

THE CONCEPT OF ENVIRONMENTAL EDUCATION AND THE DEVELOPMENT OF ENVIRONMENTAL EDUCATION IN SOUTH AFRICA

Pat Irwin

Keynote address delivered at the annual workshop and AGM of the Environmental Education Association of Southern Africa, 17th September 1990.

The origin of environmental education can be traced back many centuries, but modern environmental education has its roots in industrialization and the increased, and increasingly wasteful, demand for natural resources over the past 150 years. From an ill-defined surrogate for nature conservation 50 years ago environmental education has grown worldwide into a socio-ecological movement of many dimensions. It has become a sophisticated concept embracing ecological knowledge and understanding, total people-environment relationships, ethics, politics, sociology and public participation in decision making. Alongside this evolution of ideas, and over the past 20 years in particular, considerable effort has been expended internationally to clarify and delineate the concept of environmental education. This has involved a great deal of debate and discussion both in environmental and educational literature and at international forums.

Many 'definitions' have been put forward on different occasions, but one of the earliest, and today still the most widely accepted, is what is known as the IUCN definition. It reads as follows:

Environmental education is the process of recognizing values and clarifying concepts in order to develop skills and attitudes necessary to understand and appreciate the inter-relatedness among man, his culture and his biophysical surroundings. Environmental education also entails practice in decision making and self-formulation of a code of behaviour about issues concerning environmental quality. (IUCN 1971, p. 17)

This 'definition', formulated in 1971, has been considerably amplified and expanded upon in the intervening years - most notably in terms of expression of greater concern for the **total environment** in an interactive sense, including its social, political, cultural and ecological dimensions. Today environmental education is seen by many workers in the field as essentially embracing two complementary concepts. On the one hand it is about understanding political processes and creating political structures in order to be able to participate actively in decision-making about environmental issues on a local, national and global scale. On the other hand it is about acquiring the necessary knowledge and understanding including, critically, that of ecological principles and processes needed to make properly informed decisions about environmental issues. All rights to decision-making however, must be balanced with an acceptance of the responsibility of living with the consequences of those decisions. Educationally speaking, environmental education is a holistic approach involving all three

domains of human development: the cognitive, the affective and the psychomotor. These ideas are given further substance in the documents which emerged from two major world gatherings on environmental education - the Belgrade Workshop in 1975 (UNEP 1977) and the Tbilisi Intergovernmental Conference on Environmental Education in 1977 - which resulted in the so-called '**Tbilisi Principles of Environmental Education**' (UNESCO-UNEP 1978).

O'Riordan, an environmentalist, provides us with an interesting perspective on some of the issues which we need to take into account when considering the need for environmental education.

Behind all the reasoning is the spectre that any attempt at continued economic growth in its current wasteful and highly inegalitarian form will not only result in very real and imminent resource scarcities, but will necessarily lead to environmental destruction and serious poverty and social hardship. The worst consequences will fall disproportionately upon those who are least able to help themselves, and whose indigenous abilities to cope with resource scarcities and environmental stress are already being eroded by forces mostly beyond their control, and whose voices in the halls of political power are either not heard at all or are extremely faint. (O'Riordan 1981, p. 4)

O'Riordan's viewpoint, not surprisingly, has found a strong echo in the 'developing world' and among poorer countries. It encompasses what has sometimes been called **realconserve** - the idea that in order to place environmental education in its logical context it must be realized that the task cannot be reduced to problems of industrial hygiene and the conservation of species only, even though these are very important. The real issues to be dealt with are those causing day to day hardship and death of people all over the world. The world's environmental problems are seen ultimately to reside in the structure of economic, industrial, political and military power designed to serve the interests of profit and the unlimited accumulation of wealth. A new ecological ethic is called for in which, not only is there to be a new world economic order based on a more equal distribution of wealth and the rational exploitation of resources, but which recognizes people as an integral part of nature, living in harmony with their environment. This harmony implies both living within the constraints which the environment imposes and utilizing the opportunities which it provides. It is a useful exercise to consider the southern African environmental situation from this perspective.

The 'realconserve' perspective has gained considerable momentum over the past five years and now forms the

cornerstone of environmental education policies and programmes in many 'developing' countries which, until the 1980s, tended to eschew the concerns of environmental education as being the problems of the world's rich nations. It has been eloquently voiced in the **Brandt Report** of 1983, the publications of the International Institute for Environment and Development, the 1987 **Report of the World Commission on Environment and Development** and by many individual writers. On a global scale this viewpoint represents the current cutting edge in both the theory and the practice of environmental education.

