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Sustainable Development: Mapping Different Approaches

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ABSTRACT
Sustainable development, although a widely used phrase and idea, has many different meanings and therefore provokes many different responses. In broad terms, the concept of sustainable development is an attempt to combine growing concerns about a range of environmental issues with socio-economic issues. To aid understanding of these different policies this paper presents a classification and mapping of different trends of thought on sustainable development, their political and policy frameworks and their attitudes towards change and means of change. Sustainable development has the potential to address fundamental challenges for humanity, now and into the future. However, to do this, it needs more clarity of meaning, concentrating on sustainable livelihoods and well-being rather than well-having, and long term environmental sustainability, which requires a strong basis in principles that link the social and environmental to human equity. Copyright © 2005 John Wiley & Sons, Ltd and ERP Environment.

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Sustainable Development: A Challenging and Contested Concept

THE WIDESPREAD RISE OF INTEREST IN, AND SUPPORT FOR, THE CONCEPT OF SUSTAINABLE development is potentially an important shift in understanding relationships of humanity with nature and between people. It is in contrast to the dominant outlook of the last couple of hundred years, especially in the 'North', that has been based on the view of the separation of the environment from socio-economic issues.

For most of the last couple of hundred years the environment has been largely seen as external to humanity, mostly to be used and exploited, with a few special areas preserved as wilderness or parks. Environmental problems were viewed mainly as local. On the whole the relationship between people and the environment was conceived as humanity's triumph over nature. This Promethean view (Dryzek, 1997) was that human knowledge and technology could overcome all obstacles including natural and environmental ones. This view was linked with the development of capitalism, the industrial revolution and modern science. As Bacon, one of the founders of modern science, put it, 'The world is made for

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man, not man for the world'. Environmental management and concern amongst most businesses and governments, apart from local problems and wilderness conservation, was at best based on natural resource management. A key example was the ideas of Pinchot in the USA (Dryzek, 1997), which recognized that humans do need natural resources and that these resources should be managed, rather than rapidly exploited, in order to ensure maximum long-term use.

Economics came to be the dominating issue of human relations with economic growth, defined by increasing production, as the main priority (Douthwaite, 1992). This was the seen as the key to humanity's well-being and, through growth, poverty would be overcome: as everyone floated higher those at the bottom would be raised out of poverty.

The concept of sustainable development is the result of the growing awareness of the global links between mounting environmental problems, socio-economic issues to do with poverty and inequality and concerns about a healthy future for humanity. It strongly links environmental and socio-economic issues. The first important use of the term was in 1980 in the World Conservation Strategy (IUCN *et al.*, 1980). This process of bringing together environmental and socio-economic questions was most famously expressed in the Brundtland Report's definition of sustainable development as meeting 'the needs of the present without compromising the ability of future generations to meet their needs' (WCED, 1987, p. 43). This defines needs from a human standpoint; as Lee (2000, p. 32) has argued, 'sustainable development is an unashamedly anthropocentric concept'.

Brundtland's definition and the ideas expressed in the report *Our Common Future* recognize the dependency of humans on the environment to meet needs and well-being in a much wider sense than merely exploiting resources: 'ecology and economy are becoming ever more interwoven – locally, regionally, nationally and globally' (WCED, 1987, p. 5). Rather than domination over nature our lives, activities and society are nested within the environment (Giddings *et al.*, 2002). The report stresses that humanity, whether in an industrialized or a rural subsistence society, depends for security and basic existence on the environment; the economy and our well-being now and in the future need the environment. It also points to the planetwide interconnections: environmental problems are not local but global, so that actions and impacts have to be considered internationally to avoid displacing problems from one area to another by actions such as releasing pollution that crosses boundaries, moving polluting industries to another location or using up more than an equitable share of the earth's resources (by an ecological footprint (Wackernagel and Rees, 1996) far in excess of the area inhabited). Environmental problems threaten people's health, livelihoods and lives and can cause wars and threaten future generations.

Sustainable development raises questions about the post-war claim, that still dominates much mainstream economic policy, that international prosperity and human well-being can be achieved through increased global trade and industry (Reid, 1995; Moffat, 1996; Sachs, 1999). It recognizes that past growth models have failed to eradicate poverty globally or within countries, 'no trends, . . . no programmes or policies offer any real hope of narrowing the growing gap between rich and poor nations' (WCED, 1987, p. xi). This pattern of growth has also damaged the environment upon which we depend, with a 'downward spiral of poverty and environmental degradation' (WCED, 1987, p. xii). Brundtland, recognizing this failure, calls for a different form of growth, 'changing the quality of growth, meeting essential needs, merging environment and economics in decision making' (WCED, 1987, p. 49), with an emphasis on human development, participation in decisions and equity in benefits. The development proposed is a means to eradicate poverty, meet human needs and ensure that all get a fair share of resources – very different from present development. Social justice today and in the future is a crucial component of the concept of sustainable development.

