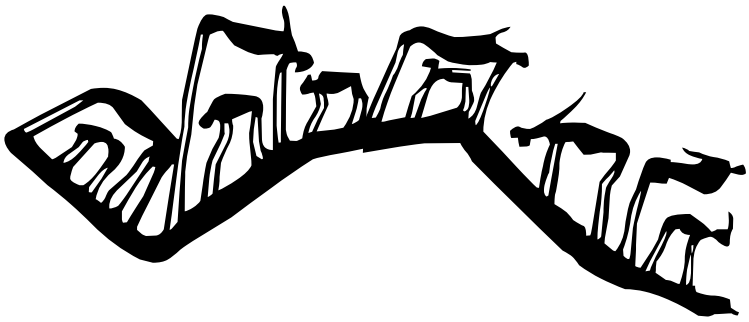
Positioning southern African environmental education in a changing context



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Danida

RHODES UNIVERSITY
Where leaders learn

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Some opening thoughts …

The environment is the basis of human health, well-being and security. The majority of Africans derive their livelihoods directly from the goods and services [sic]1 provided by the environment … the deterioration of the environment has left many Africans more vulnerable to adverse environmental change than before. African countries need to halt or reverse the current trend in environmental degradation (UNEP, 2002:5)

Environmental rights and poverty share the same platform because they inevitably deal with the same issues and concerns (Fakir, 2002:16)

… every citizen has a birthright to water as well as health care and education. Access to these common goods is not a matter of choice, but a necessity. Therefore, the provision of these goods cannot be left to markets. The human community has the obligation to ensure universal access for all its members to these goods. From this perspective transnational privatization of water delivery and services, as discussed under the WTO, is likely to turn into a social disaster. Since the poor bring very little purchasing power to bear, it is likely that they will be the first to lose out… (Sachs, 2002:58)

Education is a major priority in ensuring improvements in the quality of life of our people, the eradication of poverty, reducing inequalities and placing the African continent … on a path of sustainable development … Environmental education is conceptualized as an integral formal facet of education … there is consensus that education at all levels is central for giving impetus to sustainable development (Wagiet, 2002:28, 27)

[1] This is a particularly anthropocentric view of environment, in which environment is viewed as 'goods and services' within a market-oriented framing of environment as a commodity or resource for human consumption. African societies (and other societies) attribute other values to environment, not only economic value.

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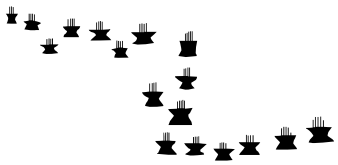
Preface



On position(ing): The context of this paper

This paper has been commissioned by the SADC Regional Environmental Education Support Project, which forms part of the SADC Regional Environmental Education Programme. It is a Danida (ODA – overseas development aid) funded project, working at a regional level to support environmental education initiatives in southern Africa. This project recently undertook to research and draw on successes that are apparent across a series of Danida-funded environmental education projects in the region, to provide a 'futures perspective' on/for environmental education processes in southern Africa. Three of these projects are logframe-based interventions[2] influencing formal education systems in southern Africa, and all are aimed at assisting countries to institutionalize environmental learning processes in formal schooling. The fourth project is a cross sectoral project (also governed by a logframe), which focuses on course and professional development, policy development, NGO support, and networking and interaction across the other three projects. The projects therefore span both the 'formal' (referring to institutionalized schooling systems and Higher Education Institutions) and 'informal' sectors (referring to community-based settings, extension work and other forms of environmental education which are less institutionally based).

This paper was originally requested as a position paper that articulates how recent international developments and global(ising)[3] frameworks (e.g. the proposed UN Decade of ESD, WSSD Implementation Plan, IUCN decisions, SADC policy and structural changes, and NEPAD's environmental action plan) are likely to influence the field[4] of

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[2] Logical frameworks (logframes) reflect particular narratives and assumptions of change. Inherent in logical planning frameworks are pre-defined development goals, with activities and instrumentalist funding frameworks that are deployed to achieve the particular goals derived through rationalist approaches to project planning. These frameworks have been critiqued for being based on a particular form of instrumental rationality, developmentalist logic and a deficit model of change (I have personally been party to defining these frameworks in a number of situations in southern Africa, and have, through this, developed a better understanding of the 'logic' of these planning frameworks. I therefore realize that they are a 'reality' in many of our lives, which we need to learn to understand). In recent years, southern African environmental educators have sought strategies to reduce the instrumental nature of these planning frameworks through for example implementing formative monitoring and evaluation processes and using contextual monitoring in project management (see Olivier, 2001; Lotz-Sisitka & Janse van Rensburg, 2000; Lupele, 2003) and applying contextually derived *principles* and educationally derived orientations which underpin project implementation (Ward, 2003; Taylor & Russo, 2002).

[3] In this paper I use the phrase global(ising) to draw attention to the social effects and processes associated with global narratives and policies. In a similar way, I refer to position(ing) to draw attention to the social and political processes at play when 'positions' are established.

environmental education in southern Africa. The position paper is intended to provide an international perspective or context for the research, and to assist with a 'situating' of environmental education processes in what is clearly a rapidly changing (political, economic, natural, social and epistemological) landscape. A key 'driver' of change processes around the world, is the notion of 'sustainable development' which has been widely adopted as the solution to contemporary socio-ecological, socio-political, socio-economic and other problems experienced by humanity at the start of the 21st century. Adoption of 'sustainable development' as salvation narrative[5] for humanity has influenced / and is still influencing a range of fields, including politics, economics, environmental management, development, and education (including environmental education in southern Africa).

To adopt a 'position' in this changing landscape is clearly an impossible task, and in my view would be undesirable, given that any form of 'fixed' position would soon be devoid of value in a rapidly changing landscape. Adopting a fixed position in this context would also be to commit 'epistemic violence' (authoritarian knowing) (Spivak, 1987). I have therefore chosen to write this paper from a perspective that aims to (critically) scope features of the (changing) landscape, and in doing so, raise a number of questions that may be considered in a range of positioning activities that this narrative might allow[6]. For the purposes of the Danida futures research, the research team may find some of the perspectives and questions useful in probing and position(ing) the successes and challenges apparent in the four Danida projects.

In other contexts, southern African environmental educators may wish to use the questions in other positioning processes, or in reflexive processes of deliberation[7] on how changing international developments are shaping / are likely to shape their practice. In 2002 Justin Lupele, writing in a Zambian context (Lupele, 2002) wrote a story of environmental education practice in WWF Zambia titled '*Ambivalent Globalising Influences in a Local Context*'. This paper articulates the ambivalent nature of how global(ising) trends shape and

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[4] In an earlier paper (Lotz-Sisitka 2002) I drew on Bourdieu's (1998) notion of a social field to describe environmental education as an 'emerging social field' in southern Africa which straddles the more established (yet changing) field of education and the 'younger' environmental sector (often described as a new social movement).

[5] Popkewitz (2000) notes that narratives of social and educational reform should be interrogated in ways that 'go against the grain'; in the sense that the systems of reason that are embodied in reform attempts need to be problematised *and* historicized. This type of interrogation of sustainable development as salvation narrative can only realistically be 'touched on' in this paper.

[6] Note that the narrative is by no means comprehensive, as each dimension of the narrative would require a paper of similar length and critical review if it were to be at all comprehensive.

[7] This would be my preferred approach to working with this paper, as I believe that it is in *deliberative processes* that participation in education is likely to be increased (see Lotz, 1999).

influence local practice. It points to the influence of global policy developments following the Rio Earth Summit in 1992, and illustrates how these influence national policy, ODA project priorities and approaches, and the nature of environmental education practice in Zambia. His paper also illustrates that local practices, knowledge and experience have their own power, and in the relationship that exists between local practice and global(ising) trends, a space is created for innovative and contextually situated practice. This, however, requires the establishment of an '*ethic of ambivalence*' (Harraway, 1997, my emphasis) which enables ongoing critical and reflexive review of global(ising) influences on the local (and *vice verse*) (rather than the establishment of a position), in much the same way as going along with the symbolic violence of colonial imposition was accompanied by a growing critical / reflexive resistance. In writing this paper, this is the 'position' I take. I do not propose to apply any one global(ising) narrative to environmental education practice in southern Africa, but rather to open the space for critical and reflexive deliberations on these global(ising) narratives and trends as they shape developing ideas and activities.

In the opening of his paper, Lupele quotes Gare (1995:161). I have found this quotation particularly useful in positioning this paper:

> What is required is a 'politics of the rhizome' in which everyone, every community, every nation and every major region comes to terms with the uniqueness of their situation and acts accordingly – and realizes that it is only by vast numbers of people, of groups and organizations acting in accordance with the possibilities of their situations, that the environmental crisis will be solved. The actions required ... will differ according to their situation within the global economy ... it is necessary to identify forces at work affecting individuals ... nations ... and regions ... a knowledge of the dynamics of the global system ... is required.

Perhaps I am hoping that this paper will help to establish a 'politics of the rhizome', in the sense that it may allow for a unique shaping of environmental education processes in developing context. *There may be similarities between contexts, but these cannot be (pre) determined, as the shape is cast in the history, culture and features of differing contexts and how actions (including learning actions) play out in their unique ways.* In the context of supporting this 'unique shaping' I aim to open up deliberations on the 'dynamics of the global system' in this paper.

It is with this in mind that I raise my first questions at the start of this paper. These are, to my mind, key underlying questions which ought to be considered in the Danida futures research:

Futures research questions

- Why is there an apparent need to 'position' southern African environmental education in the international landscape? Is this a result of globalisation of educational imperatives such as the 'ESD' narrative (and sustainable development itself), and /or our position in the global economy?
- How, in the relationships that exist between global(ising) trends and local situations and practice, can we enable the space to exist for innovative and contextually situated practice? Is it possible to consider a 'politics of the rhizome' in this futures research?

Overview of the paper

The next sections of this paper provide a description of the changing, multi-facetted and fluid landscape and context in which the futures research is taking place. This description is fairly 'sweeping' in approach, and touches on key issues, trends and tensions that may be significant to consider in a futures research project which aims to 'position' or provide perspective on environmental education practice in southern Africa. This description illustrates the multi-facetted nature of this landscape, and the fluidity of the discussions taking place at this time in human history. This in itself mitigates against 'one clear position', and appears to require ongoing reflexive engagement and change in context.

Part 1 of the paper will briefly review environment and development issues in southern Africa, given that these provide the context for environmental education work in the region. As this has been done more comprehensively elsewhere (see SADC REEP, 2002; SADC 2003; UNEP 2002), this review will be brief.

Part 2 of the paper will review an emerging political economy associated with major international institutional frameworks and events, and recent developments in Africa and southern Africa, which may have significance for this futures research. This part of the paper also briefly discusses the current epistemological environment influencing environmental education praxis, and it touches on the funding environment currently influencing environmental education praxis in southern Africa.

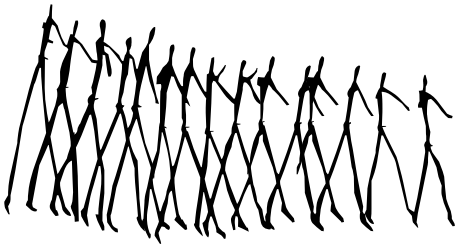
Part 3 of the paper considers the role of education (broadly) and environmental education processes (uniquely and specifically) in the context of the forthcoming UN Decade of ESD, and explores some of the narratives embedded in the notion of 'ESD'. This part of the paper also illuminates some of the characterizing features of environmental education in southern Africa.

The paper concludes with some key questions for this futures research (although these are phrased slightly differently at the end of the paper) :

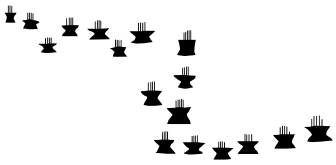
Throughout the paper a number of 'futures research questions' are posed to foster deliberative engagement with the changing landscape in which the research is taking place.

Futures research questions

- Does environmental education in southern Africa 'need' to re-position itself globally as 'ESD' (for the sake of global conformity)? OR
- Should environmental education in southern Africa strengthen its characterizing features and stay focused on critically reflexive environmental work, as a key dimension of sustainable development? AND
- Can (and how can) this futures research help to clarify or strengthen a focus on sustainability in developing environmental education praxis?



Part 1:
Environment and development issues



Threats to the future

Southern Africa is home to some 291 million people, of which about 25% live in urban areas. The majority (75%) of southern Africans live in rural areas, and a very large proportion of these people are dependent on natural resources for their livelihoods. The natural or biophysical environment is therefore central to development processes in southern Africa, and its significance should not be under-estimated. Key resources for livelihoods in these rural areas include grazing for animals, fuel wood, water and access to productive land (fertile soil), and healthy ecosystems - all of which are under pressure. These biophysical life-support systems, and access to them, are threatened by increasing population levels, coupled with increased poverty and its delinquent sister over-consumption[8] (linked to global inequality and inappropriate economic and development frameworks), poor quality of – and poor access to – education and limited livelihood options. Many people live in ongoing conditions of risk, which are exacerbated by drought and flooding (linked to climate change), the spread of HIV/AIDS and various threats to peace and security.

These are all threats to the future, as worsening environmental degradation contributes to lower incomes and deepened poverty, and over time, poor people can become trapped in a downward spiral, with ever-worsening poverty and resource degradation (IFAD, 2002). The International Fund for Agricultural Development (IFAD, 2002) identifies a number of environmental constraints on sustainable livelihoods amongst the rural poor:
Soil Fertility Depletion (In many areas, former 20-30 year fallow periods are reduced to 2-3 year breaks (or none at all) because of population pressure on available land, leading to a decline in soil fertility, which causes soils to be unable to support reliable and sustainable food crops).

[8] Sachs (2002) discusses the difference between a 'consumer class' characterized by high levels of consumption and the poor. He notes that the conventional North-South distinction obscures the fact that the dividing line in today's world is between the globalised rich and the localized poor. Terreblanche (2003) describes a highly stratified class society (in South Africa, but also more broadly), organized according to their purchasing power and levels of consumption. Consumer classes, according to Sachs (2002) have the power to bring the bulk of the world's natural resources into their service. Due to their purchasing power, they are able to command resource flows, which fuel their commodity-intensive patterns of production and consumption. Their geographical reach (in attracting resources) is both global and national.

Hillsides and Erosion (Clearing forests and hillsides in order to cultivate the land exposes soils to the combined effects of rainfall and gravity, resulting in soil erosion. Every year 14-15 million hectares of forest are lost or degraded in developing countries, and more than 60% of the deforestation is the consequence of subsistence farming on hillsides).
Forests and Biodiversity (Clearing forests has serious consequences not only for farmers, but also for biodiversity. Whole ecosystems can be destroyed, with decreased diversity of livelihood options (e.g. using forest products for medicines, fruit, honey etc).
Rangelands (Rangelands represent a major renewable resource exploited mainly by poor pastoralists and agro-pastoralists. Rangelands are becoming increasingly degraded by overuse, conversion to cropland and urban encroachment – all of which are frequently the result of inadequate and inappropriate policies)
Water quality and quantity (In southern Africa water scarcity is a key issue for both intensively farmed and marginal areas of limited agricultural potential, but poor farmers in the latter areas are the least able to respond to the issue).

The United Nations Environment Programme, UNEP (2002:5) recommends urgent actions to halt and reverse the current trend in environmental degradation in Africa. These actions must "…aim at eradicating poverty, and tackle the *direct* and ***underlying***[9] causes of environmental degradation' (my emphasis). UNEP also indicates that one of the key issues is that the immense value of environmental assets is 'particularly ill-understood'. Only relatively recently has some consideration been given to the significant relationship between biophysical life-support systems, livelihoods, survival ability and resilience of the poorest and most marginalized communities in southern Africa. In a southern African context, halting of environmental degradation is intimately linked to a reduction in vulnerability. Fakir (2002) notes that environment/ poverty linkages can only be understood in terms of risk and vulnerability that poor people face when trying to secure sustainable livelihoods. Some of the processes needed to reduce this vulnerability and risk, are *social and educational*[10] in nature, and include: improving coping capabilities, increasing participation of civil society, promoting partnerships and collaboration and enhancing individual and institutional capacity for change (UNEP, 2002:5).

