxic poisoning in Bhopal. Nuclear meltdown in Fukushima in 2011 might have momentarily caused some anxious reflection on the wisdom of expanding nuclear power, but for most of us, perhaps, only in the way that for a few miles we pay particular attention to our driving after passing an accident on the highway. Once the headlines have moved on, so does our engagement.

This is not because we are unmoved by the plight of those who are more exposed to the consequences of unsustainability than ourselves. It is because we do not personally experience their circumstances that we feel able to carry on with unsustainable lifestyles that, to all intents and purposes, retain continuity and feel ‘normal’ to us. Older generations might wonder at how quickly we have come to rely on new technologies to ‘improve’ our lives and our opinions may be divided about other rapid changes such as out-of-town shopping malls and online retail at the expense of the traditional high street. Younger generations, who have known no different, take fast-paced change for granted, and most of the rest of us have long accommodated it as unstoppable progress. But, whatever our personal feelings about change, we still unconsciously attribute an improving progression to it and it is hard for us to imagine a future that will not be so

conveniently and abundantly provided for. So we are not able easily to relate to any need for self-imposed constraints to counter threats that are not immediately apparent and, in so far as we think about them at all, seem very distant, geographically and temporally. From our point of view, beyond making some virtuous gestures towards sustainability, it is far from obvious that more substantial changes are desirable or even necessary.

A telling example of how disconnected are our everyday life experiences to ecological realities might be found in our reactions to a much more apparent crisis, the ongoing global economic disruption. We are told that, in the West, we have been living through the worst financial downturn since the Great Depression - and possibly since the 19th century. Yet most of us have not suffered the privations that were widespread in depressions of the Victorian age - and again in the 1930s - because, after fifty years of consumption-driven growth, enough wealth has accumulated in our systems still to cushion us. We understand that social conditions for many are being squeezed but austerity has not yet dramatically reduced us to the breadline or lessened our expectations for a return to economic prosperity in the foreseeable future. Whilst true that many more of us now have unfortunate experience of lost jobs and uncertain returns on our pension investments, relatively few have been deprived of the absolute necessities of life as was common in historical episodes of economic downturn. We are benefiting from the residual affluence of societies whose wants and desires are cheaply supplied from parts of the world where life-threatening poverty and environmental degradation remain commonplace - but largely out of sight and mind from us.

Because we have now outsourced the worst downsides to industrial growth, we are able to disregard its physical limits. Most would agree that the ongoing financial crisis has come

about through a housing ‘bubble’, a ‘credit crunch’ and excessive levels of debt and greed. But even those who protest the system that permits this do so mainly on the grounds of growing social inequalities, not because it also perpetuates and exacerbates unsustainability. Few popular commentaries have considered the social and economic impacts of diminishing supplies of cheap oil and other scarcening natural resources. So we persist with an economic model that has been authoritatively described as a “global suicide pact”,⁶⁷ still neglecting to factor in such ‘externalities’ as polluted and degraded ecosystems, the overuse of non-renewable resources, adverse mental and physical health impacts for humans, and the mass extinction of other species.⁶⁸ Because our aspirations for the future are invested so deeply in our present capital growth model, we find it next to impossible to imagine alternative ways of arranging our lives that might keep us safely within the planet’s ability to sustain us.

This lack of experience of consequences is the situation that obtains for us at the moment. But our lives cannot remain so unaffected for much longer. The age of gushing cheap oil, the prime driver of our globalised industrial systems, is now well and truly over - and there is no viable alternative on the horizon. Since boom turned to bust so abruptly in 2008, economic turmoil is no sooner contained in one part of the world than it erupts elsewhere, and even optimistic projections predict spiralling levels of debt and market contagion into the foreseeable future. This ongoing economic uncertainty can only be exacerbated by now inevitable disruption to the climate. Because of timelags in the atmospheric effects of past and current greenhouse gas emissions, we are already committed to at least 2°C of warming. Global bankers and business consultants, energy analysts and military think-tanks have now joined with climate scientists to warn that our present trajectory is heading towards 3°C to 4°C, maybe in little more than half a lifetime - a temperature that humans have never before experienced that will make the planet

hotter than at any time in the last 300 million years. Without immediate action, this rise will be only a staging post on the way to an unthinkable 5°C to 7°C by the end of the century.⁶⁹ Even the current 0.95°C is forcing weather extremes and other climate impacts that are already devastating human and other lives and risking irreversible tipping points. In all directions, we are pushing at safe planetary boundaries and a ‘perfect storm’ of related crises is predicted to converge dangerously over the coming two decades.⁷⁰ Without anticipating and preparing for these, we will surely be impelled into experiences that we can no longer ignore, but too late to manage or contain them.

We cannot know precisely how the future will unfold. So far most impacts have been incremental but we know that others can happen with sudden and shocking speed. In the West, where the cushion of affluence might initially make impacts more manageable than elsewhere, we can expect, at the least, less abundant choices and lifestyles that of necessity become more localised and self-reliant. But it is also highly possible that our dependence on the continued stable functioning of complex and interconnected global systems leaves us more vulnerable to severe early impacts than we think.⁷¹ That these will be unevenly distributed across our societies seems certain to lead to escalating social discontents and extreme authoritarian responses.

Such dismal scenarios might seem unbelievable to us now as we look around and see no planetary emergency but only the familiar ups and downs of fast-paced modern life going on as usual. So, in the current absence of plainly evident causes and effects that could possibly motivate us to avert such a future, this handbook proposes that we can learn from metaphorical and vicarious experiences; active experiential learning opportunities that do not expose us to the

same severe consequences but which demonstrate clearly and powerfully the good sense of precautionary action.