Parallel to and complementing the developments outlined above, cogent arguments have been advanced for a radical form of environmental education supported by new insights from moral and political education as well as from learning theory. Both the inspirational and empirical bases for these arguments lie with individuals such as Piaget, Kohlberg, Feuer, Ausabel and de Bono. Among such exponents are Gough (1987), who argues for an **ecological paradigm for education** (where the emphasis is on interrelationships rather than 'facts') to replace our present epistemological paradigm. Rottbottom (1987) argues for a greater enquiry based, 'practitioner research approach' to environmental education, while Di Chiro (1987) is representative of writers offering a feminist critique on environmental issues and environmental education. Feminist writers have brought into question many of the tenets of an historically male dominated world and have raised the concepts of 'masculinity' and 'femininity' within an environmental context. Feminism is not for women alone if we are to take a more longterm, realistic and gentle approach towards our environment.

Environmentalism and environmental education have also been the concern of 'radicals', many of whom have drawn upon the ideas of Marx, neo-Marxists and anarchists. For many of them, such as Gorz (1980), ecology or environmental conservation are not ends in themselves but part of a larger issue with its roots in 'the class struggle'. The domination of nature, Gorz argues, inevitably entails a domination of people by the techniques of domination. Engels' concern for the despoiling of nature was largely on the grounds of the deprivation it would cause for later generations - a view currently echoed by environmental educationists of all ideological persuasions. Many authors are now also interpreting Marxist-people-environment relationships in a more complex manner than a simplistic reading of the original texts would suggest.

Another interesting way of looking at environmental education is as a product of the conflict between our biological and cultural evolution. The former is seen as common to all living organisms while the latter is peculiar to the human species. Cultural evolution is furthermore not only very rapid compared with biological evolution, but increasingly so, and therein lies the seeds of the environmental problems which we face and the need to make adjustments or social

adaptations. It may also be argued that within these seeds lies the solution, as the main cause of the increasing rate of cultural evolution is the increase in speed and quantity of communication, of which education is an institutional example. Environmental education in particular has the potential to generate and sustain social values appropriate to an ecologically sustainable future.

A majority of environmental educationists would probably agree that environmental education is fundamentally concerned with the way we as humans behave towards our environment and towards each other. It is also about the ethics upon which this behaviour is based. Leopold (1933) noted over fifty years ago that an ethic, in as far as it pertained to the environment, is simultaneously two things: **biologically** it is a limitation on freedom of action in the struggle for existence and **philosophically** it is a differentiation of social from anti-social conduct. Leopold understood that we would get nowhere unless ecological values are integrated with economic, scientific, technological and, most importantly, political activities. Much of Leopold's thinking was germane to emerging thought in environmental education, but we have yet to achieve a well elaborated code of environmental behaviour for individuals and for our society. Let us now examine briefly the development of environmental education in South Africa.

Environmental education in the modern idiom first reached South Africa in the early 1970s. Prior to this efforts had been concentrated very largely on educating (with apparently limited success) about soil erosion, and what was termed until the late seventies, 'conservation education'. 'Conservation education' as a movement tended to concentrate on 'conservation as the wise use of (mainly) natural resources' and basic ecology, and seldom concerned itself with the political, social or even the built environment. Conservation education today continues to constitute a significant and integral part of environmental education, but is clearly only a part of it.

Another concept which, until 1980, was confused with environmental education was that of 'outdoor education'. The two ideas do overlap to some extent, as illustrated in figure 1, but are addressed by entirely different theoretical perspectives. Some educational conservatives in South Africa were however alarmed by the connotations of environmental education and saw a possibility of sanitizing its sociopolitical dimensions by conflating it with outdoor education which was perceived to be free of such notions - other than those which were acceptably patriotic. This viewpoint is now in eclipse.