In an urban development context, many of the urban environmental problems in southern Africa can be attributed to weak local government capacity, limited capital investment for infrastructure improvements and weak monitoring of compliance to various regulations. This not only leads to impoverishment, but also squalid conditions for habitation (Fakir,

[9] In this paper I **double emphasise** the need to critically consider the **underlying causes** of environmental degradation, risk and vulnerabity. If this is not done, we may well waste much time bolstering processes that contribute to the very problems we are trying to respond to.

[10] These social and educational strategies need to be combined with other processes, such as policy development, infrastructure provision, good governance, compliance, adequate financial resources etc.

2002). These are also threats to the future, particularly since there is increasing rural-urban migration taking place.

Poverty

Southern Africa, together with the African continent as a whole, holds a marginal economic position in the global context, and the SADC meeting of the Integrated Committee of Ministers (July 2003) recommends that to accelerate economic growth:

SADC Member States individually should intensify their efforts to implement comprehensive economic and social reforms within the NEPAD development framework pursuing poverty reduction oriented policies, addressing good governance issues (political and corporate), infrastructure and production capacity constraints (SADC, 2003a: 3).

The reduction in poverty achieved so far through poverty reduction strategies is not 'in pace' with the minimum needs as reflected in the Millennium Development Goals (aimed at, for example, halving the number of people who live on less than $1 per day by 2015[11]). "The regional growth rate of 3.2%, achieved in 2002, is far from the target growth rate of 7% required to halve poverty by the year 2015" (SADC, 2003a:3). The SADC Integrated Committee of Ministers (SADC, 2003a) note that the Millennium Development Goals will not be achieved in most SADC countries "... unless resource *and capacity constraints* are addressed urgently" (pg. 3, my emphasis, see discussion on capacity building and education in NEPAD below).

Poverty in the SADC region is aggravated by cycles of drought and floods, insecurity and conflicts and by diseases such as the HIV/AIDS pandemic, malaria and other communicable diseases. SADC continues to be the region in the world most affected by

[11] There is much controversy about this 'measure' of defining **poverty** which originates from World Bank thinking and a particular (limited) view of economics. IFAD (2002:19) for example indicates that "poor people often define poverty in terms of insecurity rather than low income". May (2000:5) describes poverty as being "characterised by the inability of individuals, households or entire communities to command sufficient resources to satisfy a socially acceptable minimum standard of living ... Poverty was seen to include ... alienation from the community ... food insecurity ... crowded homes ... fragmentation of the family, etc". Terreblanche (2002) comments on the nature of 'modern poverty' when he notes that: "In the pre-colonial period, the living standards of the Khoisan and the different African tribes had been meager in modern terms, but they could not be described as poor. The social and economic lives of the indigenous population were organized on a communal basis and, although famine occurred from time to time, people did not experience the multiple deprivation and the humiliation associated with poverty in the modern world" (pg. 412). The Nobel Prize-winning economist Amartya Sen notes that "poverty must be seen as the deprivation of basic capabilities rather than merely lowness of incomes" (Development as Freedom, 1999, cited in Bissio, 2002:78). By such measure, if the people of a country are healthier, better educated, and have access to public services without discrimination, that country is making progress in reducing poverty (Bissio, 2002:78). Sachs (2002) notes that poverty derives from a deficit of power rather than money.

HIV/AIDS. In 2001 half of the SADC members states were estimated to have 20% of their population living with HIV/AIDS, of which 4% of these countries had ranges above 30%. In 2002 cycles, of drought and floods generated an acute humanitarian crisis in the region, affecting over 15.2 million people, mainly in Angola, Lesotho, Malawi, Mozambique, Swaziland, Zambia, and Zimbabwe. Insecurity and conflict in some sub-regions in SADC continued to adversely affect millions of SADC citizens (SADC 2003b).

Food security is a key issue for southern Africa. The level of food insecurity in SADC is high and rising. According to the SADC Regional Indicative Strategic Development Plan (RISDP). "between 1990-92 and 1997-99 FAO estimates the number of undernourished people in the region to have increased from 52.7 million to 77.2 million or from 42% to 51% of the *entire population*". (SADC 2003b:117, my emphasis).

By March 2003, 15.2 million people required food aid amounting to about 2 million tonnes. A large proportion of the food aid received was in the form of genetically modified food aid, which has led to the need for SADC to develop policy guidelines on the movement and management of genetically modified food aid, and biosafety protocols[12]. The number of vulnerable people needing food assistance was estimated to rise from 2.0 million in June 2003 to 7.0 million by January/February 2004 (the time of writing this paper), of which 5.4 million are in Zimbabwe (SADC, 2003b:41). Key challenges to regional food security include "low and unsustainable agriculture production" (SADC, 2003b:40). The high incidence of HIV/AIDS is a critical factor which compounds food insecurity, and all aspects of food security are adversely affected where the prevalence of HIV/AIDS is high.

The structural adjustment programmes implemented by the World Bank and the IMF also exacerbate poverty and environmental degradation. Panayotou and Hupe (1996) indicate that the links between structural adjustment requirements and the environment are not immediately obvious but complex, multifaceted and generally indirect. There is, however, a substantial body of literature that "… recounts disastrous environmental side effects of structural adjustment programmes, including deforestation, increased pollution and general overexploitation of the non-renewable and renewable resources in response to export biases and changes in the political economy" (Panayotou & Hupe, 1996:63). They go on to list major concerns raised at the International NGO Forum on World Bank and IMF Lending. These concerns include a) marginalisation of the poor, forcing them to exploit marginal ecosystems for their survival, b) increased rate of exploitation with the mobilization of raw materials and agricultural produce for export and c) reduction in public expenditure on conservation initiatives and environmental legislation enforcement, and

[12] The level of ambivalence associated with this issue is detected in a review two documents produced by SADC in July 2003. Both address issues of food security. One document notes the need for biosafety polity, and the other promotes biotechnology (and by implication GMO food production).

education and health. Sachs (1999, citing Kessler & Van Dorp) notes that, "in this connection a number of studies have concluded that the negative environmental effects of structural adjustment programmes far outweigh the positive benefits". The debt status of southern African countries, and neoliberal structural adjustment policies enforced by the World Bank and the IMF are crippling African economies and Africa's ability to enable meaningful renewal. Environmental issues in southern Africa are therefore closely intertwined with the dominant global political economy (see part 2 of this paper). Susan George, an associate director of the Transnational Institute, points out that structural adjustment programmes "have caused untold human suffering and widespread environmental destruction while simultaneously emptying debtor countries of their resources; rendering them each year less able to service their debts, let alone invest in economic, environmental and human recovery" (in Rahema, 1997:210). Debtor countries (including most southern African countries) were 61% more in debt in 1990 than they were in 1982![13]

The SADC Regional Integrated Strategic Development Plan (SADC, RISDP, 2003b) notes that "the level of human development improved in some SADC members states between the middle and late 1990's". Despite this, a widespread decline in life expectancy at birth, decreases in real per capita incomes and a decline in levels of human development, often due to reduced school enrolments (an outflow of structural adjustment) has occurred in the majority of member states over the same period. "The region is haunted by relatively high levels of income poverty, high and in some cases rising levels of HIV/AIDS infection rates, rising levels of illiteracy in some countries, and shortages of critical human skills in key areas, among other challenges" (SADC, 2003b:ix).

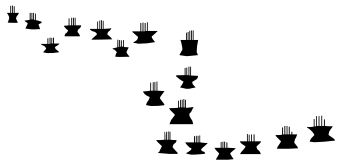
Environmental education processes in a context like this are intimately intertwined with issues of development, survival, livelihoods, improved quality of education and improved quality of life, and more sustainable living practices. It is perhaps for this reason that environmental educators in southern Africa have long been concerned with environmental education processes that are *processes of social change*.

Futures research questions

- In what way, can and should this 'futures research' be positioned to respond to these and other related 'threats to the future' in southern Africa?
- In what way can and should this 'futures research' be positioned to respond to poverty (and related issues of risk and vulnerability) in southern Africa?

[13] This paragraph was adapted from a MSc coursework assignment prepared by Mike Ward (SADC Regional Environmental Education Programme).

Part 2:



Political economy, environment and poverty

Responding to environment and development issues: Global Summits

- ***Towards Agenda 21: A Programme for Action for Sustainable Development***

The first UN Conference on the human environment was held in Stockholm, Sweden in June 1972. This conference focused on the close link between 'humans' and 'environment'. This conference recognized 'man's' [sic] responsibility to protect and improve the environment for present and future generations. Twenty years later, the Rio Earth Summit (UNCED) was held to once again deliberate the relationship between humans and the environment. This 'Earth Summit' elaborated on the relationship between environment and development, and a global plan of action for sustainable development was developed in '*Agenda 21: Programme for Action for Sustainable Development*' (see UNCED, 2002). This document highlighted the important relationship between environment and development, and established the notion of sustainable development on the global agenda. Agenda 21 also emphasized issues such as poverty alleviation, participation in sustainable development and the rights and knowledge of women and indigenous peoples in achieving sustainable development. Agenda 21 also emphasized the precautionary principle, the internalization of environmental costs (polluter pays principle), environmental legislation and standards and education, training and public awareness (in Chapter 36).

To ensure effective follow up of the conference agreements, a high level 'Commission on Sustainable Development' (CSD) was formed to report on progress towards sustainable development to the UN General Assembly. Other institutions such as the United Nations Environment Programme (UNEP) were formed to play a role in policy guidance and co-ordination in the field of environment.

▸ *Major achievements since Rio '92*

Since Rio (1992-2002), major achievements have been reached which include:

- Nearly all countries have established within their jurisdiction government agencies that are responsible and in charge of the environment and its various aspects. Through this, environmental considerations are becoming important factors in national development efforts;
- Numerous institutions and organizations have been created to deal with environment and development issues by major groups such as women, business and industry, indigenous communities, local authorities, scientific communities and non-governmental organizations (amongst others). These organizations function at local, national, regional and global levels.
- Major international organizations are actively involved in promoting sustainable development issues. For example, various international and regional conventions have been agreed that have positively affected the reversal of environmental degradation and have contributed to the process of sustainable development;
- Science and technology have contributed significantly to human understanding and knowledge of the environment, and to improve the process of sustainable development;
- In quantitative terms, the rate of population growth has been slowed down, mortality rates have been reduced, health has been improved, education has been more widely spread across the society, and the role of women has been strengthened in most parts of the world. It should be noted however, that these positive traits are less evident in southern Africa than in other parts of the world. (Salim, 2002:14)

Since Rio, numerous international conferences have been held on issues of fresh water, responsible fisheries in the marine ecosystem, protection of the marine environment from land based activities, pollution prevention, desertification, climate change, coastal management, sustainable energy, biodiversity loss, international environmental governance, forestry and other environmental issues and risks. These meetings have been held across the world in Europe, Africa, West Asia, Latin America, the Caribbean, Asia and the Pacific etc (Salim, 2002). Numerous international assessments have been made to 'measure progress' and to establish the 'State of the Environment'[14]. These assessments are being replicated at national and local levels (evidenced by a plethora of 'State of the Environment' reports at national level in southern Africa and elsewhere). Increasingly there is a realization that generating environmental information is 'not enough' and wide ranging calls for 'public awareness', 'communication', 'education' and 'social marketing' are

[14] See for example Lester Brown's State of the World Reports; WWF's Living Planet Reports; CSD State of Environment Reports and UNEP's Global Environmental Outlook Reports.

made. These calls have coincided with an international defining of environmental education / ESD as an educational response to the environmental crisis (see part 3 of this paper). Chapter 36 of Agenda 21, for example, emphasises the need for wide scale environmental education programmes in diverse settings and the need to re-orient all education and training towards sustainable development, while many international conventions and national policies include and emphasise education and capacity building. This foregrounding of the role of education in responding to environment and development issues can be described as an achievement of the post-Rio deliberations.

▸ *Reflections on the achievements since Rio'92: 'Gaps' in implementing Agenda 21*

In reflecting broadly on the achievements since Rio'92, Salim (2002:16) notes that:

> ... there are serious shortcomings in the way development has taken place in the 20th century. Economic development has taken place, but numerous countries, in particular the least developed countries [incorporating many southern African countries] have been bypassed and marginalized because of globalisation. Trade has increased, but it has focused mainly on developed economies, and again bypassed many developing countries. Technology transfer has taken place, but is very limited to the developing economies, thereby increasing the digital divide. And financial resources [mainly ODA] have been seriously lacking. The European Union has barely reached 0.33% [of the agreed 0,7%] of GDP, the United States has provided 0.12% [of the agreed 0,7%] of GDP. Only Belgium-Netherland-Luxemborg and the Scandinavian countries are well above the 0.7% of GDP in their official development assistance contribution. But more seriously, development has followed only the economic track and has left behind social and environmental instability, resulting in rising poverty, inequality in income and development and natural disasters through rising flood levels affected by sea rise due to global warming. Development as implemented in the 20th century was not sustainable.

Of concern to this futures research, is the 'downward trend' in ODA commitments to Agenda 21[15]. As Sachs (1992) notes, the UNCED secretariat (in 1992) estimated that US$ 6 000 billion would be required each year between 1993 and 2000 to implement the Agenda 21 in the low income countries, of which US$ 125 billion was to come from ODA. Towards this goal, the rich countries went as far as to reaffirm their commitment to reach the target of providing 0,7% of their GNP as ODA (mainly the Scandinavian countries). But promises have faded, in reality ODA flows have fallen from US$69 billion in 1992 to less than US$53 in 2000. Moreover, the pledged additional investments did not

[15] The WSSD has recently re-affirmed the need for rich countries to allocate 0.7% of their GNP for ODA and Agenda 21, but it remains to be seen how this commitment will be realized.

materialize. The only tangible financial outcome of Rio is about US$5 billion worth of commitments, mostly for the Global Environmental Facility, which has only been partially spent. In addition, the much talked about 'transfer of technology' has been a non-starter (Sachs, 2002:12).

Thus, despite domestic and international action, the world (and southern Africa in particular, as shown above) is still confronted with increasingly serious challenges of endemic poverty and environmental degradation. Unsustainable lifestyles characterize the 'consumer classes' who are visible in all societies (South Africa and Swaziland together with Brazil 'boast' the highest differentials between rich and poor in the world!). Sachs (2002:20) notes that "... in all countries, an invisible border separates the fast from the slow, the connected from the unconnected, the rich from the poor". There appears to be a 'great gap' in the implementation of Agenda 21. Of significance to this futures research is the nature of this 'great gap', particularly since its effects appear to have led to increased levels of poverty in southern Africa.

In the UN Secretary General's assessment report, tabled at the World Summit on Sustainable Development, titled *Implementing Sustainable Development*, he noted that there have been serious gaps in implementing Agenda 21 (Rio's agenda for sustainable development). These gaps are:

- a fragmented approach towards sustainable development;
- no major changes in unsustainable patterns of consumption and production
- a lack of mutually coherent policies in finance, trade, investment, technology and sustainable development;
- insufficient financial resources; and
- no substantial mechanisms for the transfer of technology.

I would argue, however, that there are more fundamental 'gaps' which were not articulated in the institutional positions of the UN and other state organs at the WSSD. These include:

- the impacts of economic globalisation (market liberalization) on trade, culture, social life and the natural resource-base;
- the increased dominance of neo-liberal orthodoxy and the rapid spread of global capitalism (which leads to increased gaps between the rich and poor, increased inequality, and thus advances in poverty);
- mis-representation, mis-interpretation and unwarranted faith in the 'trickle down effect' in the context of global capitalism and economic development;
- narrow, poor and uncritical articulations of 'sustainable development';

- a lack of political and social will to close the inequality gaps (this is evidenced by the poor implementation of the ODA clause in Agenda 21, and by increased consumption and production patterns, particularly amongst more powerful consumer classes around the globe);
- a general lack of political, social and economic will to reverse current patterns of over-consumption and production (amongst the consumer classes) and the 'alleviation' of the often obscene wealth of some countries, individuals and corporations[16].

