# Conceptual Analysis in Environmental Education: Why I Want My Children To Be Educated For Sustainable Development

## Judy van Rossen

Environment Waikato (PO Box 4010)
Hamilton East
New Zealand

## Introduction

In recent years, there has been a growing global movement towards sustainable development (defined in the Brundtland report *Our Common Future* as 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs' (WCED 1987)). Indeed, the Brundtland report, along with the revised World Conservation Strategy (IUCN 1990) and Agenda 21 (UNCED 1992) all place high expectations on environmental education as a key means of achieving sustainability. Changes for sustainability will affect individual lifestyles, and attitudes to, and relationships with nature, and education is a critical part of turning the idea of sustainable development into reality (Slocombe & van Bers 1991, p. 12). In arguing that our children *should* be educated for sustainable development, we must evaluate the arguments about sustainability and see what role environmental education has to play.

Jickling (1992, pp. 6-7) claims that various attempts to analyse the meaning of the term *sustainable development* have resulted in a 'conceptual muddle' which precludes the possibility of accepting any educational prescription for it. However, in drawing this conclusion, he appears to have neglected the alternative conceptions of sustainable development that have been proposed (Fien & Trainer 1993a, p. 14) and the values basis underlying them and, thereby, has not provided a critical direction for a pathway to sustainability.

It is agreed that 'sustainable development' is a contested concept open to competing interpretation. However, I do not agree that it is 'in the midst of a conceptual muddle'. Jickling has identified the need for *conceptual analysis* to be used to clarify common understandings of the two words *sustainable* and *development* (Jickling 1992, p. 7). This paper uses the same philosophical technique to deconstruct the meaning of the term 'sustainable development' (as presented by *Our Common Future*) by contrasting two broad perspectives inherent within it:
1. The technological sustainability of the *sustainable growth* ethic (also termed 'the greening of capitalism'); and
2. The ecological sustainability of the *sustainable development* ethic ('the greening of socialism') (Fien 1993, p. 4, Fien & Trainer 1993b, Huckle 1991).

73

By identifying those qualities or criteria which are central to the meaning of each of these perspectives, a reconstruction of the concept 'sustainable development' is offered through the integration of ecological and social, as well as economic, values.

This same technique of conceptual analysis is then used in part to answer Jickling's question: Even if an adequate working definition of sustainable development was developed, is education the appropriate method of achieving it? (Jickling 1992, p. 7). Jickling believes that education *for* sustainable development (indeed, education *for* anything) is incompatible with the role of education as a process which encourages autonomous thinking (Jickling 1992, p. 7; Jickling 1993, p. 88). I argue that educated autonomous thinkers can still make free choices which are enlightened by considerations of ethics and morality, and that Jickling's approach of teaching a balanced critique of the issues without exploring the underlying values fails to address the root causes of unsustainability.

The final part of this paper identifies two key philosophical imperatives for education for sustainable development:

1    The need to acknowledge the processes of global capitalism as a root cause of poverty and environmental degradation (the *critical realist* position); and

The need to engender in people a way of thinking about the planet as a whole, including its ecosystems and people and their effects on each other (a *holistic ethic*).

## Two meanings of sustainability

A close examination of the key words of 'sustainable' and 'development', as suggested by Jickling (1992, p. 7), will begin to assist us in clarifying the role of environmental education in the transition toward sustainability.

Sterling (1991, p. 96) states that the meaning of the term 'sustainable' implies that 'you can keep doing something over a long period of time'. For the Earth, this means that the stock of all environmental and natural resource assets, from oil in the ground, to water in rivers, to elephants in Africa, should not decrease over time (Pearce, Markandya & Barbier 1990). Our current predicament, which is undisputable, is that the 'growth and greed' society is in many ways unsustainable (Trainer 1990, p. 92). There are a range of potentially catastrophic problems occurring now; these include resource scarcity (especially fossil fuels); ozone depletion; global climate change, loss of biodiversity; degradation of soil and water resources; widespread poverty and underdevelopment in the developing countries; and a capitalist world economy which perpetuates this (WRI 1992, Fien & Trainer 1993a). Since UNCED in Stockholm 20 years ago, we have recognised that environmental problems are inseparable from human welfare and the economy. In terms of sustainability, there is an increasing realisation that things cannot just go on the way they are. Thus, in visualising a sustainable

society, it is considered reasonable to assume that the health and productivity of species and ecosystems must be maintained (Slocombe & van Bers 1991, p. 15). This implies that remedial, as well as protective, actions must be implemented.

The term 'development' is more problematic to analyse as a concept, and this is central to the debate in this paper.