There were, and are, long standing debates about both goals and means within theories dealing with both environmental and socio-economic questions which have inevitably flowed into ideas on sustain-

able development. As Wackernagel and Rees (1996) have argued, the Brundtland Report attempted to bridge some of these debates by leaving a certain ambiguity, talking at the same time of the priorities of meeting the needs of the poor, protecting the environment and more rapid economic growth. The looseness of the concept and its theoretical underpinnings have enabled the use of the phrases 'sustainable development' and 'sustainability' to become *de rigueur* for politicians and business leaders, but as the Workshop on Urban Sustainability of the US National Science Foundation (2000, p. 1) pointed out, sustainability is 'laden with so many definitions that it risks plunging into meaninglessness, at best, and becoming a catchphrase for demagogy, at worst. [It] is used to justify and legitimate a myriad of policies and practices ranging from communal agrarian utopianism to large-scale capital-intensive market development'.

While many claim that sustainable development challenges the increased integration of the world in a capitalist economy dominated by multinationals (Middleton *et al.*, 1993; Christie and Warburton, 2001), Brundtland's ambiguity allows business and governments to be in favour of sustainability without any fundamental challenge to their present course, using Brundtland's support for rapid growth to justify the phrase 'sustainable growth'. Rees (1998) points out that this allows capitalism to continue to put forward economic growth as its 'morally bankrupt solution' to poverty. If the economy grows, eventually all will benefit (Dollar and Kraay, 2000): in modern parlance the trickle-down theory. Daly (1993) criticized the notion of 'sustainable growth' as 'thought-stopping' and oxymoronic in a world in which ecosystems are finite. At some point, economic growth with ever more use of resources and production of waste is unsustainable. Instead Daly argued for the term 'sustainable development' by which he, much more clearly than Brundtland, meant qualitative, rather than quantitative, improvements. Development is open to confusion, with some seeing it as an end in itself, so it has been suggested that greater clarity would be to speak of 'sustainable livelihoods', which is the aim that Brundtland outlined (Workshop on Urban Sustainability, 2000).

Another area of debate is between the views of weak and strong sustainability (Haughton and Hunter, 1994). Weak sustainability sees natural and manufactured capital as interchangeable with technology able to fill human produced gaps in the natural world (Daly and Cobb, 1989) such as a lack of resources or damage to the environment. Solow put the case most strongly, stating that by substituting other factors for natural resources 'the world can, in effect, get along without natural resources, so exhaustion is just an event, not a catastrophe' (1974, p. 11). Strong sustainability criticizes this, pointing out that human-made capital cannot replace a multitude of processes vital to human existence such as the ozone layer, photosynthesis or the water cycle (Rees, 1998; Roseland, 1998). Deep Greens would go further in arguing that non-human species, natural systems and biodiversity have rights and values in themselves (Naess, 1989). The debate between strong and weak sustainability is, however, conducted mainly around environmental issues rather than taking account of socio-economic consequences.

The concept of sustainable development represents a shift in understanding of humanity's place on the planet, but it is open to interpretation of being anything from almost meaningless to of extreme importance to humanity. Whatever view is taken, it is clearly an area of contention. Whilst recognizing the deep debates and ambiguities about the meaning of sustainable development, this paper uses the phrase 'sustainable development' to describe attempts to combine concerns with the environment and socio-economic issues.

Haughton (1999) has usefully summarized the ideas of sustainable development in five principles based on equity: futurity – inter-generational equity; social justice – intra-generational equity; transfrontier responsibility – geographical equity; procedural equity – people treated openly and fairly; inter-species equity – importance of biodiversity. These principles help give clarity to the ideas of sustainable development, link human equity to the environment, challenge the more bland and meaningless interpretations and provide a useful basis for evaluation of the different trends of sustainable development.

Mapping Sustainable Development

The many different interpretations of sustainable development are confusing. To help make sense of them we are suggesting a mapping methodology based on combining environmental and socio-economic issues. O'Riordan (1989) in his widely used categorization of environmental views, from strong ecocentric to strong technocentric, pointed out that these often combine with socio-economic viewpoints so that ecocentrics tend towards social and economic equity and redistribution while technocentrics are more likely to support the economic and political status quo. However this is not always the case: as Marcuse points out, 'sustainability and social justice do not necessarily go hand in hand' (1998, p. 104), with sustainability masking injustice or on the other hand social justice masking environmental damage (Dobson, 2000). In many cases the linking of environmental and social concerns is based on a moral (Blowers, 1993) or sympathetic outlook rather than seeing the two as materially and socially related and inseparable. Others (Merchant, 1992; Dryzek, 1997) have also outlined useful ways of analysing environmental concerns; however, there has been less effort in mapping the many viewpoints on sustainable development.