▸ *UNCED and Education*

Chapter 36 of Agenda 21 was dedicated to 'Education, public awareness and training'. Key programme areas included 1) re-orientation of education towards sustainable development 2) increasing public awareness; and 3) promoting training. This included endorsing the recommendations of the World Conference on Education for All, *which included environmental literacy* (Jomtiem, 1990); ensuring environmental education and training in all sectors of society; increasing access to environmental education and training; and promoting environment and development concepts in all education programmes (There was thus a strong emphasis on environmental education and training). Governments were required to update or prepare strategies aimed at integrating environment and development as cross-cutting issues into education at all levels which involved a thorough review of curriculum. Governments were also advised to set up national environmental education coordinating bodies.

UNESCO was appointed as 'implementing agent' for Chapter 36 of Agenda 21. Environmental education, training and information in Agenda 21 was not only confined to Chapter 36, but permeated the thirty nine chapters of UNCED's programme for action, falling mainly under the notion of 'capacity building' but also under 'human resources development' and similar subsections. The emphasis on capacity building in Agenda 21 refers to both: *capacity of people* and *institutional capacity*. Agenda 21 also recognized that *people's participation and responsibility* are essential elements of environmental protection and sustainable development. Participation involves education, training and public awareness, indeed they are central to enabling participation. Education and training also have a central role in strengthening the role of women, youth, indigenous peoples, farmers, local officials, trade unions, business and industry and the scientific community (presenting a

[16] It still holds true that about 20% of the world population consume 70-80% of the world's resources. It is those 20% who eat 45% of all the meat and fish, consume 68% of all electricity, 84% of all paper, and own 87% of all the automobiles (UNDP, 1998:2). The wealthy 25% of humanity occupy a footprint as large as the entire biologically productive surface area of the Earth (Sachs, 2003:19). Reduction of the footprint of the consumer classes around the world is not just a matter of ecology, but also equity *(ibid).*

broader view of 'education for all'). Agenda 21 also emphasised the scope of environmental education and training activities including: public and consumer education; environmental education and training in business and industry and in journalism; environmental health education; environmental education and training at local government level, sustainable agriculture extension work as a process of education and rural development, and education and training in the forestry, water and other environmental management sectors such as the waste management sector.

Of significance to this futures research is the strong emphasis on *environmental* education, as well as a need to re-orient *all education* towards *sustainability*. Agenda 21 does not conflate these two purposes into an all-embracing 'Education for Sustainable Development' (hereafter referred to as ESD) (see part 3 of this paper).

▸ *The World Summit on Sustainable Development, Johannesburg, 2002*

In an attempt to provide a ten year review of developments since Rio, the UN General Assembly convened a World Summit on Sustainable Development in Johannesburg, South Africa from August 26 - September 4, 2002. The Summit in Johannesburg took place in a context where there was an increased realization that no country is an island (following the terrorist attacks of 11 September 2001 in the USA), and that all countries, regardless of their differences in income levels are interdependent. Global inter-dependence is also a key characteristic of **globalisation.** Since UNCED (Rio) rapid globalisation and rapid development of information and communication technologies have occurred. Globalisation has, however, benefited mostly the economically stronger countries (and the global 'elites' / consumer classes) and most developing countries, especially the least developed countries, have increasingly become marginalized in the contemporary global political economy. In many of these developing countries some elites have benefited from the spread of a 'consumer class', but the poorer majority have become more marginalized.

The World Summit on Sustainable Development took place in a context characterised by:

- Globalisation;
- Awareness of some of the shortcomings associated with the implementation of Agenda 21;
- Increased commitment to sustainable development and poverty alleviation (as articulated in the Millennium Development Goals' of 2000); and
- Increased attention to the need to alleviate poverty (with less attention being paid to the underlying causes of poverty)[17].

[17] Only the most critical voices at the WSSD were outspoken about the need for 'wealth alleviation' (increased global equity) as a means of achieving poverty alleviation (see for example, Sachs, 2002; Bond & Guliwe, 2003; Fisher & Ponniah, 2003).

Major deliberations took place prior to the WSSD at a series of UN Preparatory Committee meetings (PrepComs), held over a period of twelve months. There were major contestations arising in these deliberations with fears being expressed that if the commitment to common but differentiated responsibilities (Principle 7 of Rio) and the precautionary principle (Principle 15 of Rio) did not get reaffirmed at the WSSD, the Summit would constitute a serious step backwards from Rio. Fears were also expressed that the WSSD would make sustainable development subservient to the World Trade Organisations (WTO) trade agenda, and thus rob sustainable development of any meaning (Friends of the Earth, 2002). Major deliberations during the summit centred on setting targets for sanitation, energy, trade, human rights, biodiversity loss and climate change. Education was not foregrounded in this phase of the deliberations, and it was only through the lobbying actions of key ESD groups that education was later integrated into the WSSD Implementation plan.

▸ *Achievements of the WSSD*

The WSSD saw the largest ever gathering of world leaders, and over 21 000 participants from 191 government, intergovernmental and non-governmental organizations, the private sectors and the scientific community (IISD, 2002). The scope, size and nature of this gathering indicate that sustainable development is of key concern to the world at the start of the 21st century. According to Tilbury (2003) many significant, but unsung commitments were made. She notes that:

> Through signing the 54 page Summit Implementation Plan, those present committed to using and producing chemicals in ways that do not harm, reducing biodiversity loss by 2010; restoring fisheries to their maximum sustainable yields by 2015, establishing a representative network of marine protected areas by 2012, and implementing a Global Programme for the protection of the Marine Environment … the most important outcomes were commitments made to half the proportion of people without access to sanitation and safe drinking water by 2015. The US, EU and others committed over a billion dollars to bring this about. Similar financial commitments and type II partnerships were made to improve access to energy. The shifting of commitments towards socio-development issues such as poverty, health and sanitation was seen by delegates as the key successes of this Summit (pg 110).

Other achievements include the restatement of the UN Millennium Declaration poverty-related goals. There is also merit in the call for a World Solidarity fund for Poverty Eradication and the Promotion of Human Development in the poorest regions of the world. Bond *et al.* (2002) note, however, that "… traditional problems of tied-aid,

neoliberal conditionality and corruption have to be tackled effectively for this to convince aid-skeptics". The emphasis on gender equity and education are also two key achievements (although as we will see below, this emphasis is somewhat fragmented).

Key changes in discourse from the Rio Earth Summit to the WSSD include a foregrounding of poverty alleviation, and a recognition that the environment cannot be protected at the expense of those living in poverty. Similarly, it is impossible to sustain long term development in an environment that is depleted and unhealthy. Poverty was re-interpreted as not only being linked to income, but also to access to energy, water, sanitation and health, and thus to sustainable livelihoods (Tilbury, 2003:111).

A further change in discourse from the Rio Earth Summit to the WSSD was a 'maturing' of the notion of sustainable development (Tilbury, 2003:111), which now emphasises and integrates the 'three pillars' of sustainable development: environment, economic and social. Two major documents were produced at the WSSD, which have implications for this futures research: The Johannesburg Political Declaration (UN 2002b), which emphasizes the need for implementation, and re-affirms a commitment to sustainable development and building a humane, equitable and caring global society; and the WSSD Plan of Implementation (often called the Johannesburg Implementation Plan) (UN 2002a). The 'Plan of Implementation' is designed as a framework for action to implement the commitments agreed at Rio. It includes chapters on poverty eradication; consumption and production; the natural resource base; health; means of implementation; and institutional frameworks.

▸ *The WSSD Implementation Plan and Education*

Recognition of education: The WSSD Implementation Plan (UN 2002a) recognized that education is critical for promoting sustainable development. The document calls on governments to:

- Integrate sustainable development into education systems at all levels to promote education as a key agent of change;
- Incorporate ESD into global plans for providing 'Education for All' (as outlined in the Dakar Framework for Action) and the Millennium Development Goals; and
- Provide all members of society with a wide range of lifelong learning opportunities in ESD (Tilbury, 2003:111).

Other educational recommendations, embedded across the document, include:

- Promote equal access to education, economic opportunity, health services and land;
- Promote education and outreach focused on children, as agents of behavioural change;
- Promote training, education and skills enhancement in the agro-industry as provider of livelihoods for rural communities;
- Develop awareness raising programmes on the importance of sustainable production and consumption patterns (amongst the youth and general public);
- Provide training and build capacity for cleaner production in public and private institutions;
- Develop workplace-based partnerships and programmes, including education and training programmes (in industry); and
- Address the impact of HIV/AIDS on educational systems in those countries seriously affected by the pandemic (amongst others).

Diverse ways of representing education: Of interest is the diversity of ways in which educational processes are represented in the WSSD Implementation Plan. 'Capacity building', 'training', 'empowerment', 'awareness raising', 'knowledge transfer', 'extension services', 'information sharing', 'participation' and 'education' (often used in relation to public schooling) are all terms used throughout the WSSD Implementation Plan to describe what are essentially or partly educational acts / processes. The use of wide-ranging terminology across the document gives an indication that the role of education in supporting sustainable living / sustainable development in all walks of life, has not been clearly conceptualized at a global policy level. While much is made of the notion of 'Education for Sustainable Development' at an international level, it seems that very little clarity of meaning associated with this notion has 'settled' amongst policy makers. One of the challenges of this futures research would seem to be to consider the breadth and diversity of reference to these educational processes – all aimed at enabling sustainable development – in order to get a full sense of the scope of environmental education processes in the context of sustainable development in southern Africa.

The virtual disappearance of 'environmental education': Of further interest is the 'virtual disappearance' of environmental education in the WSSD Implementation Plan discourse. At the UNESCO Seminar on 'Educating for a Sustainable Future', there was only one presentation on environmental education (from southern Africa), and there is only one specific statement about environmental education in the WSSD Implementation Plan (note the difference to Agenda 21). However, if one probes the 'embedded discourse' in the WSSD Implementation Plan there is a clearly a strong need for environmental

education processes in for example: education on cleaner production; education for sustainable agricultural and fisheries practices; environmental health education; and environmental management education. The 'environmental focus' in sustainable development would still seem to be 'alive and well', if hidden in new discourse.

ESD *without environmental education:* It would be difficult to imagine 'ESD' without sound environmental education processes. If the environmental focus disappears from 'sustainable development', one may be left with for example, economic Education for Sustainable Development (as evidenced in recent conceptions of sustainable development by the Coega Development Corporation in South Africa). Recent research by Fabricius (2004) shows that when companies start to report according to sustainability frameworks (as outlined in the King 2 Report on Corporate Governance, and in WSSD discourse of the triple bottom line), then environmental reporting begins to decline, and it 'fuzzes' into a 'balancing act' of economics, social and environmental priorities. The danger seems to be that the 'environmental' focus is easiest to 'leave out' or reduce as the balancing act of social-economic-environment steps into play.

Sustainable development is also often superficially interpreted, and can be 'biased' towards the interest of the dominant group as shown in this extract from an Eskom advert for 'Sustainability Week':

Think three times before you act

Social – Economic – Environmental

Sustainable Development means always thinking of three things – social, economic and environmental impacts and issues. Think of an electrification project:

- **Environmental impact**: The reduction of coal fires and smoke in the air
- **Economic impact**: Kick starts the local economy and provides jobs
- **Social impact**: Reduces the time spent collecting alternative fuels and improves education and health when schools and clinics are electrified

Electrification is therefore a good example of a sustainable project as all three aspects are addressed!

(Fabricius, 2004: 56)

In this case, if environmental education processes were brought into focus, employees at Eskom would have been encouraged to consider the environmental impacts associated with the production of electricity (from coal) and what the different environmental impacts of different kinds of energy production processes may be, and they would have been asked to critically consider the viability of renewable energy production strategies.

Of significance to this futures research is the very real danger that the 'critical edge' of environmental education processes may disappear within the broadening framework and 'balancing act' of sustainable development.

Financial support and strengthening of southern African institutions and programmes: Of significance to this futures research and the SADC Regional Environmental Education Programme more broadly is the recommendation in the WSSD Implementation Plan that financial assistance and support should be provided to education, research, public awareness programmes and developmental institutions in developing countries to "... sustain their educational infrastructures and programmes, **including those related to environment and health education**" (UN 2002a, clause 110, my emphasis). Of further significance to this futures research is the recommendation to "Support the development of national programmes and strategies [in Africa] to promote education within the context of nationally owned and led strategies for poverty reduction, and **strengthen research institutions in education** [in Africa] in order to increase the capacity to fully support the achievement of the Millennium Development Goals" (UN 2002a, clause 56e, my reference). It also recommends that there is a need to increase investment in **extension services** in the agricultural, fisheries, forestry and other natural resource management sectors to ensure greater public participation in the management and sustainable use of these resources (UN 2002a, clause 61).

The scope of environmental education processes: The WSSD Implementation Plan reveals the scope of environmental education processes / Education for Sustainable Development to include: community education and participation; consumer education; public awareness activities; industry environmental education and training; provision of basic education (with an emphasis on sustainability issues); extension services; environmental health education; research; teacher education; education and training in local government contexts (focusing on issues such as water, sanitation, energy etc); and conservation (amongst others). As Goldstein (2002, cited in Tilbury, 2003:111) notes "without education the Plan cannot be implemented". Tilbury notes that despite the incorporation and reference to these and other educational processes throughout the document, "many are disappointed by limitations of the language and scope associated with ESD and see that there is still a long way to go to increase understanding about the strategic role that education can play in delivering commitments signed at Rio and Johannesburg" (pg. 111). A further limitation (in my view) of ESD is the broad-ranging 'diffusion confusion' that arises when too many issues / foci are gathered into one conceptual space (for example, ESD deals with literacy, education for all, peace education, global education and other 'forms' of education), as was shown at the UNESCO 'Educating for a Sustainable Futures' seminar at the WSSD.

Tangible outcomes of educational deliberations at the WSSD: Some of the more positive educational outcomes of the WSSD included: A declaration from professional environmental education associations from around the world (including EEASA); the announcement of Type II partnerships (although some of these were 'social marketing' partnerships); and the Summit's official recommendation to the UN General Assembly to adopt the proposal for a UN Decade of Education for Sustainable Development starting in 2005 (This Decade holds some significance for this futures research – see part 3 of this paper).

While education was fore grounded at the WSSD, education deliberations emerging from the WSSD do not seem to be requiring educators to 'challenge' or critically review perspectives on 'sustainable development' (see part 3 of the paper). Given that the WSSD deliberations were dominated by neoliberal orthodoxy[18], it would seem important to consider perspectives on sustainable development (as put forward at this summit) critically.

▸ *Interpreting 'Sustainable development' as orienting framework for action*

In assessing the way in which sustainability was introduced in the *Learning for Sustainability* pilot project, Janse van Rensburg and Du Toit (2000) noted that sustainability was an 'ambiguous steering idea'; not easy to define, even within a particular context. Sustainability issues are inextricably linked to broader contexts, including historical and global ones. Janse van Rensburg and Du Toit (2000) note further that sustainability discourse is open to many different interpretations; and that it is difficult to engage these interpretations critically.

The ambiguous nature of sustainability extends to its application as goal for education, which may also prove to narrow learning opportunities (as identified by Jickling, 1999); particularly when sustainability as goal for education may be subject to limitations inherent in dominant discourses of sustainable development, which favour a predominantly Western / globalising ideology of progress and development. This gains significance in a southern African context when these models of development are, in fact, leading to increased levels of poverty, rather than the alleviation of poverty (Sachs, 2002).

Foster (2001:154) draws attention to the trend in which sustainability is becoming an 'ever more powerful cultural formation'; with its own 'modernistic-scientistic history and cast of

[18] Neoliberal orthodoxy appears to be directly related to increased poverty. Beck (2000:153) notes that "...in the last two decades, world output has risen by 4,000 billion dollars to reach a total of 23,000 billion dollars – yet over the same period the numbers of the poor have risen by more than 20%. The share of the poorest fifth of humanity in world income fell from 4% to 1% between 1960 and 1990 (the pattern has not changed since). By contrast, 358 dollar billionaires possess more than half of what humanity put together currently earns".

expression'. Hattingh (2002:5), interrogating sustainable development discourse in a southern African context, notes further that sustainable development has become strongly associated with a ***modernist moral imperative*** that has little 'global consensus' with regards to content, interpretation and implementation. He articulates four different ways in which 'sustainable development' may be interpreted namely:

- Sustainable development as a green agenda of nature conservation (characteristic of the Club of Rome's document 'Limits to Growth', 1972; but is also recently reflected in discourse arguing for sustainable use of natural resources (albeit in a different form);
- Sustainable development as a social and economic agenda of needs satisfaction (characteristic of most UN Conferences on Environment and Development: Stockholm, Rio & WSSD and the Bruntland report);
- Sustainable development as an integrated agenda for caring for the community of life on earth (characteristic of WWF / IUCN *World Conservation Strategy* and *Caring for the Earth*);
- Sustainable development as a radical political and ethical agenda of transformation (characteristic of eco-justice civil society movements e.g. World Social Forum; Environmental Justice Networking Forum) (pg. 6-14)

Hattingh (2002) describes sustainable development as having a 'highly contested' character, which can be ascribed to its ***ambivalent ideological dimensions*** (it can either function as an ideology; or as a critique of an ideology).