### Sustainable growth ethic

Part of the argument against 'sustainable development' is that it is commonly interpreted to mean exploitative economic growth to yield greater profit and accompanied by superficial measures (e.g. increased efficiencies in production technology), but with little consideration of economic equity and ecological limits (Sterling 1991, p. 96). Development in this sense rests on the following assumptions which characterise the Dominant Social Paradigm (Orr 1992, Fien & Trainer 1993b):

1.  That humans dominate over, and manipulate, nature;
2.  That humans have no sense of sufficiency with respect to consumption of resources and increasing wealth;
3.  That unlimited economic growth accompanied by redistribution of wealth is essential to address global inequality issues; and
4.  That the causes of unsustainability are those of inaccurate pricing policies and poor technology; therefore market mechanisms, technological efficiency, increased use of renewable resources and science will solve environmental and social inequality problems.

Thus, development in this sense means 'growth' (of the same). It is *reformist* (i.e. it is superficial and doesn't address the root causes of unsustainability) and *technocentric* (i.e. focusses on finding technological answers to specific environmental problems). It views nature as subservient to human needs and economic growth. The Dominant Social Paradigm is currently far more politically acceptable as it does not pose too much of a challenge to established business interests (Fien & Trainer 1993b, p. 30). Huckle (1991) describes this pathway to sustainability as 'sustainable growth' or 'technological sustainability' (the greening of capitalism).

It is suggested that the Brundtland Report's position on 'sustainable development' is really advocating this growth ethic (Fien & Trainer 1993b, p. 35). It does this through its unquestioning reliance on the profits of capitalist-driven economic growth to eventually 'trickle down' to the poor, and on its glaring neglect of the 'limits to growth' literature which attributes current global ecological degradation to this conventional and unsustainable global market system. *Our Common Future* therefore represents a position more closely adhering to a 'sustainable growth' ethic rather than a 'sustainable development' ethic—criticisms of this major report which Jickling (1993, p. 87) fails to acknowledge.

Rees (1990, in Fien & Trainer 1993b, p. 31) categorises the advocates of this sustainable growth ethic into four groups: the *'cynics and opportunists'* group (greening of consumerism); the *'technological response and regulate'* group (greening of technology); the *'market solution'* group (greening of the economy); and the *'growth with equity'* group (indefinite growth and redistribution of the profits). Other divisions of this ethic have been identified (e.g. O'Riordan 1988, 1989, Turner 1988), but generally they also meet the criteria discussed above. None of these categories, however, satisfy the criteria for ecological sustainability or truly 'sustainable development'. We can examine the meaning of this alternative ethic again using the technique of conceptual analysis.

*Sustainable development ethic*
Ecologically sustainable development as it is engendered in the term 'sustainable development' means a much wider range of resources than just rising GNP for a minority of the world's population (Sterling 1991, p. 96). This ethic argues that redistribution of wealth is not the only answer. Rather, it has to include development of basic human needs such as health, education and nutrition for those people who do not have access to them now. *Sustainable* development should mean that achievements in these areas should be at least maintained and probably improved (refer to earlier analysis of the term 'sustainable'). *Ecologically sustainable* development is rooted in a New Environmental Paradigm, which means that development must recognise the earth's finite ecological limits and must not allow further deterioration of the natural resource base to continue.

Sustainable development in this sense is *transformative* and *alternative* (some would say 'radical'), differing from technological sustainability in several fundamental ways (Orr 1992, Fien & Trainer 1993b):
1.   It takes account of the recent 'limits to growth' literature, which recognises that the earth's carrying capacity is finite and cannot sustain an exponentially growing population and economy with all their consequent escalating waste pollution and resource degradation problems;
2.   It recognises the need to reduce the impacts of economic development on resources and society by, for example, designing new technologies which replicate the function and structure of natural systems, and by restoring traditional knowledge of the land and its functions (Orr 1992);
3.   It is based on a decentralised and democratic society ('power to the people');
4.   It is dependent on an ecologically literate population; and
5.   It is based on interrelatedness and a sense of community with, responsibility for and equality with, nature and other people (i.e. not dominant or hierarchical).

Sustainable development is appropriate development, focussing on assisting people to build highly co-operative, self-sufficient, economically independent and productive systems which reduce ecological impacts, minimise depletion of non-renewable resources, respect biophysical limits and conserve the earth's vitality and diversity (Fien & Trainer 1993b, p. 36). The path to ecological sustainability therefore requires progress in all dimensions—economic, human, environmental and technological (WRI 1992).

Thus, it is argued that it is philosophically feasible to elucidate common meaning and coherence in the terms 'sustainable growth' and 'sustainable development'' as two opposing but not necessarily mutually exclusive concepts. Furthermore, there is a growing body of literature which supports the sustainable development ethic as a preventative remedy, but at the same time acknowledging that such an ethic threatens a society based on limitless growth. The next task is therefore to promulgate the principles of the New Environmental Paradigm and ecological sustainability through all sectors of society—this requires a comprehensive philosophy of education for sustainable development.