To provide a generalized view of the trends within the sustainable development debate, O'Riordan's original mapping can be expanded by considering environmental and socio-economic views on two separate axes (Figure 1). The socio-economic axis covers the level of importance given to human well-being and equality and the environment axis covers the priority of the environment from low environmental concern through technocentred to ecocentred. The central shaded area of the map indicates the range

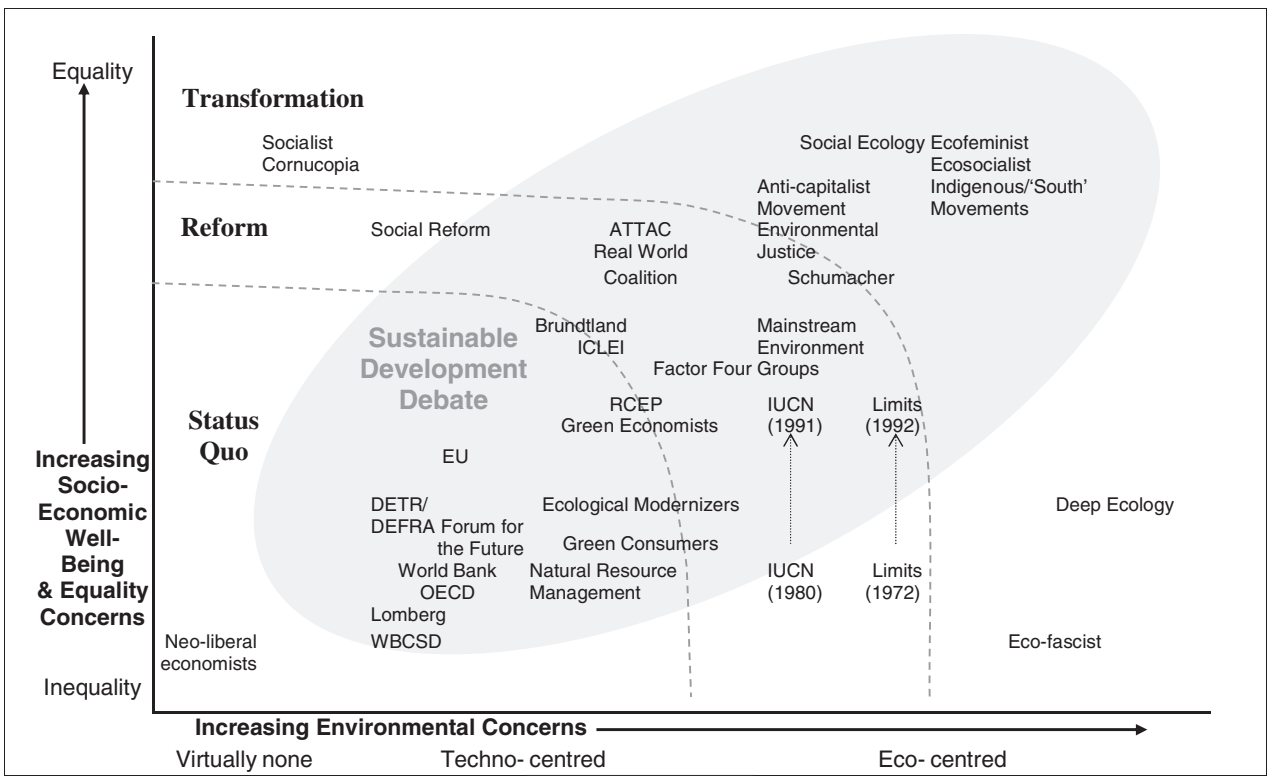

Figure 1. Mapping of views on sustainable development

of views within the sustainable development debate; combining socio-economic and environmental issues. There are views outside this area, concerned with either environmental or socio-economic issues while ignoring the other.

Overlaid on this map are three broad views on the nature of the changes necessary in society's political and economic structures and human–environment relationships to achieve sustainable development: that it can be achieved within the present structures – status quo; that fundamental reform is necessary but without a full rupture with the existing arrangements – reform; and that as the roots of the problems are the very economic and power structures of society a radical transformation is needed – transformation (Rees, 1995).

This is inevitably a broad conceptual framework rather than a precise mapping and exact locations are open to challenge. All classification into groups is a simplification and there can be debate about where the boundaries are drawn as well as how sharp or blurred they are. Individuals and groups change their views over time. There are also major debates within all these outlooks. To illustrate the mapping, some of the major trends within sustainable development are outlined.