Bond and Guliwe (2003) describe the WSSD as 'one of the world's momentous events linking globalisation and governance', and they note that the WSSD was dominated by 'excessive neo-liberal policies, based on the market', and that this has become the major 'driver' of and for sustainable development. They argue that the main point behind the sustainable development thesis, as proposed and deliberated at the WSSD, is a technicist and reformist one, which proposes that "… environmental externalities should be brought into the marketplace" (pg. 314). They also note that the Bruntland definition of sustainable development (WCED, 1987) redefined the notion of sustainability in "…lowest common denominator intergenerational terms"[19].

Herman Daly (1996: 220, 9, 88-93), ecological economist, takes the notion of sustainability further, when he notes that: "We should strive for sufficient per capita wealth – efficiently maintained and allocated and equitably distributed – for the maximum number of people that can be sustained over time under these conditions". He offers a tougher definition of

[19] This is also the most widely used definition of sustainable development, defined as 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs' (WCED, 1987).

sustainable development than Bruntland, in order to highlight the difference between 'growth' and 'development' in a context where there do exist physical ecosystem limits – the earth's capacity to act as a 'sink' – to the absolute size of the global economy. Daly's definition of sustainable development is (and it would seem more appropriate in a southern African context): "development without growth beyond environmental carrying capacity, where development means qualitative improvement and growth means quantitative increase". He proposed at least four operative policy recommendations for both the World Bank and governments:

- stop counting natural capital as income;
- tax labour and income less, and tax resource throughput more;
- maximize the productivity of natural capital in the short run, and invest in increasing its supply in the long run; and
- move away from the ideology of global economic integration by free trade, free capital mobility, and export-led growth – and towards a more nationalist orientation that seeks to develop domestic production for local markets as the first option, having recourse to international trade only when clearly much more efficient.

Bond and Guliwe (2003) note that this difference of interpretation of sustainable development lies at the core of anti-globalisation and eco-justice movement actions (see also Fisher & Ponniah, 2003) and also characterized civil society deliberations at the WSSD. The last recommendation made by Daly is a radical break from the sustainability discourses of ecological modernization (which characterized state-bound and business deliberations at the WSSD), and would present the Southern African and African governments (under the framework of NEPAD and the RISDP) with the challenge of rethinking global economic integration. Daly's statements have, due to their radical nature, been rejected (by governments and the World Bank), and current political and economic will is centred on discourses of sustainable development that are based on market-related arguments such as eco-efficiency, natural capitalism and ecological modernization. These are reflected by business responses in southern Africa and elsewhere which include cleaner production, green products and environmental management systems (Bond & Guliwe, 2003). Significant to this futures research is the point that:

> As neo-liberal economic orthodoxy continues to prevail in so many areas of South[ern] African and international environment and development, and as sustainable development discourses, policies and legislation fall far short of resolving the growing crisis, it is to more radical confrontations with

powerful forces that South[ern] Africa's eco-social justice movements will inexorably be drawn (pg. 342)[20].

Vandana Shiva (2003) argues that the dominant political and economic order has a number of features that are new, which increase injustice and non-sustainability on scales and at rates that the earth and human community have not experienced.

These include:

- enclosing the remaining ecological commons – biodiversity, water and air, and the destruction of local economies on which peoples livelihoods and economic security depend;
- the commodification of water and biodiversity through new property rights built into trade agreements like the WTO, which are transforming people's resources into corporate monopolies, viz Trade-Related Intellectual Property Rights (TRIPs) and trade in 'environmental goods and services'; and
- the transformation of the commons into commodities, a process which is ensured through shifts in governance (Shiva, 2003:116).

Shiva argues that the increased 'commodification of nature' (ecological commons, water, natural resources) is leading to political bankruptcy and ***anti-democratic formations and constellations***. She describes this bankruptcy as the 'philosophical and ethical bankruptcy of globalisation', which is leading to the disintegration and breakdown of societies, ecosystems and economies.

▸ *The WSSD and the commodification of nature and life*

The theme of 'commodification of nature and life' has emerged as a major critique of the WSSD and its implementation plan (see Bond *et al.* 2002; Bond & Guliwe, 2003; Fisher & Ponniah, 2003 amongst others). The WSSD Implementation Plan has been critiqued by civil society movements (in southern Africa and elsewhere) as the "…global elite's last attempt – and failure – to address a world careening out of control" (Bond *et al.* 2002). Bond, Dorsey and Guliwe (writing from southern Africa) note that there were few genuine areas of consensus on substantive change at the WSSD (Bond *et al.* 2003).

[20] These deliberations are not isolated to South[ern] Africa. Recent deliberations at the World Social Forum, for example, explored a range of alternatives to globalisation, which include proposals for a re-invention of democracy; abolition of debt in order to free development; reforming international financial institutions; establishing a global development fund; ensuring rights to food sovereignty, resistance to the commodification and privatization of water; creating alternatives to corporate globalisation. These alternatives are all being deliberated under the notion that 'Another World is Possible!' (see Fisher & Ponniah, 2003), and all are directly related to environment / poverty links, risk and vulnerability in developing country contexts (such as southern Africa).

Through a careful analysis of the content (and the silences) of the WSSD Implementation Plan, they articulate the following 'gaps' in the WSSD plans and deliberations (many of which are significant in the current political economy of southern Africa today):

- The WSSD Implementation Plan relies heavily on Type II Public-Private Partnerships where Transnational Corporations (TNCs) operate outside of a regulatory environment[21].
- The Plan of Action lacks any statement or plan to address the profligate wealth that has been amassed in the hands of a limited number of individuals and private institutions over the past three decades[22].
- When calling for better access to essential services, the Plan of Action avoids the rights discourses preferred amongst eco-justice activists, leaving the underpinning discourse to be one of privatization of water, energy and other essential services.
- The Plan of Action does not address corporate accountability, and rather emphasizes voluntary codes of conduct, market incentives and global reporting initiatives, even though such corporate codes have had little success in the key sectors where sweatshops and environmentally destructive production occur.
- Key environmental management issues such as climate change, trends towards water privatization, loss of biodiversity and genetically modified organisms / biosafety are not adequately addressed.
- While the Implementation Plan recognizes that globalisation worsens income inequality, no actions are suggested to regulate capital, and there is too much emphasis on 'open' international trade, which is currently prohibiting protection for small country industries and socially essential state services.
- Thorny issues associated with Persistent Organic Pollutants (POPS) were deleted from the text prior to the WSSD.
- In the section on 'means of implementation' the Implementation Plan refuses to acknowledge the problem that ODA remains conditional upon neoliberal policy implementation. It also fails to advocate for the cancellation of Third World Debt, even HIPC country debt. Overemphasis is given to the Breton Woods Institutions and the WTO, to public-private partnerships and to multi-stakeholder processes and dialogues involving Transnational Corporations (TNCs). There is no mention

[21] The direct implication of this can be seen in two of the major education type-II partnerships established at the WSSD. Both were focused on 'social marketing' approaches to education and communication (one is funded by a TNC involved in advertising). The question that could be asked is, is this the most relevant educational initiative to flow out of the WSSD?

[22] As indicated earlier in this paper, this is incongruent with calls for poverty alleviation, given that the world's three richest men own more than the annual production of all the countries eligible for World Bank debt relief combined (many of which are in southern Africa).

of binding regulation of TNCs even though they have consistently demonstrated their propensity to environmental degradation and a lack of accountability to people, governments and the environment (Bond *et al.* 2002: 381-386).

Thus, it seems that there are numerous issues that are only partially dealt with, or wholly absent from the WSSD Implementation Plan: militarism; real policies to control wealth; biosafety; the ecological debt; comprehensive regulation of TNCs, and unsustainable subsidies (for example in the fields of energy production and resource utilization – i.e. forestry and mining). Of significance to this futures research are the insights provided by Bond, Dorsey and Guliwe (2002); and Fisher and Ponniah (2003)[23] which argue that *global elites are not doing enough* to solve environment and development problems, and that ***corporatism, privatization, commodification of nature and life and market led strategies are not adequate or effective***. The question that arises is "From this maelstrom of Washington-centred geopolitical power-relations, Northern corporate privilege and Southern leadership '*compradorism'*, can genuine sustainable development emerge?" (Bond *et al.* 2002). A second question, of relevance to this futures research is, what are the implications of these perspectives for environmental education processes in southern Africa?

Ulrich Beck (2000:154) in his treatise on globalisation, notes that globalisation creates new patterns of inclusion and exclusion. He notes that "No one has come up with an answer to the key question of the second modernity: *How is social justice possible in the global age?*"

Futures research questions

- Are the 'gaps' in achieving sustainable development, and the differences in interpretation significant to a positioning of environmental education, in a globalising context where education is being re-oriented towards 'Education for Sustainable Development?' What, in this context, are we re-orienting education towards?
- Is this futures research able to provide orientation to environmental education processes in a context where the underlying causes of increased poverty, environmental degradation and unsustainability are complex and difficult to address?
- How does the increased trend towards a commodification of nature and life influence environmental education processes and the way in which we engage with the notion of sustainable development in southern Africa?

[23] These volumes represent a wide range of authors from the developing world. There are numerous other voices in the developing world that are articulating the same point.

Responding to the plight of the poor: The Millennium Development Goals

At the UN-sponsored Millennium Summit in September 2000, 147 world leaders agreed to a global compact known as the Millennium Development Goals. The Millennium Development Goals are probably one of the most significant international inter-governmental initiatives established in recent years to respond to issues of poverty, environmental degradation and health. All 8 of these Millennium Development Goals (see below) have significance to this futures research project as all touch the lives of the majority of people and their livelihoods in southern Africa, and are therefore significant in environmental education processes of social change.

Millennium Development Goals:

1. **Eradicate extreme poverty and hunger:**
   - Reduce by half the proportion of people living on less than one dollar a day;
   - Reduce by half the proportion of people who suffer from hunger.

2. **Achieve universal primary education:**
   - Ensure that all boys and girls complete a full course of primary schooling.

3. **Promote gender equality and empower women: `**
   - Eliminate gender disparity in primary and secondary education preferably by 2005, and at all levels by 2015.

4. **Reduce child mortality:**
   - Reduce by two thirds the mortality rate among children under five.

5. **Improve maternal health:**
   - Reduce by three quarters the maternal mortality ratio.

6. **Combat HIV/AIDS, malaria and other diseases:**
   - Halt and begin to reverse the spread of HIV/AIDS;
   - Halt and begin to reverse the incidence of malaria and other major diseases.

7. **Ensure environmental sustainability:**
   - Integrate the principles of sustainable development into country policies and programmes; reverse loss of environmental resources;
   - Reduce by half the proportion of people without sustainable access to safe drinking water;
   - Achieve significant improvement in the lives of at least 100 million slum dwellers by 2020.

8. **Develop a global partnership for development:**
   - Develop further an open trading and financial system that is rule-based; predictable and non-discriminatory. Includes a commitment to good governance, development and poverty reduction – nationally and internationally;

- Address the least developed countries' special needs. This includes tariff- and quota-free access for their exports; enhanced debt relief for heavily indebted poor countries; cancellation of official bilateral debt; and more generous official development assistance for countries committed to poverty reduction;
- Address the special needs of landlocked and small island developing States;
- Deal comprehensively with developing countries' debt problems through national and international measures to make debt sustainable in the long term;
- In cooperation with the developing countries, develop decent and productive work for youth;
- In cooperation with pharmaceutical companies provide access to affordable essential drugs in developing countries;
- In cooperation with the private sector, make available the benefits of new technologies – especially information and communication technologies.

www.un.org/milleniumgoals/ (1/2/2004)

In particular, the Millennium Development Goals include a commitment to protect the environment (goal no. 7 above), and Heads of State have committed themselves to:

- ratify the Kyoto Protocol[24] and to embark on the required reduction in emission of greenhouse gases;
- intensify collective efforts for the management and conservation and sustainable development of all types of forests;
- press for the full implementation of the Convention on Biological Diversity and the Convention to Combat Desertification;
- stop the unsustainable exploitation of water resources by developing water management strategies;
- increase co-operation to reduce the number and effects of natural and man-made disasters; and
- ensure free access to information on the human genome sequence.

In June 2003, at the G8 meeting in France, the world's wealthiest nations reiterated their support for the Millennium Development Goals. Each of the 8 goals makes a contribution to reverse the spread of poverty and disease by 2015, and these are backed by an action plan with quantifiable targets combating poverty, hunger, disease, illiteracy, environmental degradation and discrimination against women. The goals also assign clear responsibilities to rich countries to provide more aid, fairer terms of trade, and meaningful debt relief to developing countries. The challenges are great, and many are relevant in the southern African context.

[24] It is perhaps telling (of the power of global corporatism) to note that the USA government has since refused to sign the Kyoto Protocol.

For example:

- More than 315 million people in Sub-Saharan Africa still struggle to survive on less than a dollar a day. According to the Human Development Report 2003, most of them also lack access to basic health services and safe drinking water (UNDP, 2003).
- The HIV/AIDS pandemic continues to spread unchecked: More than 14 million children lost one or both parents to the disease in 2001, most of these being in sub-Saharan Africa, and the number of AIDS orphans is expected to double by 2010.
- More than 15% of the world's population (or 800 million people) suffer from chronic hunger. The world community is striving to halve that percentage by 2015, but if current trends continue, South Asia and sub-Saharan Africa will not meet that target (UNDP, 2003).
- In sub-Saharan Africa, a child has only one-in-three chance of completing primary school. Enrollments are currently very low (59%).
- A woman in sub-Saharan Africa is 100 times more likely to die in pregnancy or childbirth than is a woman in Western Europe.

In reporting on progress made with regards to the Millennium Development Goals, the 2003 Human Development Report (UNDP, 2003) notes that:

> … If global progress continues at the same pace as in the 1990's, only the Millennium Development Goals of halving income poverty and halving the proportion of people without access to safe water stand a realistic chance of being met, thanks mainly to China and India. Regionally, at the current pace Sub-Saharan Africa would not reach the Goals for poverty until 2147 and for child mortality until 2165. And for HIV/AIDS and hunger, trends in the region are heading up – not down … Of the 54 countries with declining incomes, 20 are from Sub-Saharan Africa … the Education goal is central to meeting the other goals … compounding the problem is the decline in donor support for education. In the 1990's such support fell 30% in real terms (pg 3-10)

The solution to these problems requires political, social and economic will, and new financial commitments and trade policies in the wealthiest nations, as well as broader participation in poorer nations. The UNDP reports that "In the leadership ranks of the developing world, there is a growing consensus that the Millennium Development Goals represent the best chance yet to lift hundreds of millions out of poverty, illiteracy and sickness". On a more critical note Bissio (2002:77, 78), in commenting on the Millennium Development Goals, notes that "No other cause or campaign has ever enjoyed such strong moral support … and so few actual results". He notes that more than half of humanity lives in poverty, and that "To adequately feed every boy and girl and to provide health services to

every mother would require only a minor percentage of the personal fortunes of a handful of the richest men (there are few women on this list) on this planet". He also points to the inadequacy of the 'benchmarks' (particularly the $1 dollar per day as measure for poverty – see footnote 9) used in the Millennium Development Goals when he notes that "with less than the local equivalent of $1 dollar per day, people are not supposed to be able to satisfy their minimum food requirements, whereas there appears to be an assumption that $2 dollars a day should suffice to meet these and other essential needs" *(ibid)*.