## An ecological philosophy of education for sustainable development

Jickling (1992) advocates that environmental educators should teach children *about* the debate over sustainable development in an impartial manner, rather than encouraging them to explore the values-laden issues behind the concept. This appears to be a somewhat superficial and uncritical approach to education and society, and is in direct contrast to the principles of an ecological philosophy of education for sustainable development. Fien (1993) criticises Jickling's position as being too liberal, and challenges his argument by presenting two key philosophical imperatives for environmental education:

1.  The need for a 'critical realist' position or critical social analysis of the true causes of social and environmental degradation; and
2.  The need for a 'holistic' or ecocentric perspective on sustainable development and education.

In examining these imperatives, it is necessary to look at the relationship between environmental education, sustainable development and 'conventional' education. Conventional education has been described by Trainer (1990) as having a 'hidden curriculum' which can all too readily sustain the 'growth and greed' society which fuels economic growth. Trainer catalogues some of the themes regarding the social effects of schools evident in the education literature which support this generalisation, including:

1.  A vocational emphasis—preparing students for jobs in society as it is through the gaining of educational credentials;
2.  Hierarchical structures and authoritarianism—teacher is 'boss' and

77

decision-maker;
3.  Competition, winning, getting ahead—reinforcing wealth, power, prestige and a competitive economy; and
4.  Individualism—discouraging co-operation and sharing.

Jickling's concern is that education *for* sustainable development by teachers involves the deliberate advancement of a particular agenda (e.g. land protection in Australia), and that education is being used as a form of persuasion (Jickling 1992, p. 7). Yet at the same time, he does not acknowledge the hidden curriculum present in schools today which perpetuates an unsustainable society. It is argued that Jickling's philosophical analysis of the meaning of education as being the development of autonomous, fairminded thinkers is too narrow, because it focusses on personal identity and decision-making and ignores values-based questions about the social interests served by those in power in today's society (Fien & Trainer 1993a, p. 16). In contrast to Jickling's position, I believe that in order to make environmental education relevant to students' own lives, it is justified to engage them in a critical analysis of their own environmental values within this social context. The liberal, fairminded basis of Jickling's educational philosophy is certainly acknowledged, but is unlikely to hold if, for example, we consider the explicit and undisputed role of education *for* other issues such as nuclear war, racism and sexism.

The first imperative for a comprehensive ecological philosophy of education based on the New Environmental Paradigm revolves around the idea of critical theory (Fien and Trainer 1993b, Huckle 1993). Such a theory is based on neo-Marxist ideas that global capitalism is the main cause of poverty and environmental degradation and that this must be acknowledged before social transformation and a 'world ethic' of sustainability can be achieved (Trainer 1990, Huckle 1993). Given that today's society is unsustainable, for education to be constructive, it must be critical and transformative. Thus, education for ecological sustainability must involve:
1.  *Education for environmental management*—which provides us with technical control over the natural and social worlds, and is based on analytical science;
2.  *Education for environmental awareness and interpretation*—which promotes mutual understanding and social harmony by aiding our appreciation of the environment and one another, and is based on interpretive science; and
3.  *Education for environmental action*—which is emancipatory, providing knowledge of how society and nature work and how we can become involved in changing structures and processes through individual and collective action (Huckle 1993, p. 61).

As discussed previously, current educational practices reflect the dominant reductionist worldview of thinking that humans are separate from nature

and that we can manipulate its different parts for our own means. As well as encouraging critical thinking and participatory action, therefore, environmental education needs to become more holistic—engendering in students a deep concern about the welfare of the planet and its people and avoiding attending solely to selected narrow aspects of environmental issues (Sterling 1993). From a holistic perspective, the environment is viewed in its entirety, taking into account ethical considerations such as intrinsic value and accepting the interacting and interdependent systems which make up the world. It nurtures students' *perceptions* of the world, their sense of *place*, understanding of *patterns*, encourages *participation* and *peace* (the 'P' model of environmental education (Sterling, 1993)). This holistic view establishes a framework for critical, ethical debate which is fundamental to education for sustainable development, because it encourages students to become confident with their own value systems; it gives them a sense of what is desirable, and therefore it smooths the path to empowerment and participatory democracy.

## Conclusion

As discussed in this paper, many advocates of sustainable growth use the term 'sustainable development' to describe their ideas. However, the two concepts can be very closely contrasted by analysing the criteria which are central to their meaning. In particular, the philosophy behind the sustainable development ethic accepts the intentions of *Our Common Future*, but rejects its technological assumptions and call for faster economic growth—criteria which characterise the Dominant Social Paradigm and sustainable growth. Thus, sustainable development, as reconstructed along the lines of the New Environmental Paradigm, is presented as the favoured ethic.