Status Quo

Supporters of the status quo recognize the need for change but see neither the environment nor society as facing insuperable problems. Adjustments can be made without any fundamental changes to society, means of decision making or power relations. This is the dominant view of governments and business and supporters of the status quo are most likely to work within the corridors of power talking with decision makers in government and business. Development is identified with growth and economic growth is seen as part of the solution. The UK Department of the Environment, Transport and the Regions argues that 'to move towards more sustainable development, we need more growth not less' (DETR, 1999, para. 3.31). Supporters of the status quo are sympathetic to the changes in the role of government over recent decades with the reduction in the progressive nature of taxation, cuts in the social wage, privatization and reduction in regulation. They argue that business is the driver towards sustainability. Increased information, changing values, improved management techniques and new technology all operating through the market are the best means to achieve sustainable development.

Simon and Kahn see markets and technology as producing a future world that will be 'less polluted, more ecologically stable . . . and the world's people will be richer' (1984, p. 1). The World Business Council for Sustainable Development (1998) sees no conflict between the growth of the global market and environmental stability: 'we can have an open vigorous and healthy trading system and achieve sustainable development'. The OECD (2001) urges fiscal changes to taxation and subsidies and increased private ownership of resources to make markets work for sustainable development as well as confidence that globalization does not weaken social and environmental protection. Lomborg (2001), in the tradition of Pangloss, challenges most of the claims of those concerned about the environment, poverty and hunger. He states that to improve the 'environmental quality of the developing world, securing growth so as to lift these people out of hunger and poverty is of the utmost importance since . . . only when we are sufficiently rich can we start to . . . deal with environmental problems'.

Most Ecological Modernizers (Beck, 1992; Mol and Sonnenfeld, 2000) support the status quo, although some see the need for reform. They support the market, 'the key to ecological modernization is that there is money in it for business' (Dryzek, 1997, p. 142), and technology in a partnership of government, business, moderate environmentalists and scientists with much less concern for equity, justice or human well-being (Alier, 2003). Jacobs (1999) argues that the environment and sustainable development are not central to New Labour but that environmental modernization (or ecological modernization as called in Europe) would be an environmental approach in sympathy with New Labour's outlook.

Supporting the reduced role of government, supporters of the status quo are reluctant to use laws and regulations. Instead, consumer power, informed about sustainability issues and based on lifestyle choices, will combine with 'green' capitalists who practice 'corporate citizenship' and ethical business to achieve sustainable development (Elkington and Burke, 1987). There is little discussion on governance other than references that in some countries the rule of law (usually meaning defence of property rights) should be strengthened and outright bribery diminished. The need to increase wider democratic rights, especially on economic decisions, is hardly mentioned. It is assumed that the existing governmental and commercial systems can be nudged towards improvements with use of management techniques such as EIA (environmental impact assessment), EMAS (eco-management and audit system), cost/benefit analysis, BATNEEC (best available techniques not entailing excessive cost) and BPEO (best practicable environmental option). In parallel, technical economic tools such as modest environmental taxes, pollution trading permits and ethical shares will encourage the move to sustainable development.

Any classification has its difficulties and Garrett Hardin well illustrates some of these. In his 'Tragedy of the commons' (1968) he advocates widespread private ownership of resources to protect the environment, which puts him in the status quo group in economic terms. On the other hand his 'lifeboat ethic' (1974), which argues that the poor should be left to starve, and his support for 'coercion' (1968) put his social views towards eco-fascism.

Most supporters of the status quo have a weak commitment to environmental sustainability, although for some such as Solow (1974) it is barely needed at all, as technology can replace nature. There is a similar weak concern with poverty and the lack of equity in political power. Generally the status quo argument is that growth is the way to overcome these problems. The World Bank (2000, p. vi) states that the 'traditional elements of the strategy to foster growth – macroeconomic stability and market-friendly reforms – are essential for reducing poverty'.

Reform

Those who take a reform approach accept that there are mounting problems, being critical of current policies of most businesses and governments and trends within society, but do not consider that a collapse in ecological or social systems is likely or that fundamental change is necessary. They generally do not locate the root of the problem in the nature of present society, but in imbalances and a lack of knowledge and information, and they remain confident that things can and will change to address these challenges. They generally accept that large shifts in policy and lifestyle, many very profound, will be needed at some point. However it is assumed that these can be achieved over time within the present social and economic structures. The key is to persuade governments and international organizations, mainly by reasoned argument, to introduce the needed major reforms. They focus on technology, good science and information, modifications to the market and reform of government. This group covers a range of people, some in government and public agencies, but it is largely dominated by academics and mainstream NGO experts. Interestingly, some governmental bodies such as the Royal Commission on Environmental Pollution (RCEP), and some areas of local government, such as the International Council for Local Environment Initiatives (ICLEI), have a more radical view than the UK government.

A common theme is the benefits that technology can bring to protecting the environment. Weizsacker *et al.* (1997) for example call for a large reduction in the use of materials in the economy, by at least a factor of four. There is widespread support for a dramatic increase in energy efficiency and change in energy use from fossil fuels to renewable sources (Flavin and Lenssen, 1994). It is argued that these changes will offer market opportunities for businesses and they should grasp the changes, both for the

environment and profits (Hawken *et al.*, 1999). In general it is claimed that the new technologies will provide wider economic and social benefits for humanity as well as protecting the environment.