The Millennium Development Goals and Education

For this discussion, I will focus on some of the Millennium Development Goals which appear to have most significance to a futures perspective in/for environmental education in southern Africa. These are:

- Eradicate extreme poverty and hunger
- Achieve universal primary education
- Promote gender equality and empower women
- Combat HIV/AIDS, malaria and other diseases
- Ensure environmental sustainability (see above)

By the year 2015, all 191 United Nations Members states have pledged to meet the above goals. This is clearly a significant commitment by international governments.

Of concern to this futures research, however, is the way in which 'principles of sustainable development' are integrated into country education policies and programmes, and the role that education systems and practices can play in reversing the loss of environmental resources and poverty reduction. Thus, it is *the relationship between* the different Millennium Development Goals that would be significant for this futures research. A consideration of how achieving universal primary education and ensuring environmental sustainability could be 'brought together' in country-based policy and programme development is of key concern. Similarly, these two Millennium Development Goals also need to be 'brought together' to consider how environmental sustainability and universal primary education may promote gender equality and empower women, and assist with combating HIV/AIDS, malaria and other diseases and reduce poverty.

When considered in relationship to each other, the Millennium Development Goals begin to 'set an agenda' for the content and focus of universal primary education (and other education and training programmes), which may take current educational policies and practices out of the educational trap created by the traditional and colonially inspired 'subject boundaries' which still dominate much education in southern Africa.

Deliberations of this nature may enable education systems in southern Africa to become more relevant and responsive to contemporary socio-ecological and socio-economic challenges in the region, and less 'in the service' of global corporatism, colonial education frameworks and Western ideologies.

In considering the potential implications of the Millennium Development Goal commitment to 'ensuring environmental sustainability' in an educational context, it would be important to consider the nature of environmental sustainability issues and risks. These are often contextual, and diverse in nature (with global dimensions), and this would assume a contextualised approach to environmental education / education for sustainability in country-based education programmes and policies. Given the critical reviews on 'sustainable development' provided above (which are emerging from developing countries and civil society movements) there would also seem to be a need for more critical orientations to sustainable development in these contexts, which would also influence education policy and practice. The Millennium Development Goals also emphasise **environmental** sustainability.

Futures research questions

- Can this futures research consider the relationship between the different Millennium Development Goals, with special reference to 'environmental sustainability' and the provision of 'universal primary education', in order to provide orientation for policy and programme development at country level?
- In what way/s can the experience gained in the Danida-funded projects provide insight into how the links can be made between the different Millennium Development Goals in education policy and programmes?

A response in Africa: NEPAD

▸ *A strategic vision involving broad and deep participation*

African governments have committed themselves to the Millennium Development Goals under the framework of The New Partnership for Africa's Development (NEPAD). NEPAD presents a strategic framework and a vision for Africa's renewal. It is designed to address the current challenges facing African countries, which include escalating poverty, 'under-development' and continued marginalisation of Africa in the global economy. It presents an integrated socio-economic framework for Africa, which was formally adopted by the 37th Summit of the OAU in July 2001. Some of the principles of NEPAD are

significant to the SADC REEP futures research project, particularly the principles that aim to establish:

- … broad and deep **participation** by all sectors of society (this cannot happen without education and communication processes)
- acceleration of regional integration
- ensuring links to the Millennium Development Goals …

NEPAD aims to establish the conditions for **sustainable development** through a number of strategies, including *capacity building*, regional co-operation and integration, democracy and peace and security. Policy reform is also a priority strategy, as is the need for increased investment in priority sectors such as agriculture, human development (including health and education) and the environment. Food security, agricultural development and enhanced infrastructure covering transport, energy, ICT, water and sanitation are amongst the key priority focus areas. NEPAD also emphasizes the need to meet the Millennium Development Goals for education and health, and has established an Environmental Action Plan which is "… based on principles of efficiency (wise and conservative use of resources), effectiveness (ensure social responsibility, equity and a reduction in the gap between the rich and the poor) and sustainability (recognition and responsibility towards existing and future generations and all life on the continent, where humans have an impact)" (NEPAD Action Plan, 2002).

▸ *Interdisciplinary responses, involving education*

The NEPAD Action Plan reveals the *inter-disciplinary nature of the response required to address development issues in Africa*. Health, Environment, Economics and Governance are key themes that are fore grounded in the NEPAD Action Plan, while other key development processes such as enhanced education are also included. If NEPAD aims to enhance 'broad and deep participation' then there appears to be a need (identified across all NEPAD documentation) to *re-think the way in which capacity building and education are viewed in development processes in Africa*. Responding to heath issues such as the death of more than 800 000 children before their fifth birthday as a result of diarrhea caused by polluted water and poor sanitation practices requires an educational response[25], *as well as* policy / technical / financial resources provided by the health sector. Similarly, responding to issues in the energy sector and the provision of more sustainable energy services to various economic and social sectors will require an educational response, *as well as* policy /

[25] In using the term 'educational response' here, I refer to educational responses that are much broader than education in the context of schooling. I refer to educational responses that are reflective of life-long learning processes, and which take place in a wide range of institutional and community contexts. This view of education is reflective of the discussions on Education and Sustainability which argue that education towards sustainability is required in all sectors of society.

technical / scientific and financial resources. NEPAD notes that sustainable development of the region's finite water resources is essential for the socio-economic development of the continent and for eradicating poverty. This will also require an educational response, *as well as* policy / technical / financial actions. To halt the problem of persistent degradation of the environment, increasing loss of natural resources, and the exploitation of natural resources will also require an educational response, not only policy / technical / financial responses.

▸ *An Environmental Action Plan focusing on capacity building*

The NEPAD Action Plan on the Environment, notes that "... there appears to be lack of appropriate recognition by the political leadership of the importance and severity of the problem of the environment", which accounts for the inadequate attention that is being paid to the environment by national and regional governments (NEPAD Action Plan, 2002). The same NEPAD document notes, however, that 'the state of the environment is a major determinant of the growth and development objectives of any nation, and [the environment] has a pervasive effect on the safety and standard of living of the populace'. In a context where more than 75% of the people depend on the natural resources for their livelihoods, the environment carries enormous significance in development processes, and if an educational response is required, then it would seem that environmental education processes have a key role to play in these development processes.

NEPAD has resolved to develop and implement an Environmental Action Plan (EAP), which has the goal of evolving an effective framework for addressing environmental problems in Africa, and to build capacity to implement, design and monitor policies, programmes and activities that enhance sustainable living interactions and improved environmental management. A strategic action (amongst others) in this process is "*Capacity building in all aspects of environmental issues in Africa"* (NEPAD Action Plan, 2002). Action plans are grouped into key areas of concern of programmes. The Environment Action Plan is a '... coherent, strategic and long term programme of action' which has been developed to 'promote Africa's sustainable development' (UNEP, 2003). The Action Plan is organized in clusters of programmatic and project activities to be implemented over an initial period of 10 years. The programmatic areas cover the following priority sectors and cross-cutting issues as identified in the environmental initiative of NEPAD: combating land degradation, drought and desertification; wetlands; invasive species; marine and coastal resources; cross border conservation of natural resources; climate change and cross cutting issues. The plan of action builds on the related problems of pollution, forests and plant genetic resources, coastal and marine resources, capacity-building and technology transfer.

Each of these sector specific programmes (outlined in the Environmental Action Plan) emphasise the need for capacity building. The role of education in capacity building in

each of the sector specific programmes, and in fact across the document, is poorly conceived, or strangely absent. In some of the programmes, mention is made of the need to 'develop human resources' or to 'raise public awareness', but little understanding is shown of how environmental educational processes may 'build capacity'; 'develop human resources' or 'raise public awareness'.

▸ *Poor understanding of the relationship between education and capacity building*

Building capacity, developing human resources and raising public awareness can arguably not take place in any meaningful way without attention to environmental education processes in these contexts. This reflects an earlier point made that *education* and *capacity building* are poorly conceived and understood in the context of NEPAD action plans and implementation frameworks.

It is only in the 'Strategic Plan to Build Africa's Capacity to Implement Global and Regional Environmental Conventions' that a clearer understanding of *the relationship between education and capacity building* becomes clearer. In this section the needs for human skills and expertise in policy, legal, technical, scientific aspects of emerging from environmental conventions is emphasized. This reflects the techno-scientific rationality which underpins most of the Environmental Action Plan. *Very little attention is given to the role of social sciences* in resolving environmental issues and risks. Training solutions are proposed, and these reflect a *technical rationality* in defining educational solutions. Emphasis is placed on developing a core or critical mass of expertise that can/ should be shared across the continent through training. A further dimension of the capacity building process is a focus on 'educating the public' and 'increasing public awareness'. This reflects assumptions that awareness leads to behaviour change, and little attention is given to ways in which the public may be engaged in action-oriented education processes that respond to issues in context. The narrative is still 'share the message and people will change'. Strategies to achieve these 'educational' goals are suggested, among them a regional environmental education programme, to be co-ordinated through a network of centers of excellence. It would seem that such a regional environmental education centre would need to clarify and enhance the understanding of the role of education processes in social change, and challenge the scientific/rationality that seems to be the dominant narrative in the NEPAD Environmental Action Plan, if broad and deep participation is to be enabled.

▸ *Are things as they seem?*

While both the Millennium Development Goals and NEPAD, and its Environmental Action Plan provide strategic – political responses to the conditions that are prevalent in Africa today, neither challenge the fundamental framework of 'progress' and neo-liberal orthodoxy on which both are based, and out of which they arise. Wolfgang Sachs (a critical

development scholar) has repeatedly raised a key question around the models of development and progress that are currently governing the world. He and other activist writers such as Vandana Shiva and Arandati Roy all advocate for a 'new economic framework' that is not based on global capitalism and the power of multi-national corporations. Their voices are amongst a growing international 'wave' of response to the effects of neo-liberal economics on societies around the globe, as witnessed in Seattle protests, and World Social Forum meetings, in which deliberations took place to articulate that 'Another way is possible' (see Fisher & Ponniah, 2003). Critical economists such as Sampie Terreblance (2002, writing in the southern African context) also recognize that neo-liberal economic frameworks (as models for progress and development) are, in fact *increasing poverty* in South and southern Africa, and Sachs argues succinctly for 'wealth alleviation' to ensure poverty alleviation. Rather than follow a model in which 'the poor follow the rich and try to become like the rich', they argue for a model in which 'the rich share what they have more equitably with the poor'. If the support for neo-liberal economic frameworks that underpin NEPAD and the Millennium Development Goals are, in fact (ironically), contributing to poverty, then it would seem important for southern Africans (who are most affected by increased levels of poverty) to adopt critically reflexive approaches to these development frameworks. Criticality of this nature would need to be fostered through a range of critical and contextual environmental education processes.

Futures research questions

- In 'positioning' environmental education in southern Africa through a futures research process, could the futures research provide a clearer articulation of the relationship between education and capacity building?
- Can this be contextualised within the Environmental Action Plan of NEPAD, in which case one would need to consider an articulation of the relationship between environmental education processes and capacity building for the environmental priorities outlined in the NEPAD Environmental Action Plan in ways that don't only rely on technical/scientific solutions, and technicist approaches to education?
- Can the futures research assist with the development of framework/s to enable criticality?

A response from SADC: The Regional Indicative Strategic Development Plan (RISDP)

Poverty eradication is the top priority of SADC states. It is seen to be cross-cutting issue which, according to SADC (2003b) is "covered in all the other priority intervention areas"

because it is a cross-cutting issue. HIV/AIDS is also viewed as a cross-cutting issue, and is noted as being "the greatest public health and developmental challenge in the region" (SADC 2003b:89). Gender equality and development; and Science and Technology, information and communication technologies are also key priority areas for development in the region, and are also seen as 'cross-cutting issues'. **Environment and sustainable development** is also regarded as an important 'cross-cutting' issue, and the intention is that SADC Member States will "... ensure equitable and sustainable use of the environment and natural resources for the benefit of present and future generations" (SADC, 2003b:xi).

The RISDP indicates that:

> SADC Member states have committed themselves to integrated and sustainable development as reflected by the Treaty establishing the organization, and their active participation in the negotiations and ratification of major Multilateral Environmental Agreements (MEAs). To this end, the SADC Region has endeavoured to put in place mechanisms for the implementation of MEAs such as the United Nations Framework Convention on Climate Change (UNFCCC); United Nations Convention to Combat Desertification (UNCCD); United Nations Convention on Biological Diversity (CBD); Basel / Barnako Convention; Persistent Organic Pollutants (POPs); and Ramsar Convention. In addition, member states are committed to the attainment of the Millennium Development Goal of ensuring environmental sustainability (SADC 2003b: 100-101).

Measures are being put in place to increase **food security**, many of which will require environmental education processes in community / agricultural contexts. Desertification and land degradation control is a vital component of ensuring food security in the region, as is capacity building and education (training) in the agricultural sector (including small scale farming). Other measures (amongst others) include the conservation and sustainable utilization of selected indigenous fruit trees in the semi-arid areas of SADC (such as the morula and boabab), as these have the potential to improve rural livelihoods and food security. A further strategy being proposed by RISDP (SADC 2003b:50) is the need to **strengthen research-extension – farmer linkages** (through improved extension services), particularly amongst small holders; and the need to **integrate gender, HIV/AIDS and environmental perspectives** into agricultural research and training.

Perhaps another development relevant to the field of environmental education, is the establishment of Trans Frontier Conservation Areas, which is being seen by the SADC RISDP as an important development initiative in the region (SADC 2003b:38), and an inventory has been identified involving twenty-two potential sites within the region for such development, covering 470 000km2. The purpose of these areas is to foster cross-border tourism. The World Parks Congress (held in 2003 in Durban, South Africa) focused on

'Benefits beyond boundaries' and raised key issues associated with people and conservation. At the interface of people and conservation initiatives lie education, communication and development processes, hence the potential significance of this development for environmental education in southern Africa. The conservation sector would thus seem to be an ongoing arena of practice for environmental educators in the southern African context, with a particular focus on people and conservation issues.

▸ *The RISDP and Education*

Human and social development is identified as a priority of the 'Sectoral cooperation and integration intervention area' in the RISDP. The Human and Social Development Strategy takes a broad-based view of human and social development, noting the need for a well informed, skilled, healthy, flexible, culturally responsive and productive people. The aim for the human and social development plan is to promote "equitable economic growth" and "enhance competitiveness in the global economy" as well as "contribute to the reduction of human poverty, combating of the HIV/AIDS pandemic, development and utilization of science, technology and ICT and the empowerment of women" (SADC 2003a).

An analysis of the human and social development strategy and the other priority intervention areas, reveals some gaps in the 'harmonisation' of the human resource development strategy and the other priority intervention areas in the SADC RISDP. For example, if the human resources and social development strategy were to reflect the SADC member states' commitment to the Millennium Development Goal of environmental sustainability, this should also have been included as a key goal and strategy within the human resources and social development programme. The human and social development strategy sets as its target the Millennium Development Goal of achieving universal primary education and ensuring that all children complete a full course of primary schooling by 2015. It does not, however, say anything about the **focus** and **quality** of this education.

The RISDP, notes, in the priority intervention area 'Environment and Sustainable Development' that one of the SADC RISDP goals is to foster "Capacity building, information sharing and awareness creation on problems and perspectives in environmental management", which reflects similar approaches to describing and defining environmental education as found in the WSSD Implementation Plan and NEPAD. As strategy, the RISDP sees the need to "build capacity for collection, management and exchange of information / data for the sustainable management of environment and natural resources" (SADC 2003:102); and in Target 6 it notes the need for "...regular environment and sustainable development capacity building and training programmes by 2007" (SADC 2003b:102). In identifying medium term priorities for the Food, Agriculture and Natural Resources Management Sector, attention is given to the role of environmental education in enabling sustainable development. It emphasises the "promotion of

environmental awareness through environmental education programmes and incorporation of environmental education into formal education systems" (SADC 2003a:50), but this is not reflected in the Human and Social Development sector goals.