The first International Conference on Environmental Education in South Africa took place in 1982 at the initiative of Treverton College at Mooi River in Natal. This five day conference, which had representatives from four continents, was a landmark in South African environmental education. Not only was it the first time

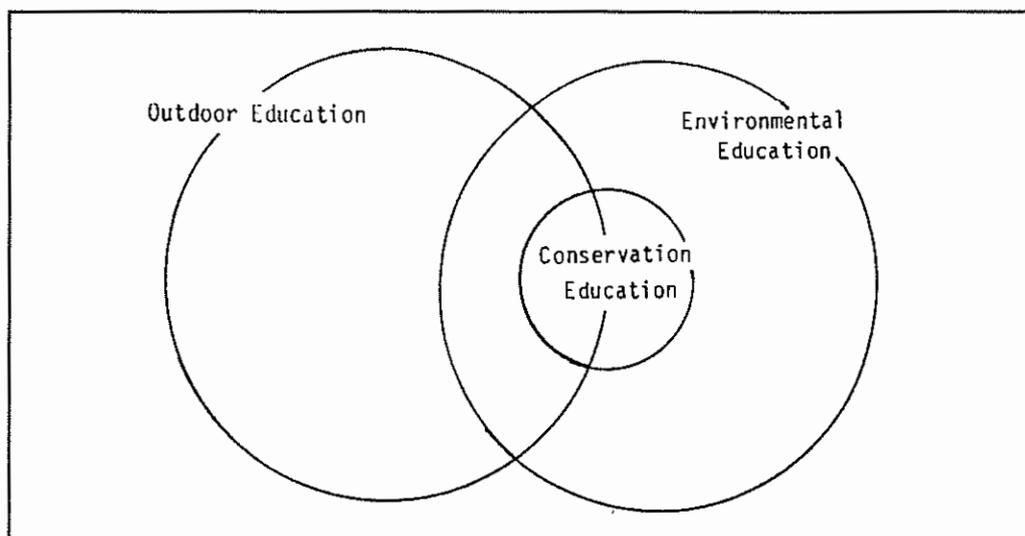


Figure 1: The relationship between environmental education, conservation education and outdoor education.

that a wide spectrum of South Africans concerned with environmental education issues had come together to discuss common concerns, but it also saw the formation of the Environmental Education Association of Southern Africa (EEASA) which has subsequently played a significant catalytic, developmental and coordinating role.

EEASA started the first regular publication in environmental education in Southern Africa and has convened or coordinated numerous workshops, seminars and conferences over the past eight years, including this one. It has also liaised with government departments, conservation agencies, nongovernment environmental organizations and liberation movements in South Africa and in neighbouring countries. EEASA has from the start promoted the idea that we all have much more in common than that which is used to create divisions between people. Most significantly is that we share one environment and the better we share it and collectively care for it the better future all of us are likely to have.

A pioneering role in the practice of environmental education in South Africa has been played by nongovernment conservation organizations (NGOs) and state conservation agencies. Organizations such as the **Wilderness Leadership School**, the **Wildlife Society of Southern Africa** and others had by the 1960s recognized the importance of educating people about their environmental responsibilities and had begun to set up programmes to put these ideas into effect. The Wildlife Society's **Umgeni Valley Project**, started in Natal in 1973, has played a major and innovative role in the development of environmental education in South Africa and is today a model for the 1990s. Of special and current interest to all of us is the work being done on integrating the concept of evaluation with environmental education.

The Umgeni Valley Project has been fortunate in enjoying the support and cooperation of the Natal

Education Department and the **Natal Parks Board** and has worked very closely with other education departments represented in the province - a situation which has unfortunately not been repeated in the other three provinces of South Africa. More doctrinaire education departments have either declined to embrace environmental education or eschewed educational cooperation with conservation agencies and the private sector. Some have set up their own internally controlled and racially exclusive 'outdoor' education programmes such as the 'Veld Schools' in the Transvaal.

It is in the 'national states', 'homelands' and 'black' areas of South Africa that environmental education programmes have often been most successful at the grassroots level. This is not as surprising as it might seem at first, bearing in mind O'Riordan's perspective and the idea of 'realconserve'. When environments become degraded, impoverished or polluted, history has shown that it is invariably the poor and the dispossessed who suffer the most. They are least equipped to cope with environmental stress and its consequences upon their lives. Any future 'quality of life' for the majority of South Africans is inextricably tied up with the management of our environment for the benefit of all and consequently with environmental education.