Green economists argue that the market needs modification to redress market failure and regulation to achieve ecological sustainability. Pearce *et al.* (1989) urge the internalization of hitherto externalized environmental costs and a recalculation of environmental benefits. Hawken *et al.* (1999) and Roodman (1996, 1997) argue for government action to change the balance of tax and subsidies to favour employment and environment rather than energy consumption and to encourage business to change production technology. Daly and Cobb (1989) look to a combination of strong sustainability with market modification to include social and environmental costs. Korten (1996) believes that the global corporations and the international agencies such as the World Bank and IMF need to be controlled so that capitalism is able to protect the environment and raise living standards for all.

Reformers recognize that government has a key role in moving towards sustainable development as business will need pushing, and in some cases controlling, taxes and subsidies changing, targeting of research and disseminating of information. Most reformers also assume that there will be reform of the political system to increase democracy and participation. Girardet (1999), a leading figure in urban sustainability, puts the emphasis on the city level, arguing that a combination of best practice, enlightened civic leaders, active partnership with local business and public determination are the best way to success. The Real World Coalition (Christie and Warburton, 2001), which represents 25 UK campaigning NGOs, links environmental and socio-economic concern. It points out that the present 'business as usual' 'is itself a source of our greatest dangers' (p. 184) due to mounting inequality and poverty, environmental degradation and world instability. They believe 'radical reform' (p. viii) is needed to produce a 'democratic revitalization' (p. 184) so that government and society produce 'sustainable, accountable and equitable forms of capitalism' (p. 184).

The growing environmental concerns of the 1960s and 1970s had by the 1980s became part of the mainstream debates on development and economics. The *Limits to Growth* report (Meadows *et al.*, 1972) and the *World Conservation Strategy* (IUCN *et al.*, 1980) both helped to push environmental issues up the world's political agenda. Interestingly, the sustainable development debates encouraged the authors to embrace more socio-economic issues.

The *Limits to Growth* report (Meadows *et al.*, 1972) challenged head on the idea that growth, as defined by capitalist economics, was the way to improve environmental quality; in fact they argued it was damaging the environment. The Brundtland report rejected the idea that there were environmental limits to growth (Kirkby *et al.*, 1995). When the authors of *Limits to Growth* revisited the issue in 1992 (Meadows *et al.*), while they maintained that there are limits to growth, they opened a bridge towards the ideas of Brundtland, although they talk about a 'sustainable society'. They also refer to social issues including tackling poverty.

The World Conservation Strategy (IUCN *et al.*, 1980) was one of the first to use the term sustainable development. The 1980 report, concerned with human needs, concentrated entirely on environmental changes without discussing changes in socio-economic structures or distribution. The 1991 report, (IUCN *et al.*, 1991) although still concentrating on environmental issues, shows a greater recognition of social issues proposing changes in socio-economic structures, increasing participation in decisions, improving the quality of human life and modifications to the world economy.

The mainstream environmental groups such as Friends of the Earth, Greenpeace, WWF and Sierra Club are largely in the reform group and increasingly have moved from grass roots activism and mass protest to political lobbying and working with business and government (Bullard, 1994; Rowell, 1996). They have given less focus to linking with social issues of poverty or even the disproportionate share of pollution and other environmental issues suffered by the poor within the developed world (Bullard, 1994; McLaren *et al.*, 1999).

Some of the reformers edge towards the transformation group, such as Schumacher (1973), who argues that the economy should be run 'as if people mattered', with the implication that small and local is more sustainable than large and global, although he envisages small as being privately owned and operating in a market economy. Other reformers lean much more towards the status quo. The Brundtland report is generally reformist in broad tone but leans towards the status quo in proposed details.

Transformation

Transformationists see mounting problems in the environment and/or society as rooted in fundamental features of society today and how humans interrelate and relate with the environment. They argue that a transformation of society and/or human relations with the environment is necessary to avoid a mounting crisis and even a possible future collapse. Reform is not enough as many of the problems are viewed as being located within the very economic and power structures of society because they are not primarily concerned with human well-being or environmental sustainability. While some may use the established political structures and scientific arguments they generally see a need for social and political action that involves those outside the centres of power such as indigenous groups, the poor and working class, and women. The transformationists include those who focus either primarily on the environment or the socio-economic, and those who synthesize both.

Transformation without Sustainable Development

As sustainable development is a human-centred view of the inter-relations between environmental and socio-economic issues, some transformationists are not concerned with sustainable development.