This ecological view of sustainability has profound implications for environmental education. I don't believe that we have the luxury of time to direct education of our children to treat all views of sustainability equally, and to teach them to use philosophical techniques which enhance their ability to participate in a debate about sustainable development—as advocated by Jickling. The World Resources Institute's 1992 annual report on the state of the global environment strongly recommends that, in order to move towards sustainability, a number of changes to consumer society will have to be accomplished within the next few decades including:

1. Replacing cultural obsessions of material affluence, winning, getting richer, exercising power and controlling nature, with an ecological and holistic ethic;
2. Replace the world's economic system and transform the social geography of settlements; and
3. Revising our personal goals, lifestyles and sources of satisfaction (WRI, 1992).

79

For educators, our task is to concern ourselves and our students with the critical evaluation of the consumer society, to increase their understanding that a transition to a sustainable society is necessary, and to educate them about the general nature and merits of such a society. *I* most certainly want *my* children to be educated *for* sustainable development.

## References

Fien, J. (ed.) 1993, *Environmental Education: A Pathway to Sustainability*, Deakin University Press, Geelong, Victoria.

Fien, J. & Trainer, T. 1993a, 'Education for sustainability', in J. Fien, (ed.) *Environmental Education: A Pathway to Sustainability*, Deakin University Press, Geelong, Victoria.

Fien, J. & Trainer, T. 1993b, 'A vision of sustainability', J. in Fien, (ed.) *Environmental Education: A Pathway to Sustainability*, Deakin University Press, Geelong, Victoria.

Huckle, J. 1992, 'Education for sustainability: Assessing pathways to the future', *Australian Journal of Environmental Education*, vol. 23, no. 4, pp. 5-8.

Huckle, J. 1993, 'Environmental education and sustainability: A view from critical theory', in J. Fien, (ed.) *Environmental Education: A Pathway to Sustainability*, Deakin University Press, Geelong, Victoria.

IUCN, UNEP & WWF, *Caring For The Earth: A Strategy For Sustainability*, Gland, Switzerland.

Jickling, B. 1992, 'Why I don't want my children to be educated for sustainable development', *Journal of Environmental Education*, vol. 3, no. 4, pp. 5-8.

Jickling, B. 1993, 'Research in Environmental Education: Some Thoughts on the Need for Conceptual Analysis', *Australian Journal of Environmental Education*, 9, pp. 85-94.

O'Riordan, T. 1988, 'The Politics of Sustainability', in K. Turner, (ed.) *Sustainable Environmental Management: Principles and Practice*, Belhaven Press, London.

O'Riordan, T. 1989, 'The Challenge for Environmentalism', in R. Peet, & N. Thrift, (eds.) *New Models in Geography*, vol. 1, Unwin Hyman, London, pp. 77-102.

Orr, D. 1992, *Ecological Literacy: Education and the Transition to a Postmodern World*, State University of New York Press, Albany, NY.

Pearce, D., Markandya, A., Barbier, E. 1989, *Blueprint for a Green Economy*, Earthscan, London.

Slocombe, D. S. & van Bers, C. 1991, 'Seeking Substance in Sustainable Development', *Journal of Environmental Education*, vol. 23, no. 1, pp. 11-18.

Sterling, S. 1991, Education for Sustainability—Great Expectations, and Small Steps' in D. Springett, & C. M. Hall, (eds.) *Our Common Future: The Way Forward*, Proceedings of the New Zealand Natural Heritage Foundation International Conference on Environmental Education, Palmerston North, 26-30 August, pp. 148-54.

Sterling, S. 1993, 'Environmental Education and Sustainability: A View from Holistic Ethics', in J. Fien, (ed.) *Environmental Education: A Pathway to Sustainability*, Deakin University Press, Geelong, Victoria.

Trainer, T. 1990, 'Towards an Ecological Philosophy of Education', *Discourse*, vol. 10, no. 2, pp. 92-117.

Turner, K. 'Sustainability, Resource Conservation and Pollution Control: An Overview', in K. Turner, (ed.) *Sustainable Environmental Management: Principles and Practice*, Belhaven Press, London.

United Nations Commission on Environment and Development, Promoting education and public awareness and training, 1992, *Agenda 21*, Conches, United Nations Conference on Environment and Development, Rio de Janeiro, Brazil.

World Commission on Environment and Development, 1987, *Our Common Future*, Oxford University Press, Oxford.

World Resources Institute, 1992, *World Resources: A Guide to the Global Environment 1992-93—Toward Sustainable Development*, Oxford University Press, New York, pp. 1-12.