There are numerous inherent contradictions in the SADC RISDP which reflect the broader ambivalence of the global political economy (as discussed above). There is at the same time, a commitment to neoliberal orthodoxy (expressed in the economic policy frameworks of the SADC RISDP), and a commitment to alleviation of poverty through socio-ecological justice approaches which aim to for example to "... build the capital assets of the poor, redistributing natural assets, constructing and maintaining infrastructure and promoting knowledge and health in poor areas; protecting the environment and reducing economic inequalities" with a key strategy in eradicating poverty being expressed as "facilitating the empowerment of the poor" (pg. 89). Similarly to the WSSD Implementation Plan and the NEPAD document, it would seem that the SADC RISDP reflects a poor understanding of the relationship between capacity building, education and human and social development. One could merely ask the question: How can capacity building (from a human and social development point of view) take place without environmental education and training?

Similar to the NEPAD context, there *clearly needs to be a stronger dialogue between the different priority area programmes in the SADC RISDP context, and the role of environmental education within the 'Environment and Sustainable Development' priority area, and within the 'Human Resources and Social Development' priority area needs to be aligned, clarified and strengthened.* This would be of some significance to the futures research, and may in fact provide a key orienting perspective to the research. This would reflect the 'nature of the field' of environmental education, which straddles the education/ human resources sector and the environmental sector (see Lotz-Sisitka, 2002; diagram in Appendix A).

From an environmental education policy point of view in the context of the RISDP, Obol, Allen and Springall Bach (2003) note that there have been numerous developments associated with environmental education policy and strategy development across the SADC region. They present an audit of achievements to date. This audit, however, indicates that numerous policies have been developed, but many of them are not 'in use' or are not being effectively implemented. They also note that much attention is being given to policy development processes (often driven or supported by donor support), and little to implementation, monitoring and evaluation of these policy initiatives, with the consequence that policy implementation processes are emerging as a key issue in policy deliberations. A range of authors in the region are writing about policy implementation problems, for example: Griffin (writing on South African environmental education policy, 2003); Ketlhoilwe (writing on Botswana environmental education policy, 2003); Mhlipa & Mondlane (writing on Swaziland environmental education policy, 2003) and Makundi

(writing on Tanzanian environmental education policy, 2003). The audit also indicates that the focus for environmental education appears to be somewhat unclear in policy processes, and there is dissonance between regional, national and local priorities. The audit also indicates that much of the focus of environmental education programmes and policy, "...tended towards local and national priorities, thereby losing the chance to support implementation of regional priorities". They note that this needs to be addressed if southern African countries are to work together to address trans-boundary issues such as desertification, water resources, poverty and HIV/Aids as well as natural resource management through education" (Obol, Allen & Springall Bach, 2003). In the context of the priorities identified by the Millennium Development Goals (outlined above), and key issues such as HIV/AIDS, water resource management and poverty, this would seem to be an important dimension of environmental education work in future.

The findings of the Obol, Allen and Springall Bach (2003) audit, however, indicate that despite recent restructuring in SADC (within the RISDP framework), there is little emphasis placed on environmental education across the different sector frameworks. They summarise the attention being given to environmental education within the RISDP framework as follows:

Table 1. Summary showing the status of policy at the SADC Sectoral Level

Sector	Protocol in place	Protocol reference to environmental education	Programme activity on environmental education	Reference to environmental education in SADC in the SADC Regional Indicative Strategic Development Plan (SADC 2003)
Environment	None	None	Yes	Yes
Energy	Yes	Some	None	None
Fisheries	Yes	Yes	None	None
Forestry	Some	None	None	Yes
Food Security	None	None	None	Some
Mining	Yes	Yes	None	None
Tourism	Yes	Some	Some	Some
Water	Yes	Yes	None	Yes

Source: Obol and Allen (2003, cited in Obol, Allen & Springall Bach, 2003)

This table seems to indicate that further action is needed to strengthen environmental education policy development within the SADC sector framework. In the light of the objective to establish a 'harmonised policy environment ... to promote regional cooperation on all issues relating to environment and natural resources management, including transboundary ecosystems" of the SADC RISDP, this would seem to be an important

dimension of environmental education work to consider in this futures research (SADC 2003a).

Aid (ODA) and Ideas[26]

Another feature of the political economy and the epistemological landscape in southern Africa is the prominent role that ODA plays in the structuring and ordering of development initiatives and ideas. For example, Danida (only one of the donors providing support to environmental education) has committed over DKK 75 million to environmental education alone in recent years, some of which is paying for this report, and much of which has shaped ideas guiding practice in environmental education in the region.

Sogge (2002:28) notes that ODA figures are often 'inflated' given that administrative overheads and other costs that are spent in, and that benefit the donor country (including increased capacity of human resources from the donor country), are reflected within the ODA expenditure[27]. He also notes that Foreign aid is full of ambiguities and that "... aid is routinely portrayed as high-minded beneficence, ... [but there is usually] ... a lively intermingling of high and low intentions" (pg. 24). He broadly and critically reviews the nature of development aid by noting that "Behind rhetoric of self-determination, the US and European powers have used aid to compete with one another through their colonial and neo-colonial system. Trade[28] and investment wars have gone on in the name of a super-project of social engineering called 'development'" (Sogge: 2002, 26). He notes, however, that cycles of debate and renewal are starting to take place within the aid industry which are triggering critique and a rethinking about understandings of local knowledge and experience; rethinking of complex socio-economic and political relationships and social service delivery. In these ways, concepts and practice in the aid system have seen real improvements. He notes further that a global "rethinking of the aid system nested in contexts of power is long overdue". This is unlikely to happen where intended beneficiaries or their representatives are not accorded parity with those wishing to develop, rescue or empower them. It would seem that there is a need to reduce the 'othering'[29] apparent in

[26] While ideas introduced into a context can be useful, they can also be colonizing.

[27] Note that this research is not suggesting that this is the case with Danida aid, it is rather commenting more broadly on the phenomenon of development aid in the region.

[28] While it is often assumed that aid is motivated mainly by humanitarianism, evidence shows that 'the direction of foreign aid is dictated by political and strategic considerations, much more than by the economic needs and policy performance of the recipients' (see for example Alesina & Dollar, 1998; Raffer & Singer, 1996); and most national agencies have largely fallen into step behind the IMF and World Bank. There is, however, a characteristic 'mixing of motives' in the aid sector, which include expansion of free trade; common interest; compensation (as in the case of much Japanese aid) and humanitarian and ethical motives. Sogge (2002:44) notes that 'motives behind aid never come in fixed and stable proportions'.

[29] See Lather (1991) and Ellsworth (1989) for a discussion on how education processes can be deployed in ways that create distinctions between self and 'others'. Often expressed in processes centred on 'training the

many development aid initiatives, and to seek more equitable platforms for deliberation on mutual interests and priorities.

A careful and critical look at the nature of development aid is needed if one considers that 'ideology [and developmentalist logic] has long been at the heart of foreign aid" (Sogge, 2002: 141; see also Samoff 1992; 1999; Wendt, 1999; Slaughter & Silva, 1980 and others). Producing and transmitting policies and discourse (for example the discourse of learner-centred education; social constructivism; environmental management or cleaner production[30]) and filtering out and deligitimizing others (e.g. 'green' environmentalism in favour of 'brown' environmentalism or 'environmental education' in favour of 'capacity building'), are essential actions of ODA's most powerful players. It is not by caprice that the World Bank is positioning itself as the world's mightiest think tank. As the leading producer of knowledge of how the planet should develop, it stands to achieve the supreme instrument of power – power to define alternatives (Sogge, 2002). This power is visible in the outcomes of the WSSD deliberations, and the increased trend towards commodification of nature and life.

Some of the aid system's most important instruments and outcomes are in the field of ideas. This is an important issue for education, as ideas often define and rank the categories by which we pay attention to issues or overlook them. They frame problems and solutions, label identities and assign value. Constructionists would argue that big / powerful ideas[31] can come to construct or constitute interests that generate and channel power. As indicated in the opening of this paper, engaging with the current political economy (of which these ideas are part) is an ambivalent process, and requires an 'ethic of ambivalence', and ongoing critical reflexivity (amongst all players concerned). This kind of critical reflexive engagement with ideas that are 'brought in' through development aid, provides an optimistic path for ethical and locally situated alternatives to open up dialogue and interaction in context.

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other'; 'educating the other'; 'professionally developing the other' or 'helping the other' (increasingly this is being done through participatory processes (moral imperatives) which may hide the essential nature of this 'othering' – see for example O'Donoghue, 1999).

[30] I am not suggesting here that these discourses are not useful (in our experience these have brought many new and interesting perspectives into local practice), but I am rather commenting on the processes that take place.

[31] These often manifest as ideologies which are 'implemented' in the countries in which the interventions are taking place.

Futures research questions

- In considering the successes of the Danida projects in southern Africa, will the futures research consider the way in which the projects have contributed to, and shaped ideas in southern Africa, and how these have come to generate and channel power?
- Can the futures research track or illuminate critically reflexive engagement with these ideas in context, or are these ideas simply being 'implanted' into the southern African context?

World Risk Society and epistemological uncertainty

Most of the international and regional frameworks discussed above, are clearly attempts by humanity to guide, orient and shape their future. Their intention is to minimize perceived threats to the future. The deliberations and documents are often conceived and developed in the context of the dominant political economy of the time, which tends to 'obscure' many of the complex and underlying causes of the very socio-ecological issues that humanity is trying to address (as outlined in the various discussions above). These rationalist planning frameworks tend to assume 'epistemological certainty', which is conveyed by language such as 'targets', 'strategies', 'goals', and often become an effect of power in themselves (Popkewitz *et al*, 2001; Foucault, 1979) as many people set out to 'implement' these frameworks and deploy the associated rationalist logic in and through education and other social processes.

191 countries around the world have made a commitment to ensure 'universal primary education' by 2015; reduce by half the number of people living on less than a dollar a day by 2015 and so on (see Appendix A). The impression is created that this is an almost impossible task for humanity to achieve. Yet, a rather crude comparison provides some insight to the limitations of the 'epistemological certainty' that is created by these rationalist planning frameworks. This rather crude comparison tells a revealing tale of 'real international commitment' and 'rationality' shaping the deliberations on the provision of education. According to Brazier (1999) it is estimated that the cost of providing 'Education for All' in the next decade (as articulated at the Jomtiem Conference in 1990) would cost an estimated $8 billion. This may seem an enormous sum. Yet it is only around half of what Americans spend each year on toys. It is also equivalent to just four days of global military spending, or just nine minutes of international currency speculation (Brazier, 1999), raising rather serious questions about the rationality driving many of these global(ising) frameworks (such as the Millennium Development Goals and the very notion

of sustainable development) that hold so much power. This raises questions about the value of placing too much faith in these rationalist planning frameworks.

Ulrich Beck (1992; 1999) raises questions about the feasibility of applying rationalist planning frameworks to the future. This questioning arises from his descriptions of the 'state of the world', and his characterizing of contemporary society as a 'Risk Society'. He notes that in current 'World Risk Society' all are vulnerable to the risks of industrialization, as multi-nationals and others move freely around the globe and associated risks become de-linked from geo-physical boundaries. He concludes that Risk is a characterizing feature of life across the globe. Le Grange (2003) writing from southern Africa notes that southern African citizens are exposed to a 'double dose' of risk: those created by contemporary development and progress approaches (often described as environmental issues such as pollution, global warming etc) and those created by poor material wealth and associated disempowerment (articulated in discussions on poverty).

Perhaps one of the greatest risks facing southern Africans in the next ten years is the undetermined impact of genetically modified organisms on food production. NEPAD indicates that 'agriculture is Africa's 'engine for growth'' (NEPAD News, January 2004, www.touchtech/biz/nepad/files/news_2html). Africa's leaders are seeking 'sustainable solutions' to feed the 200 million malnourished people in Africa (194 million of these are in sub-Saharan Africa), aiming at higher farm production and increased food security, as well as economic development and growth. Little is said in NEPAD about the risks of Genetically Modified Organisms to biodiversity, or the problems associated with Monoculture. GM Giants are currently 'moving in' and 'pinning their hopes on Africa' (Mail & Guardian, January 16 2004), but there is little evidence of promised benefits such as increased yields, lower pesticide usage and safer foods. GM Soya, for example, yields 5-10% less than high-yielding non GM varieties, and unwanted herbicide tolerant 'GM Superweeds' are causing management problems to farmers in western Canada. There are many questions about 'vested interests' and 'control' of GM technologies, which results in the risk factors being downplayed or ignored. In more scientifically literate societies such as the European Union, GM Giants are experiencing large scale resistance to the risks inherent in life-changing technologies. In southern Africa there appears to be some ambivalence associated with GMO food production.

Beck (1999) indicates that in a Risk Society, we are dealing with both '*knowledge and unawareness*'. For example we may 'know' some things about GM technology and GM crops, but there is a lot that we don't know. We are aware of some of what we don't know, but there is much that we don't even know that we don't know! In the face of the potential consequences of risks such as uncontrolled loss of biodiversity if GM crop technology changes the 'balance of life' and the 'balance of ecosystems', environmental education processes in southern Africa are, as Le Grange (2003) notes, about education in/for risk

perception and reduction. Considering Fakir's point about poverty, risk and vulnerability (and the limitations of policy frameworks developed within neo-liberal orthodoxy and a sense of 'epistemological certainty') this would seem all the more important in southern African environmental education processes.

Beck's thesis of a Risk Society is significant for environmental education processes, given that risks are often unpredictable, and are often not visible (as illuminated by cholera and other health risks). Education in a context such as this cannot carry a 'sense of certainty' and learners participating in building a better world would need to explore ways of firstly interpreting risk, and then responding to risk. Beck recommends 'reflexive learning processes', which are contextually situated, responsive and change oriented. The broader context of Beck's thesis is linked to the fact that we are also increasingly aware of the limitations of our knowledge systems – we are losing faith in the certainties of science (Beck, 1992), and are increasingly aware of our limited capacity to accurately predict or determine exactly what our impact on the environment might be (as recent debates on genetic modification of seeds indicate for example). Nor are we able to accurately establish exactly what the earth's capacity for sustaining life indefinitely might be, as much of the recent literature on the precautionary principle indicates (O'Riordan & Cameron, 1994). These realisations have had profound implications for the epistemological and economic certainty established in the twentieth century under the guise of modernism. Bauman (2000) comments on the broad ranging changes in contemporary society, mostly characterized by increased individualization and ambivalence. He quotes Anthony Giddens who reminds us that we are all engaged in 'life politics'; we are 'reflexive beings' who need to look closely at every move we take. Bauman (2000:23) argues for greater reflexivity when he notes that the

> … reflexion does not reach far enough to embrace the complex mechanisms which connect our moves with their results and decide their outcomes, let alone the conditions which hold such mechanisms in full swing… our critique is unable to affect the agenda set for our 'life political' choices.

How can environmental educators for example, support small scale African peasant farmers, who depend on established seed security practices for their livelihoods, to understand the risk associated with GM seeds, and the agenda that has been set for his/her life political choices by the GM Giants as they 'move into Africa'?. How will this farmer be given opportunities for 'broad and deep participation' in his/her life political choices (as envisaged by NEPAD), and how will this enable him/her to reduce poverty (as envisaged by the Millennium Development Goals, SADC RISDP and the WSSD Implementation Plan)? To my mind, this is a key question for any futures perspective on environmental education in southern Africa.

Futures research question

- What role could environmental education processes play in enabling greater reflexivity and participation in response to environmental issues and risks?

Part 3:
Sustainable development, education and environmental education processes

Global sustainable development narratives and re-orientation of education

Fakir (2002) notes that "environment / poverty linkages can only be understood in terms of risk and vulnerability that poor people face when trying to secure sustainable livelihoods. Risks and vulnerabilities emanate from changes in both the international and domestic socio-economic environment". Thus, environmental education processes (which would aim to respond to these risks and vulnerabilities) would also be closely linked to the political economies influencing the region (as outlined in Part 2).

As mentioned in the opening of the paper, the solution to global problems is being seen globally, regionally, nationally and locally as 'sustainable development'. This salvation narrative involves a three tiered, ambivalent 'balancing act' of ensuring social development, ecological sustainability and economic development and it is increasingly making its way into education systems, discourse and structures. Numerous publications, conferences and agreements are outlining 'ways forward' for education policy and institutions to re-orient learning and research in ways that further globally articulated goals of sustainable development (see for example WSSD 2002, UNESCO 2002, UNESCO 2003, IUCN, 2002). The dominance of the sustainable development narrative is clearly a shaping influence on environmental education theory and practice (see for example Fien 1998; Tilbury, 2003, Scott & Gough, 2003), a process which is leading to some debate and contestation (see for example Jickling 1999, 2001; Wals & Jickling, 2002).