Deep ecologists' primary concern is the environment, with the emphasis on the intrinsic value and needs of nature and the environment, while human needs come very much second. In the eight points of the deep ecology platform (Naess, 1989) there is little on human needs and nothing on equity. Bradford (1989), in a critique of deep ecology, points to the trend towards racism and support for imperialism as well as an anti-human outlook behind their 'nature first' rhetoric. David Foreman, one of the founders of Earth First!, was notorious for saying of the famine in Ethiopia that 'the best thing would be to just let nature seek its own balance, to let the people there just starve' (quoted by Bradford, 1989, p. 33). As Bramwell (1989) argues, there is an association between some green and fascist thinking. Of course not all deep ecologists have such a low concern for humanity. Although Lovelock (1988) sees the earth's ecosystem as self-sustaining Gaia, he urges humanity to act in its own interest. Gaia will survive human actions but humans may not survive the damages we inflict or Gaia's need to save itself. Other deep ecologists, such as Earth First! in Scotland (Cock and Hopwood, 1996) and Eckersley (1992), combine ecocentrism with a commitment to socio-economic equity. For some this is expressed as a desire to return to the 'simple life' (Devall, 1990) or a subsistence perspective (Bennoldt-Thomsen and Mies, 1999).

In contrast to deep ecologists, socialist cornucopians prioritize the need for social transformation to overcome social and economic inequality. Some hardly address environmental issues, believing that human skills, freed from capitalism, can overcome all problems (Zazubrin in Cock and Hopwood, 1996). Others, while acknowledging environmental concerns, believe they can be laid firmly at the feet of capitalism and will be solved by social ownership of the means of production (Grundmann, 1991).

Transformation and Sustainable Development

Those who adopt a transformatory approach that embraces both social and environmental questions cover a range of different viewpoints although all share the view that the mounting crises in the envi-

ronment and society are interconnected and that the social and environmental systems risk breakdown if radical change does not occur (George, 1999; Rees, 1995). Some, such as grass roots environmental justice and indigenous environmental movements, may not use the same vocabulary of sustainable development as used in official and academic circles but are addressing the issues of how to live within the environment without great inequality or poverty. Transformationists see the fundamental problems as rooted in our present society, which is based on the exploitation of most people and the environment by a small minority of people.

A transformation view of sustainable development has a strong commitment to social equity, with a view that access to livelihood, good health, resources and economic and political decision making are connected. In the absence of people having control over their lives and resources, inequality and environmental degradation are inevitable. The Soviet Union, in its statist and undemocratic version of public ownership, damaged the environment and had entrenched inequality because people lacked real power (Sarkar, 1999). Similarly, the large global corporations and many governments are not under public control. Organizations of popular action and control (radical political parties, community groups, environmental campaigns, trade unions, etc) are the main restraints on unsustainable actions. Transformationists argue that these currently limited restraints need to be extended to real control (Pepper, 1993; Dryzek, 1997).

Social Ecology or Dialectical Naturalism is a perspective associated with the ecoanarchist Murray Bookchin. In his view humanity and nature are in a dialectical relationship and environmental concern needs to be 'rooted in social criticism and a vision of social reconstruction' (1989, p. 13). His main concern is the power of the state and he puts forward government through local municipalities based on direct democracy through local assemblies.

Ecofeminists see a relationship between the degradation of the environment and the subordination of women (Buckingham-Hatfield, 2000; Mellor, 1997a). There is a range of approaches from cultural/biological associations of women with nature (Collard, 1988) to more social analysis (Salleh, 1997). Mies and Shiva (1993) combine the two approaches, arguing that women have a special affinity with nature, which capitalist 'maldevelopment' is destroying as well as undermining many sustainable social structures and increasing poverty. Mellor has developed a version of ecofeminism that is linked closely with ecosocialist analysis, which argues that capitalism attempts to detach production and social life from nature through gender and class divisions (1992, 1997b).

Much of ecosocialist thinking draws on the writing of Marx and Engels on the nature of human society and its relation with the environment: 'We by no means rule over nature like a conqueror over a foreign people, like someone standing outside nature – but . . . we, with flesh, blood and brain, belong to nature, and exist in its midst' (Engels, 1968). These link inequality and environmental damage to capitalism's exploitation of people and the environment (Cock and Hopwood, 1996). Ecosocialists argue for the need to change material conditions and the social structure of society to overcome both environmental crises and injustice (Pepper, 1993). This leads them to see a common linkage between many struggles for justice and environmental protection. James O'Connor launched the journal *Capitalism, Nature, Socialism* in 1988 with the analysis of a 'second contradiction' for capitalism that links environmental and social crisis in a material and class analysis (O'Connor, 1988).