Two of the most successful environmental education programmes in Southern Africa are those of **Bophuthatswana** and the **National Environmental Awareness Council (NEAC)** in Soweto. In Bophuthatswana there is very close cooperation between the Department of Education, the Bophuthatswana National Parks Board and teacher training institutions. So close has the cooperation been that there is accumulating evidence of environmental awareness, concern and action in the most remote villages and schools. NEAC started in Soweto in 1974 and, notwithstanding the political and social turmoil in South Africa over the past 14 years, has grown in popularity

and effectiveness. As with the Umgeni Valley Project and the programme in Bophuthatswana, tens of thousands of teachers, children and young people have experienced what environmental education, environmental responsibility and (in theory at least) environmental decision-making is about.

Environmental education at tertiary level, for teachers and decision makers, was pioneered in Bophuthatswana in the early 1980s both at the University of Bophuthatswana, where both undergraduate and post-graduate courses are offered, and in all five colleges of education where a three year course in environmental education is offered. Several other universities and colleges of education in South Africa offer various courses in environmental education, but the most comprehensive programme exists at Rhodes University. This is at present concentrated in the Department of Education where environmental education forms an integral part of all teacher education, but there is interdisciplinary cooperation with other departments. Through the good offices of the **South African Nature Foundation**, the local arm of the Worldwide Fund for Nature, the construction firm of **Murray and Roberts** have sponsored Southern Africa's first Chair of Environmental Education at Rhodes University. This will enable research priorities in environmental education to be identified and much needed research to be initiated.

Any account of the development of environmental education in South Africa would not be complete without mention of a number of other important initiatives. In 1989, after years of resistance from conservatives in some of our education departments, a '**White Paper on Environmental Education**' was tabled in parliament. For this the Department of Environment Affairs and the Council for the Environment deserve much of the credit. Notwithstanding some scepticism and the limited acceptance of this document among sections of our society, it is important to note that it unequivocally embraces the 'Tbilisi Principles' and the internationally accepted concept of environmental education. It is a potentially powerful tool for promoting environmental education. Another important group of initiatives emanate from the expressed concern of several 'liberation movements' about environmental issues and the need for environmental education. The African National Congress is, for example, reported to be considering an '**Environmental Charter**' to parallel the Freedom Charter. The potential positive consequences of such a document can hardly be overstated. Lastly, South Africans should not be unaware of the innovative and viable environmental education programmes operating in some of our neighbouring countries such as Swaziland, Botswana and Zimbabwe. We and they have much to share with each other.

In conclusion, it is probably fair to state that while environmental education got off to a relatively slow start in South Africa, and has until recently enjoyed only

limited state recognition or public financial support, that this has now changed. Based on the solid foundations and practices which have been developed over the past 15 years by dedicated and resourceful organisations and individuals, environmental education as a concept and approach is now poised to play a meaningful role in any attempts which our society might make to deal with the environmental crises which we are facing. Whether we do so or not depends ultimately on people such as ourselves and whether we are prepared to make our voices heard. There can be little doubt that sound management of our environment along with the careful husbanding of our economy and the development and entrenching of human rights are the major challenges facing us as a society as we approach the twenty-first century. Environmental education links these concerns and provides one support structure for us to heal ourselves as a nation, environmentally, socially and politically.

REFERENCES

- BRANDT, W. 1983. *Common crisis North South: Cooperation for world recovery: The Brandt Commission*. Pan Books, London.
- DI CHIRO, G. 1987. Environmental education and the question of gender: A feminist critique. In Robottom, I. (ed.) 1987. *Environmental education: Practice and possibility*. Deakin University, Melbourne.
- GOUGH, N. 1987. Learning with environments: Towards an ecological paradigm for education. In Robottom, I. (ed.) 1987.
- GORZ, A. 1980. *Ecology as politics*. South End Press, London.
- IUCN, 1971. Education and the environment. *Papers of the Nevada Conference of 1970 and the Zurich Conference of December 1971*. IUCN Publication New Series, Morges.
- LEOPOLD, A. 1933. *A sand county almanac*. Oxford University Press, New York.
- O'RIORDAN, T. 1981. Environmentalism and education. *Journal of Geography in Higher Education*, vol. 5, no. 1, pp. 3-17.
- ROBOTTOM, I. (ed.) 1987. *Environmental education: Practice and possibility*. Deakin University, Melbourne.
- UNEP 1977. Environmental education. *UNEP Facts*. UNEP FS/15 October 1977, p. 2.
- UNESCO-UNEP 1978. Tbilisi principles of environmental education. *Connect*, vol. 3, no. 1, p. 1.
- WORLD COMMISSION ON ENVIRONMENT AND DEVELOPMENT 1987. *Our common future*. Oxford University Press, London.