Summary and conclusions

Our modern urban and technology-oriented lives have disconnected us physically, mentally and spiritually from the natural biological systems of our planet. This disconnection has impaired our common comprehension of the urgency and severity of our human sustainability crises. Through experiential learning opportunities which involve us closely with the natural world, we can improve our understanding of our human lives as operating within, not independently from, the overall ecosystems that make up the biosphere.

Without this ecological understanding, narrow interpretations of sustainability have diverted attention from the range of social and environmental issues that underlie unsustainability and permitted us to avoid engaging with these. Conventional educational and informational approaches to public engagement and action have proved insufficient to overcome powerful cultural and psychological barriers to social change.

There are many structural barriers to sustainability that are beyond the agency of ordinary people to influence and which may only be addressed by political and institutional interventions. But without the active commitment of ordinary people, such interventions are harder for governments and institutional leaders to implement and they are unlikely to become sufficiently emboldened to bring them about.

In advanced societies, we presently lack direct experiences of the severe consequences of unsustainability that are compelling enough to motivate us to address their causes. Creating

widespread opportunities to learn experientially about sustainability can help to foster such commitment by:

- providing engaging and authentic learning experiences that make abstract issues of sustainability real and relevant to people and stimulate new interest in learning about their causes and consequences;
- improving affinity with the natural world through learning experiences that demonstrate the interdependence of human and natural systems and the ecological impacts of unsustainability, both for people and for the planet;
- improving understanding of physical, emotional and spiritual human needs and of the need to reconcile these with the ecological needs of the planet;
- making learning about human and ecological sustainability personally meaningful and communally supportive in ways that inspire committed and enduring engagement and action.

No single approach to learning about sustainability, however powerful and affecting, could somehow miraculously make our lives sustainable. When we view our modern problems of sustainability against the broad backdrop of human evolution, we can see that there are aspects to these that are probably unsolvable. Or, at least, not solvable in ways that could sustain us all. We also come to realise that the planet solves its own problems of sustainability, regardless of our human needs and aspirations.

The purpose of the experiential approaches of this handbook is not to attempt to solve unsolvable problems. Instead it is to discover ways of living with these that help to remedy their

causes and avoid their worst consequences. Many people have deep misgivings about the modern cultural values that have led to gross social inequalities and the degradation of our habitat to the point of no return. Many also feel that these same values have weakened our communal bonds and impaired our social and mental well-being. Whilst we cannot hope to ‘fix’ our major sustainability problems, we can help each other to live with these by re-connecting, both within our communities and with the natural systems of the planet.

Our human future is set to be one of hard challenges. By setting aside our differences and facing these challenges communally, we can make them less hard, both for ourselves and for the other species with whom we share the planet. The learning activities in this handbook aim to inspire many more people to take the first steps away from debilitating personal uncertainties and anxieties towards the common purpose and resolve that comes with collaborative learning and action.

Notes and References

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¹² Barnowsky, Anthony D *et al.* (2012), 'Approaching a state-shift in Earth's biosphere', *Nature*, 486, 52-58

¹³ Pearce, David, Anil Markandya and Edward B. Barbier (1989), *Blueprint for a Green Economy*, Earthscan. London. (pp. 173-185). In 1989, the late David Pearce and his colleagues considered a range of definitions of 'sustainable development', concluding it to mean that each generation should pass on at least as much physical, intellectual and environmental capacity as it has inherited. More than two decades later, the term still remains subject to many different interpretations.

¹⁴ In the early 1990s, the Global Commons Institute proposed a climate change mitigation strategy known as 'Contraction and Convergence', whereby each country brings its per capita greenhouse gas emissions to a level that is equal for all countries. See: <http://www.gci.org.uk/>. A similar approach to working towards the equitable and sustainable sharing of the planet's natural resources is a central tenet of the climate justice movement. This requires that the rich world greatly reduces its disproportionate demand for resources to improve the lives of the 1 billion (and rising) who are severely malnourished, the more than 3 billion who subsist on under 2 US Dollars a day, and the 80% of humanity who earn less than the purchasing power equivalent of 10 US Dollars a day.

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²⁰ A report published in 2012 shows that human demand for natural resources has doubled since 1996 and is now 50% higher than the regenerative capacity of the planet. Since 1992, global carbon dioxide emissions have risen by 40 % and, despite international commitments to carbon reductions, continue to rise exponentially year-by-year. Between 1970 and 2008, biodiversity of species has declined by 30% (and, in the tropics, by 60%). Globally, humans currently use the resources of 1.5 planets and, on our present trajectory, will require the equivalent of more than 2 planets by 2030. See: WWF (2012), *Living Planet Report*, WWF International, available at: http://wwf.panda.org/about_our_earth/all_publications/living_planet_report/

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²⁸ Sterling, (2001), *ibid* (p.14)

²⁹ Sterling, (2001), *ibid* (p.45)

³⁰ Law professor Joel Bakan has reported on the increasing privatisation of the public sphere, including the vast ‘market potential’ of privatising public education. This trend commenced in the USA and has spread to the UK and other “countries around the world [that] are turning... towards market driven mechanisms to reform their education systems”. Bakan, Joel (2004), *The Corporation: The Pathological Pursuit of Power and Profit*, Constable, London. (pp 114-117). Psychologist Oliver James has described how “the yoking of... education to business and to money-making” has taken hold throughout the English-speaking world with the result that education increasingly promotes values of financial and material reward and is being “divested of subjects that will not contribute to the economy”. James, Oliver (2007), *Affluenza*, Vermilion, London (pp. 265-305).

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