As well as these transformational ideas there are also a range of campaigns and actions that seek to transform society. Many of the campaigns in the 'South' around sustainable development, in all their variety, closely link environmental, social, economic and anti-globalization struggles. These are some of the most energetic challenges to status quo and reformist approaches to sustainable development. Leff (2000) argues that indigenous environmental movements are not only challenging the failure of environmental and social justice within global development processes, but also offer a clear alternative environmental rationality. Their grassroots struggles covering 'social equity, cultural diversity and

environmental democracy define new political values and a new social rationality for sustainability' (p. 70) which develops 'sustainable productive projects and give meaning to their lives' (p. 69). The struggle of the Brazilian rubber tappers, formerly led by Chico Mendes, started on trade union rights (Hecht and Cockburn, 1990). The campaign of the Ogoni people of Nigeria, led by the murdered Ken Saro-Wiwa, began on social justice (Rowell, 1996). The Chipko movement in India, mainly of women, began by protecting trees (Guha, 1989). The Zapatista uprising in Chiapas began on issues of land reform (Weinberg, 2000). All these struggles and many others had their roots in local circumstances of oppression and have spread both to embrace wider environmental, social and economic justice issues and internationally.

In the developed world as well, there are growing struggles for environmental justice, which unite social and environmental issues. Although too often ignored by mainstream environmental groups, these actions, especially of the poor, racial minorities and those without political power, all point to a more sustainable society. Hofrichter (1993, pp. 4–5) states that 'Environmental justice is about social transformation directed toward meeting human need and enhancing the quality of life – economic equality, health care, shelter, human rights, species preservation and democracy – using resources sustainably' and that achieving it 'demands major restructuring of the entire social order'. Gibbs (1993, p. x), a leader of the battle of Love Canal, explains that battles for environmental justice usually starts with a local single issue but people 'realize the root of their problem is the lack of organized political power, deteriorating neighborhood conditions, poverty and race . . . recognize the international dimensions of the problem . . . build an even broader coalition for change . . . with civil-rights and labor organizations, housing groups, women's groups and healthcare advocates . . . these new alliances and cooperative work can achieve real democracy'.

The worldwide growth of the anti-globalization and anti-capitalism protests that have greeted meetings of the world's powerful politicians and businesses leaders links struggles across the world and addresses many of the issues of sustainable development. The ideas in this movement range from reform of the world financial system, such as the ideas put forward by ATTAC, to outright opposition to capitalism.

Within the broad range of transformative perspectives on sustainable development there is a constant interchange of ideas and cross-fertilization, which sometimes makes classification difficult, but enriches both ideas and practice.

Conclusion: Towards Sustainable Development

All proponents of sustainable development agree that society needs to change, though there are major debates as to the nature of sustainable development, the changes necessary and the tools and actors for these changes. There is no such thing as a single unified philosophy of sustainable development; there is no sustainable development 'ism'. In most cases people bring to the debates on sustainable development already existing political and philosophical outlooks.

Further confusion about sustainable development arises as people use the same words to mean a wide divergence of views on the goals, routes and the methods of moving towards sustainable development. This is further complicated because, as in many political issues, some people may say one thing and mean another. On some occasions reformers and transformationists will tone down their arguments to persuade a government or business to move along the sustainable pathway. On the other hand some may use more radical rhetoric than they actually believe or practice to deflect criticisms.

There is a fundamental divide between the supporters of the status quo and a transformation in their concept of and approach to sustainable development. The status quo approach sees change through

management, top down and incremental, of the existing structures of decision-making. The transformation view is that change will be mainly through political action working both in and outside the existing structures. The sustainable development discourse at present is dominated by the managerial outlook.

In most of the world the issues of sustainable development are not at the top of the world's policy agenda; even issues such as climate change or mass starvation do not dominate the news or political debate. However, the challenges at the core of sustainable development, the environment and equity, will force it up the political agenda.

The usual model for sustainable development is of three separate but connected rings of environment, society and economy, with the implication that each sector is, at least in part, independent of the others. Defenders of the status quo see the root cause of a lack of sustainable development in the lack of knowledge and appropriate mechanisms, rather than a fundamental linkage. This view allows for trade-offs between environmental and social issues, whether it is that some pollution is acceptable to increase growth, or loss of some pastureland for a park, or jobs for cleaner air. These trade-offs indicate a continued conceptual divide between the environment and humanity. The reality is that humanity is dependent on the environment, with society existing within, and dependent on, the environment, and the economy exists within society. Humans live within the environment (Giddings *et al.*, 2002) and depend on it for survival and well-being; we cannot ignore the environment.

There is growing evidence of human caused climate change, both scientific study (Sample, 2003) and more anecdotal such as the fires across the northern hemisphere in the summer of 2003. The loss of biodiversity and the salinization of soil continue, largely due to the present production and marketing methods.

If the status quo vision of world development were true and at some future date the poor of the world had the same living standards as those of the USA or Europe, could the world cope? The USA with 290 million people has over 210 million motor vehicles, while the world today has 6000 million people and 520 million vehicles. If the entire world were at same level as the USA there would be 4400 million vehicles. Is there enough petroleum to run them or could the world's atmosphere cope with the carbon dioxide and pollution releases?