The WSSD Plan of Implementation (WSSD 2002) re-emphasised the critical role of education in sustainable development, and called for *the integration of sustainable development concepts, actions and principles in all levels of education in order to promote education as a key agent for change*, thus emphasizing ESD as central to educational reform initiatives.

Post-colonial and post-apartheid education and training systems in southern Africa have recently been the subject of wide ranging transformation, particularly in South Africa. Many countries are in the process of re-orienting curricula and policy away from colonially inspired systems to systems that are more responsive to local need and social and economic development. For example, the South African government introduced post-apartheid

educational reform through an international discourse of performance-based education (known as outcomes-based education); introducing the notion of lifelong learning into the South African education and training system. Education and training systems in southern Africa are also subject to wider impacts of globalisation and the spread of neo-liberalist orthodoxy. Lifelong learning is increasingly mooted as the means of enabling economic development (DoE/ DoL 2002; Edwards 1997) and many new qualifications and education and training programmes are being developed within these broader globalising frameworks in the southern African region.

Popkewitz (2000:4) warns, however, that globalization patterns often tend to 'gloss over' the theoretical implications of relations among knowledge, power and changing social patterns, assuming a cosmopolitan identity that embodies a globally situated pragmatic flexibility. Hattingh (2002), illuminates how the global tendency to adopt sustainable development as salvation narrative, 'glosses over' a range of different ideological and political interpretations of sustainable development (as outlined above).

Where then, does this leave environmental educators who are adopting / have adopted the concept of sustainable development as steering framework for practice? A closer scrutiny of the main ESD narratives shaping environmental education practice in southern Africa may assist with the development of a 'futures perspective' on environmental education in the region.

ESD narratives

▸ *The UNESCO narrative*

As indicated earlier, UNESCO was given the mandate to 'implement' Chapter 36 of Agenda 21 following the Rio Earth Summit, and UNESCO has continued to play a key role in re-defining education and training towards sustainability. UNESCO has been instrumental in defining the notion of 'Education for Sustainable Development (ESD)' which differs significantly from the discourse in Agenda 21, which emphasizes the need to make **environment and development education** available to people of all ages, and to integrate environmental and development concepts into all educational programmes. Agenda 21 indicated the need for a re-orientation of education systems *towards* sustainability. These two related but different conceptions appear to have become conflated in recent discourse, and there appears to have been an increased 'instrumentalism' in the UNESCO discourse over the past ten years as the boundaries of education *towards* sustainability have increasingly been confined to Education *for* Sustainable Development. This has resulted from UNESCO's task to clarify 'the concept' and 'key messages' of ESD.

While many would argue that there is little difference, or that this is merely an issue of semantics, there is more gravity to these deliberations if one reviews the contemporary political economy associated with sustainable development (see part 2 of this paper). I would argue that there is a need for a more open-ended perspective on education and sustainability. Jickling similarly argues that by creating an instrumental 'education *for*' narrative, future possibilities for education may be narrowed to the prevailing interpretations of sustainable development (1992; 1999). More recently, Jickling and Wals (2003) argue that the tendency to direct ESD does not take account of the fact that environmental thinking is still in its infancy, and that in the short time in which the world has been deliberating human-environment relationships within modernist framings of social life, this thinking has changed dramatically. They argue that 'sustainable development' may not be the 'last word' on how the world may solve its environmental problems, and that, by directing education towards sustainable development, the possibility for creative alternatives is narrowed. They argue strongly for more open-ended approaches to considering education and sustainability issues.

Perspectives on environmental education

Environmental education has been noted as being a strong contributor to sustainable development narratives, and UNESCO (2002) note that "In its brief thirty-year history, contemporary environmental education has steadily striven towards goals and outcomes similar and comparable to those inherent in the concept of sustainability ... the roots of ... ESD are firmly planted in the environmental education efforts of groups such as WWF and IUCN" (pg.9). Thus it would seem that UNESCO views environmental education as something of an 'historical artifact' informing its recent discourse on 'ESD'. This may explain the 'virtual disappearance' of environmental education at the UNESCO deliberations at the WSSD.

Framing ESD for the UN Decade on ESD

ESD (which has its roots in environmental education) is now framed as being inclusive of the following 'key themes':

- Overcoming poverty
- Gender equality
- Health promotion
- Environmental conservation and protection (which narrows the focus of environmental education considerably)
- Rural transformation
- Human Rights
- Intercultural understanding and peace

- Sustainable production and consumption (including a focus on reducing consumption habits)
- Cultural diversity (including respect for indigenous and other forms of traditional knowledge)
- Information and Communication Technologies

In the defining of Education for Sustainable Development, the UNESCO narrative indicates a diffusion and narrowing of attention to environmental issues and risks, confirming the earlier perspective that there appears to be a **'virtual disappearance'** and **narrowing** of environmental education in this narrative to be mainly concerned with 'environmental conservation and protection' (see comment on the UNESCO narrative below). It is increasingly described as 'adjectival education'. Of concern is the fact that health promotion, rural transformation, human rights, sustainable production and consumption, increased ICTs and other 'framings' above, all have dimensions of 'environmental sustainability' and 'environments' associated with them. Will these be fore grounded in the new framing of ESD?

UNESCO (2003b) defines **four main domains** for ESD:

- Basic Education (including providing Education for All)
- Reorienting existing education programmes (this is perhaps the arena that the Danida funded projects have much to contribute, as it requires re-orientation of existing curricula, and a clearer understanding of the knowledge, awareness and values related to sustainability)
- Developing public awareness and understanding of sustainability (including an awareness of social, economic and environmental issues)
- Training (involving all sectors of the workforce, vocational and professional training).

UNESCO (2003b) also defines a **partnership approach** to the Decade of ESD (DESD), in which UNESCO will play the 'lead agent'. UNESCO notes that partners in the DESD include all those organizations, networks, bodies and alliances that "… share the conviction that sustainable development depends to a large extent on broad-based awareness through educational and learning processes". These include governments, NGO's, CBO's and partners in the private sector. UNESCO (2003b:1) notes further that "… one indicator of the success of the DESD will be the extent to which ESD becomes part of the development dialogue at community level". A key strategy for the Decade of Education for Sustainable Development (DESD) is an intention to foster cooperation at all levels with the aim of strengthening local-level effectiveness. The importance of locally relevant action in ESD means that "… no one pattern can or should be maintained"(pg. 11).

Of relevance to this futures research may be the **issues and challenges** articulated by UNESCO (2003a:6) at the start of the UN Decade on ESD. These include:

- Better integration of ESD into relevant development policies and national action plans. This involves improved co-ordination among the concerned Ministries.
- Development of guidelines on ESD
- Emphasising ESD in non-formal as well as formal education
- Strengthening institutional capacity building and professional development processes for sustainable development
- Increasing monitoring, evaluation and reporting of sustainable development education initiatives and their outcomes and impacts
- Increasing attention to the sustainability of initiatives so that policies, programmes and activities are embedded in long term education plans and financial arrangements.

▸ *A comment on the UNESCO narrative*

Sauve (2002) describes many different representations of 'environment' including 'environment as nature'; 'environment as a resource'; 'environment as problem'; 'environment as system'; 'environment as a place to live'; 'environment as the biosphere'; 'environment as community project' (amongst others). She argues that people's relationship to environment depends greatly on **the context** and is **culturally determined**. It (and associated environmental education processes) are therefore expressed through a set of interlinked and complementary dimensions. She notes that over the years a rich 'educational heritage' has been built up, including a rich diversity of theoretical propositions, models and strategies capable of stimulating discussion and inspiring practitioners. She notes that the field of environmental education is developing in a constructive manner, and that the greatest 'threat' to environmental education is the prevalence of the development ideology promoted in the proposals of 'ESD'. She notes that in the ESD narrative, "... education is perceived as a tool in the services of the long term conservation of the environment, the latter being regarded as a pool of resources, to be used for a sustained economic growth, which is itself regarded as a pre-condition for 'human development'". She notes further that, in the conceptual framework of sustainable development[32] (illustrated by the 'balance' between economy, environment and society) economy has already been elevated as a separate autonomous entity, outside the social sphere, which determines a society's relationship with the environment. She questions whether this should be promoted as the supreme goal of humanity. She also notes that

32 Sauve notes that "... the ethics of sustainability is a product of the 'heuristics of fear' (quoting Hans Jonas, 1992) associated with the current crisis in security (one of its manifestations being an interest in human cloning). While it may constitute a first step towards an upturn in ethics, it is certainly not broad enough to found a blueprint for a society, and even less for humanity" (pg. 3)

sustainable development is presented as a product of a 'social consensus', while in reality it is simply the outcome of a negotiation between certain privileged actors in a specific historical context. She notes further:

> Is it not a mistake to confuse the strategy of sustainable development (however astute it may seem for some specific purposes) with a blueprint for all society, with a social ideal, and to redefine education as a whole, in all countries, in terms of a now dominant vision of the world? The utilitarian conception of education and the resource based representation of the environment adopted by 'ESD' are clearly reductionist from the standpoint of a basic education aimed at fully developing the web of relations between persons, the social group to which they belong and the environment. The relationship with the world cannot be seen solely as a question of 'resource management'; human activities cannot be interpreted only within the context of 'development' overusing the language of durability (or viability or sustainability)[33] in a sort of 'newspeak' that is spreading throughout the world, superimposed upon each culture and reducing the ability to think differently about realities ... [and] ... environmental education is reduced to a mere instrument in the service of sustainable development. Moreover, environmental education ceases to be seen as a setting for interdisciplinarity and the dialogue of knowledge systems (knowledge related to the biophysical and human sciences, traditional knowledge, experience, common sense etc); it becomes more narrowly associated to the field of biological sciences and technology, the key area of the new 'knowledge economy' (pg. 3).

In my view, Sauve's points are of particular significance to a consideration of environmental education in southern Africa, given that the current development narrative has, to date, failed the majority of African citizens (except the consumer classes and the elites).

Futures research questions

- Is it possible to conceive of environmental education processes that consider the sustainable development proposal as a socio-historical phenomenon, to which environmental education processes can contribute, but in which they are not locked into?
- Can a context be created for environmental education where social criticism (of the dominant sustainable development narrative and other development narratives) is not impeded?
- Can a context be created for environmental education where the environment is not a priori a matter of economic definition or social compromise, or a matter of 'world consensus'?

[33] She notes that people talk, for example about 'sustainable meals'; 'sustainable mining industry'; 'sustainable consumption' or 'sustainable water', even seeking 'sustainability criteria' for education.

▸ *The 'Education for All' narrative*

The World Conference on Education for All (Jomtiem, Thailand, 1990) marked a new start in the global quest to universalize basic education and eradicate illiteracy. The Jomtiem Conference also marked the beginning of a broader vision for basic education to include not only literacy and numeracy, but also knowledge, skills and values for life and learning. Environmental literacy was part of this broadening focus. In 2000 an in-depth evaluation of basic education under the banner of the Education for All (EFA) Year 2000 Assessment was undertaken. The Assessment revealed that none of the EFA targets set at Jomtiem were met in their entirety, most notably the universal goal of achieving universal access to, and completion of basic education by 2000. Despite this, many successes were recorded, with numbers of children enrolled in school increasing by 90 million (in eight years); the importance of early childhood education being recognised, and more people entering secondary education. Some progress has been made with regards to adult literacy (although 880 million adults, two thirds of whom are women, still cannot read and write – the same proportion as ten years ago). Progress has also been made with regards to reducing inequalities of educational opportunity (UNESCO 2002b:15).

In 2000, the World Education Forum (Dakar) confirmed the World Declaration on Education for All, and this has also been incorporated into the Millennium Development Goals, and the WSSD Implementation Plan. Of significance to this research, is the commitment at the Dakar conference to "improve all aspects of the quality of education and to ensure excellence for all". The Dakar goals also make the links between basic education and sustainable development very clear. The Dakar Framework for Action states, "Education is ... the key to sustainable development and peace and stability with and among countries, and thus an indispensable means for effective participation in the societies and economies of the twenty-first century' (UNESCO, 2002b:15). The economic and development 'drivers' of the EFA initiative are confirmed in a World Bank publication by Brunds, Mingat and Rakotomalala (2003:1) when they note that:

> Combined with sound macro-economic policies, education is fundamental for the construction of globally competitive economies and democratic societies. Education is key to creating, applying and spreading new ideas and technologies which in turn are critical for sustained growth; it augments cognitive and other skills, which in turn increase labour productivity. The expansion of educational opportunity is a 'win-win' strategy that in most societies is far easier to implement than the redistribution of other assets such as land or capital. Ultimately, education builds what Amartya Sen (1999) calls 'human capabilities' [although I doubt whether he used this notion in the same instrumentalist way] – the essential and individual power to reflect, make choices, seek a voice in society, and enjoy a better life. In short, education is one of the most

> powerful instruments known for reducing poverty and inequality and for laying the basis for sustained economic growth, sound governance, and effective institutions.

The power of education to improve people's quality of life cannot be ignored in a southern African context. For example, World Bank data (World Bank, 2002) indicates that education for girls and boys may be the single most effective 'weapon' against HIV/AIDS in Africa. World Bank research (2001) also shows that greater education for girls has strong positive impacts on the health of infants and children, and their own empowerment to make choices about child birth and other facets affecting their lives. The Human Development Report (UNDP 2003) reports that lack of education robs society of a foundation for sustainable development because education is critical for improving health, nutrition and productivity.

One of the key lessons learned from successful EFA initiatives over the past decade include the insight that "… the content of education, as well as processes of teaching and learning, need to be more learner-centred and less controlled by syllabuses, textbooks and examination requirements. This makes the school curriculum *more relevant*" (Brunds *et al, 2003*. my emphasis). This may be significant to this futures research, given that much attention has been given to this aspect of educational practice in the Danida funded environmental education projects in southern Africa.

Besides being implementing agents for the Chapter 36 of Agenda 21, UNESCO have also been nominated to orchestrate global efforts to achieve Education for All by 2015. A key dimension of this is the International Decade for Literacy, which strongly links education to the crucial task of poverty alleviation. Besides co-ordinating efforts towards these goals, UNESCO will pay particular attention to Education for All, water and literacy as they relate to ESD in the forthcoming UN Decade of ESD, and will focus attention primarily on **the quality of education** so that it is re-oriented to address sustainability, defined broadly, and affecting the three pillars outlined at Johannesburg. Through EFA and literacy, UNESCO will direct its work towards learners both in and out of school, whereas with regard to water, UNESCO will focus particularly on the need for 'water education' defined broadly.

The focus on education in Agenda 21, the WSSD Implementation Plan and the SADC RISDP introduces a broader notion of education for all, emphasizing the need for environmental education and education for sustainable development amongst all people in all walks of life. This can potentially broaden the notion of Education for All beyond the boundaries it is currently confined to (which is provision of basic education for all children).

Education for All in Africa

NEPAD's Action Plan notes that the overall quality of education in Africa has deteriorated in the past two decades, as has been the case with respect to the overall state of African economies.

NEPAD notes the following as the main features of the education system in Africa:

- About 45 million school age children in Africa, 60% of whom are females, have no access to any form of education, while the lucky ones study in crowded classrooms and non-conducive learning environments;[34]
- Education facilities are dilapidated and non-functional;
- Decline in public revenue, external debt service obligations, and decline in donor support, have resulted in a decline in the proportion of national budgets of African economies being devoted to education[35]; and
- Graduates at all levels are unemployable because of the **poor quality** education they received, thereby aggravating the problem of unemployment and poverty; and
- Africa has persistently been confronted with the problem of brain drain.

NEPAD has therefore made the revamping of the education sector a "topmost priority goal", and has identified, amongst its action plans for education, improved cooperation in the production of textbooks and the content of education; and establishment of regional centers of excellence to provide essential research and high level manpower (sic).