OTHER VALUABLE ENVIRONMENTAL EDUCATION REFERENCES

- AGARWAL, A. 1986. Human-nature interactions in a third world country. *The Environmentalist*, vol. 6, no. 3, pp. 165-183.
- BENNET, R.J. and CHORLEY, R.J. 1978. *Environmental systems: Philosophy, analysis and control*. Methuen & Co., London.
- BRENNAN, M.J. 1986. A curriculum for the conservation of people and their environment. *Journal of Environmental Education*, vol. 17, no. 4, pp. 1-12.
- BUZZATI-TRAVERSO, A. 1977. *Some thoughts on the philosophy of environmental education*. In UNESCO 1977.
- CHIAPPO, L. 1980. Environmental education and the Third World. *Review of Environmental Education Developments*, vol. 8, no. 2, pp. 8-12.
- DANKELMAN, I. and DAVIDSON, J. 1988. *Women and environment in the Third World*. IUCN/Earthscan, London.
- ECKHOLM, E. 1982. *Down to earth: Environment and human needs*. Pluto Press, London.
- FORBES, J. 1974. Towards a coordinated framework for environmental education - a planner's view. *Bulletin of Environmental Education*, no. 35, pp. 9-18.
- GRAINGER, A. 1982. *Desertification - How people make deserts, how people can stop and why they don't*. Earthscan Paperbacks, London.
- GREIG, S., PIKE, G. and SELBY, D. 1987. *Earthrights: Education as if the planet really mattered*. WWF/Kogan Page, London.
- HARVEY, D. 1973. *Social justice and the city*. Edward Arnold, London.
- HARVEY, D. 1974. Population, resources and the ideology of science. *Economic Geography*, no. 50, pp. 256-277.
- HUCKLE, J. 1983. Environmental education. In Huckle, J. (ed.) 1983. *Geographical education: Reflection and action*. Oxford University Press, London.
- IRWIN, P.R. 1981. The concept and scope of environmental education. In *The development of environmental education in Bophuthatswana*. University of Bophuthatswana, Mmabatho.
- IUCN/UNEP/WWF/FAO/UNESCO 1980. *The World Conservation Strategy*. IUCN, Morges.
- LACEY, C. and WILLIAMS, R. (eds.) 1987. *Education, ecology and development: The case for an education network*. WWF/Kogan Page, London.
- MARTIN, G.C. 1975. A review of the objectives for environmental education. In Martin, G.C. and Wheeler, K. (eds.) 1975. *Insights into environmental education*. Oliver & Boyd, Edinburgh.
- MUSONDA, D. 1982. *A case for environmental education in Southern Africa*. Paper presented to Southern Africa Conference of the Commonwealth Geographical Bureau, Lusaka, June.
- O'DONOGHUE, R. and McNAUGHT, C. 1989. Environmental education: The development of a curriculum through 'grass roots' reconstructive action. *Southern African Journal of Environmental Education*, no. 10, pp. 16-24.
- O'RIORDAN, T. 1981. Environmental issues. *Progress in Human Geography*, vol. 5, no. 3.
- OKOT-UMA, R.W.O. and WEREKO-BROBBY, C. 1985. Environmental education: The African dimension. *The Environmentalist*, vol. 5, no. 2, pp. 137-142.
- PRESCOTT-ALLEN, R. and PRESCOTT-ALLEN, C. 1982. *What's wildlife worth?* Earthscan Paperbacks, London.
- SANDBACH, F. 1980. *Environment, ideology and policy*. Basil Blackwell, Oxford.
- SAVELAND, R.N. 1976. Perspectives. In Saveland, R.N. (ed.) 1976. *Handbook of environmental education*. Wiley & Sons, London.
- SCHMEIDER, A.A. 1977. The nature and philosophy of environmental education: Goals and objectives. In UNESCO 1977.
- SCHMIDT, A. 1971. *The concept of nature in Marx*. New Left Books, London.
- TIMBERLAKE, L. 1985. *Africa in crisis: The causes, the cures of environmental bankruptcy*. Earthscan Paperback/International Institute for Environment and Development, London.
- UNESCO 1977. *Trends in environmental education*. UNESCO, Paris.
- WIJKMAN, A. and TIMBERLAKE, L. 1984. *Natural disasters: Acts of God or acts of man?* Earthscan Paperbacks, London.