Even in the area of economic growth, to which supporters of the status quo give priority, the trend is away from sustainable development (Middleton *et al.*, 1993), there is no sign of an increase in global equity; in fact the world is becoming more unequal. The USA, compared with its share of the world's population, continues to greatly over-consume resources and release pollution. In the last 50 years world trade has grown 17-fold, but the share of the poorest nations has collapsed. The gap between the richest 20% and the poorest 20% has widened substantially; from a factor of 30 in the 1960s to 86 in 1997, with the three richest people having more assets than 600 million people (UNDP, 1999). Even within the richest countries, inequality has increased (Jacobs, 1996; Christie and Warburton, 2001). Far from the promised trickle-down, wealth, unlike water, is rushing uphill. Malaria, a disease that is linked to poverty both in the likelihood of being infected and in its impacts, kills 5000 African children a day, yet could be controlled with modest expenditure (Rabinovich, 2002). The UN states that two problems, poverty and child mortality, are 'intractable' (UNDP, 2002).

How will society deal with the growth in inequality and mounting environmental problems? Can we continue as we are? At present the status quo view dominates policy, but their policies are an inadequate answer to the needs of sustainable development; it is argued that they have used the phrases of sustainable development to continue with and justify business as usual (Kothari, 1990). Embracing the status quo is not a viable option for society if we are to move towards sustainable livelihood for all, now and in the future, within an abundant and diverse environment. The future is likely to be dominated by choices between more radical views.

One option is that advocated by Hardin (1974), that the rich and powerful of the world have a lifeboat ethic of extreme gated communities to ensure their own privileged survival. The outcome would be increased inequality, environmental degradation and probably wars. This trend is reflected in the thinking of the US government, which has turned concerns about security in dealing with environmental risks, mostly due to human actions (Beck, 1992), into a programme of security based on military action to protect unsustainable policies such as the USA's oil consumption (White House, 2000; Dalby, 2003).

The alternative suggested by the Deep Greens would share out the reduction in living standards more fairly in a world that drastically reduces consumption and, they usually suggest, population. However, who will decide which of the world's billion shall die? A return to low technology and living on the land would risk a return to the poverty and high infant mortality of the past for the west and continuation of the nightmarish present for many of the poor of the world. This too might well be a recipe for social conflict and wars. It certainly would not be a future based on the ideas of sustainable development.

Reformers would reject the grim views of Hardin or deep greens while acknowledging that 15 years after Brundtland many trends are still getting worse. The challenge for them is how and why governments and big business will self-reform to challenge the powerful vested interests that act in ways contrary to sustainable development.

The future envisaged by transformationists takes a different view, starting from the view that environmental degradation, poverty and a lack of justice are not a historical coincidence. The linkage is not simply moral; it is rooted in a society of domination and exploitation of the environment and most people. In what O'Connor (1989) describes as combined and uneven development, some communities and people are rich because others are poor and vice versa. O'Riordan states that 'wealth creation based on renewability and replenishment rather than exploitation . . . is a contradiction in terms for modern capitalism', so that real sustainable development requires a 'massive redistribution of wealth and power' (1989, p. 93). Transformationists emphasize justice and equity, believing that if these are not central to any analysis the ecological problems will be blamed upon a common 'us', who are held equally to blame. This trend is evident in some deep ecologists' thinking that holds all humanity responsible for the ecological crisis, thus masking divisions of race, class and gender. In an unequal society it is those who are least powerful who suffer poverty and lack of access to resources. The poor also have to bear the heaviest burden of ill-health, war and ecological problems (Sachs, 1999; UNDP, 2002; Agyeman *et al.*, 2003).

Transformationists' view of the connection between environmental degradation and human exploitation encourages the building of alliances between environmental and social justice movements. The challenge they face is how to mobilize a coalition that is powerful and cohesive enough to realize the needed changes. The core values of sustainable development as outlined by Haughton are environment protection and justice. The issues that transformationists are facing, of how to combine these two, will increasingly become main stage as society faces the challenges of the future.

Although open to many interpretations, sustainable development has gained wide currency. It crucially embraces the key issues for humanity of how to ensure lives worth living and our relation with the planet and our relations with each other.

Rather than discarding the concept of sustainable development, it provides a useful framework in which to debate the choices for humanity. We have argued that sustainable development needs to be based on appreciation of the close links between the environment and society with feedback loops both ways, and that social and environmental equity are fundamental ideas.

Given the need for fundamental change, a deep connection between human life and the environment and a common linkage of power structures that exploit both people and planet, we would argue that transformation is essential. However, we do not see it as necessary or sensible to make an exclusive commitment to transformation. Reform now is better than nothing and transformation may not be immediately feasible. However, whilst engaging with government and business for reforms, the main

focus should be to raise the issues, successful mobilization of the media and to build coalitions linking researchers, popular protest and direct action.

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