Samoff (2001) reviews the 'Education for All' narrative in Africa, and notes that education systems in Africa generally serve few well. He notes how in post independence contexts, education in most African countries was prioritized. In most countries schools mushroomed and enrollments increased as governments intended to broaden the benefits of education to the broader populace. He notes, however, that in most African countries these initial plans could not be sustained, and Africa's education crisis increased. With increased pressure to service debt to the World Bank and the IMF, many countries were forced to reduce in-country spending on essential social services such as education and health. Africa turned increasingly to foreign funding to boost their education sectors. With Aid dependence has come a "… transition from regarding education as a strategy for

[34] Samoff (2001:12) notes that overall, the proportion of Africa's school age children actually in school now is smaller than it was at the beginning of the 1980s.

[35] Samoff (2001:13) notes that by 1995, Sub-Saharan Africa was spending $87 per pupil, while North America was spending $ 5,150, Europe $ 4,552 and Latin America and the Caribbean $444. Equally dramatic, while the per capita education spending increased 66% in North America from 1985-1995, 152% in Europe and 110% in Latin America and the Caribbean, in Sub-Saharan Africa per capita spending during the same period declined by 5%. This is just one impact of the World Bank and IMF led structural adjustment programmes in Africa.

social transformation to understanding education more instrumentally, primarily as a national investment, as a skills production system, and as a wisdom delivery system" (pg. 5). Samoff notes that this productivist and conservative charter for education in Africa is contributing to further entrenchment of 'conditioned states' and Africa's dependence. Within Africa this charter for education is paradoxically leading to an acceptance of inequality in educational provisioning, and in some cases people are even seeing this basis for fundamental societal inequality as being 'necessary' for Africa's development (as private schools often become the only places where learners can access high quality and well resourced education). He notes that "there are too few teachers to sustain expanded access, too many teachers have had little preparation and very few teachers have had opportunities to expand their skills".

All in all, his prognosis for Education for All in Africa is not good, given the decline in capacity in the education sector over the past twenty years, in spite of the fact that there is a strongly held shared commitment to achieve the Education for All targets in Africa. As indicated in the NEPAD statement above, education is, and has for a long time been a 'top priority', but the means of achieving this aim appear to have slipped from the grasp of most African governments. Education for All therefore appears to be not only a distant, but also a receding goal in Africa[36] (Samoff, 2001:14). The HIV/AIDS pandemic and increased poverty inevitably exacerbate this trend.

For the purposes of this futures research, it may be worth drawing on the 'lessons learned' and sharing them into regional Education for All processes. In terms of the future contributions of environmental education in southern Africa, there is clearly a need to consider ways of enabling, supporting and strengthening Education for All initiatives in ways that are meaningful in context.

▸ *Educational innovation, foreign aid and sustaining initiatives*

Samoff notes further that even those 'exciting education innovations' (implemented under the banner of EFA, and other development priorities) which are to be found in many places in Africa, are most often not sustained. He notes that "it is not imagination and initiative that are missing, and in some countries very substantial achievements have been experienced" (pg. 7). Foreign aid has almost become a 'way of life' in educational reform initiatives in Africa, and aid agencies have increasingly come to provide advice[37] as well as finance. "Notwithstanding its critical role, [foreign] funding remains a very modest portion

[36] He notes that notwithstanding the contemporary fascination with globalisation, there has yet to emerge a serious proposal for establishing internationally redistributive education funding.

[37] Often implemented through the roles and work of 'technical advisors or technical assistants' and 'Chief Technical Advisors' to the particular initiatives. In many cases people from the home countries are appointed to provide technical advice within ODA projects and programmes.

of total education expenditures. Consequently their influence may be far greater than the absolute value of their aid suggests" (pg. 8)[38]. Some agencies, and especially the World Bank, currently assert that their development expertise is even more important than their funds. "[The World Bank's] ... main contribution must be advice, designed to help governments develop education policies suitable for the circumstances of their countries" (World Bank, 1995:14). The question that arises for this futures research is linked to the systemic efforts put in place by the Danida funded projects to enable or ensure sustainability of the invested funds, and the 'advice' provided.

Futures research questions

- Can the work undertaken in the Danida projects inform UNESCOs efforts to attend to the quality and content of education?
- How can environmental education initiatives be oriented towards supporting improved quality and content of teaching and learning?
- Can the futures research help to clarify how the contributions made by the Danida funded projects can be sustained within the local political economies and education systems in which they have been working? Can this futures research assist with articulating their 'systemic contribution'?

▸ *The IUCN Education and Communication narrative*

The IUCN (the International Union for the Conservation of Nature) is the union of the conservation movement, and is committed to the conservation of the world's biodiversity. Following the WSSD and the 5th World Parks Congress held in 2002 and 2003, the IUCN plans a countdown initiative to 2010 to focus attention on the WSSD commitment to biodiversity. 2010 is the target year by which the WSSD agreed to achieve a reversal of the rate of biodiversity loss. The IUCN works within a framework of a number of commissions, one of which is the Commission of Education and Communication (CEC).

The IUCN CEC educational narrative thus has some bearing on this research. As can be seen from the description of sustainable development provided by Hattingh (2002, above) WWF and the IUCN (two large conservation organizations) documents reflect a conception of sustainable development as 'an integrated agenda of caring for the community of life'. In recent years the IUCN have broadened their perspectives on

[38] This may well also be because governments pay for the 'basics' to keep the education systems going, while ODA initiatives tend to fund innovation and change-oriented processes.

environmental education to embrace the sustainable development narrative[39], and the IUCN has recently come out in strong support of the UN Decade of ESD (IUCN, 2002). The IUCN notes that:

> ... progress towards sustainable development depends on actions by people in all walks of life, requiring changes in the way of thinking, living and working. Recognising the changes required by society, all these [multilateral] agreements call for actions to facilitate participation, awareness, education and to develop capacity ... To make a shift to sustainable development the world needs to magnify the number of people who reflect upon the environmental and social consequences of their actions, are able, motivated and active to work towards sustainable development (pg. 1).

Significant to this futures research is the point made that 'societies of the future are going to be learning societies, valuing and drawing on the creativity of their people in businesses, local government, agriculture, transport, energy and tourism (amongst other sectors). They will be built on sharing knowledge and learning' (pg. 2). While UNESCO places emphasis on ESD in the context of its Education for All and Literacy programmes, the IUCN recognize the importance of focusing attention on adult and community education and of mobilizing action by the world's adults (decision makers of today) (pg. 4).

Both UNESCO and the IUCN have endorsed the Earth Charter as an ethical framework which calls for a sustainable global society founded on ecological integrity, democracy, non-violence and peace, and social and economic justice (www.earthcharter.org).

▸ *Southern African narratives: The SADC REEP and EEASA[40]*

Environmental education processes in the SADC region take place in a context of:

- Post colonial and post apartheid governance and education systems;
- Globalisation of cultural and economic systems (and a context of increased poverty in the region);

[39] This has been a gradual and conscious process within the IUCN, as shown by their debate on 'EE or ESD' which unfortunately tended to create an opposition between the environmental education and ESD, and led to much unproductive and semantically oriented debates internationally. The field is still trying to recover from this meaningless oppositionalising of EE and ESD, and to address the simplistic assumption that environmental education is about 'nature' which emerged from this oppositional discourse. The unfortunate effects of this are carried into the UNESCO draft implementation scheme for the Decade of Education for Sustainable Development (October, 2004). Southern African environmental educators at the time, tended to stay out of the debat, and focus attention on environmental education praxis.

[40] The SADC Regional Environmental Education Programme and the Environmental Education Association of southern Africa are the two largest regional networks supporting environmental education practitioners in southern Africa.

- The formation of a new African Union and a New Partnership for Africa's Development;
- Increasing uncertainty in human capacity to resolve issues through science, technology and existing political and economic frameworks (EEASA, 2002:3).

Environmental education processes in the region have been influenced by:

- The Tbilisi Principles (1977) which recognize environmental education as lifelong learning processes based on an interdisciplinary approach and diverse methods.
- Agenda 21, which calls for education and training programmes that foster public participation, recognize indigenous knowledge and a re-orientation of education towards sustainability.
- The NGO Forum's *Treaty on Environmental Education for Sustainable and Socially Just Societies* (drawn up by the NGO Forum at UNCED 1992). This treaty highlights the role of NGO's in environmental education processes, the importance of a mass media that serves democratic interests, recognition of indigenous peoples and knowledge; the importance of sharing information – not to market messages and change people's behavior according to the messenger's criteria, but to broaden participation and critical deliberation and action; and in developing educational processes that recognize that all people have something to learn and something to contribute, rather than assume that technical experts hold all answers; and
- The Earth Charter (see above).

In recent years government-led environmental education initiatives in southern Africa have begun to be influenced by the Education for Sustainable Development narrative which, as discussed above, has become institutionally powerful in the UN and other international and national institutions around the globe.

Neither the SADC Regional Environmental Education Programme, nor EEASA (the Environmental Education Association of Southern Africa) have 'replaced' environmental education with the ESD Narrative. Instead, there has been a strong focus on enabling environmental education processes which are responsive to socio-ecological issues relevant in context, which has meant that most of the rhetorical concerns of ESD are, in fact, dealt with within framings of environmental education in southern Africa (see table 1 below). There is evidence of criticality in exploring the causes and impacts of environmental issues which incorporate a concern for the social, economic and political, as well as short term and longer term consequences. Much practice in the region is also focused on enabling people to sustain livelihoods, and to reduce poverty.

Table 2: Current 'status' of environmental education in southern Africa (compared to Tilbury's 2003 suggestions on how environmental education should be re-oriented based on the WSSD Plan of Implementation)

WSSD WSSD Implementation Plan: Implications for environmental education (adapted from Tilbury, 2003:112)	**'Current 'status' of environmental education in southern Africa (2004)**
Make stronger links between environment and sustainable development. Address the core sustainable development themes of globalisation, trade, poverty alleviation, consumerism as well as biodiversity, water, health, sanitation and climate change	Environmental education processes have been focused on environment and development issues for a long time, and have recently considered 'sustainability' as key theme, particularly in the context of sustainable livelihoods. Issues such as poverty, equity, trade, biodiversity, health, sanitation, water, and food security have been key issues addressed by environmental education praxis in the region for a long time. New emerging areas of EE praxis include a focus on urbanization, trade, consumerism and climate change, particularly in urban contexts.
Integrate the 'three pillars' of sustainable development in EE	Ecology and economics have been related concepts in southern African social contexts of poverty and development, except in 'pure' conservation education, where the emphasis has been on 'telling about' or 'interpreting' nature to Others.
Understand the socio-political root causes underpinning threats to the environment	Environmental education processes in southern Africa have for many years critically considered socio-political 'root causes' such as the impact of structural adjustment programmes, World Bank policies, land ownership patterns under colonial and apartheid governments etc. on the environment.
Be inclusive in focus and incorporate women's and indigenous rights issues in learning processes	Processes of mobilizing indigenous knowledge in environmental education have been pioneered in southern Africa (see for example O'Donoghue & Neluvhalani, 2002) and many programmes address gender-related issues
Expand educational programmes to reach out to government agencies and the private sector	New arenas of practice in southern African environmental education include education and training in industry contexts, and local government.
Practice education which questions our thinking and assumptions, as well as our practice	Socially critical and reflexive approaches to environmental education have gained currency in the region over the past 10 years
Educate for the future and consider scenarios available to us	Environmental education in southern Africa has been contextually and historically situated, to provide the scope for contextually relevant actions, and to create a framework for consideration of futures perspectives. Futures education has not been practiced in terms of the 'hyper-real'.

Education for participation in decision making processes and not just for awareness raising about issues	Participation has been a strong focus of environmental education processes in southern Africa. Participatory methodologies have been explored and researched which cover professional development deliberations; participatory approaches to materials development; and participatory learning interactions.
Develop partnerships with non-educators to assist with the mainstreaming of environmental education & sustainability across a number of socio-political levels	Partnerships (mainly across EE organizations) have been a strong feature of environmental education praxis. EE practitioners have explored partnerships with a range of non-educators (e.g. local government officials, industry managers, donor organizations, etc).

Environmental education processes are also articulated as being 'situated' within a range of differing responses to environmental issues and risks at local, national and global level. These responses include for example: policy development, community-based natural resource management, sustainable agriculture, environmental management and advocacy work (SADC, 2002). The EEASA 'Gaborone Declaration' provides an indication of the scope and priorities of environmental education praxis in southern Africa (EEASA, 2002). The scope includes environmental education processes using the media; environmental education and training in industry contexts; community development contexts; urban environments; adult and teacher professional development; and schools and classrooms. Priority issues (as defined in the Gaborone Declaration) include a strong concern for culture and indigenous knowledge systems in southern African environmental education praxis, sustainable funding frameworks for environmental education work, accountability in business and industry settings; relevance in formal education curricula and policy processes that are participatory and that are praxis oriented and useful. A concern for participation in education processes is seen in the emphasis on learning support materials that assist with creating access to education and information, the use of the media to broaden public participation processes and the development of open process learning frameworks (O'Donoghue, 2001; see also Taylor & Russo, 2002). There is also a strong history of initiatives that attempt to foster participation in education processes.

The environmental education narrative in southern Africa has gradually evolved into diverse intersecting narratives, which are primarily concerned with socio-ecological justice and participation, and which include ***a strong focus on history, context, reflexivity, criticality and open processes of learning and change***[41]. Much of the emphasis has been

[41] O'Donoghue's (1997) research argues for environmental education as open processes of ongoing social transformation and change. His research indicates that these processes cannot be pre-determined or engineered but that through reflexive historically-located empirical review and analysis, axes of tension and discontinuities can shed light on prevailing orientations and open up a contextual engagement with social transformation and change.

on environmental education processes ***as processes of social change***[42] (Janse van Rensburg, 1995). If one reviews the work conducted in the SADC REEP over the past six years, it would seem that the emphasis is more on 'smaller functional units' and a working in context. Attempts have been made to reduce the colonizing power of global slogans (such as the ESD narrative) on local practice, by examining them as global abstractions developing in a particular socio-historical context. Southern Africans have been actively seeking what 'lies behind' the slogans, through ongoing work in context, and as shown in this paper, there are many propositions that 'lie behind' these slogans that are not immediately visible.

More recently, with a stronger institutionalization and abstraction of environmental education processes into policy, ODA and university-led discourses has come an increased and paradoxical **governmentality**[43], which attempts to define, control and 'implement' particular forms of environmental citizenry and particular environmental education narratives. This can, for example, be seen in campaign-type approaches to environmental education (often run by state departments); the defining of environmental education processes into standards-based frameworks and/or outcomes; and in professional

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[42] In this context, Janse van Rensburg (1995) identified some of the limitations evident in research orientations concerned with social change; and identified three different approaches to social change, as evident in environmental education and research at the time:

- Change as restoring order (center to periphery or managerial orientations to change);
- Change as the resolution of practical problems (community problem solving orientations to change which are underpinned by liberalist ideologies);
- Change as reconstruction (a critical orientation to change).

Her research indicated that many of these perspectives on change "… seem to involve particular *models* of how the advocated change is to be brought about" through research and education interventions (*ibid,* 1995:151); and that all are concerned with an incremental, evolutionary process of rationally reasoned progress. Her study (*ibid,* 1995:211) recommended a 'reflexive perspective' or an orientation to change, which emphasizes process, rather than product, which is not concerned with predetermined direction, and which does not rely on the formal research enterprise as a tool to bring about change. Popkewitz (1984; 1998, 1999) questions the idea that change can be brought about by applying models. In his view change can only be described as discontinuities, disruptions or breaks in practice and discourse, and can only be described after the event. Janse van Rensburg (*ibid*, 161) sees this view of change to be congruent with that of a reflexive perspective to change. She therefore argues for the expansion of possibilities and the release of potential beyond the limitations of modernist assumptions in our search for meaning and clarity on processes of change and transition and argued that "…rather than confirm expectations, science, research and critique should open up possibilities" (*ibid).*

[43] According to Popkewitz (2000), who draws on Foucault (1979), the notion of governmentality '… gives attention to the connection of knowledge to power through the rules and standards of reason itself'. For example, curriculum or qualifications frameworks (and particular ways of representing environment in the curriculum or qualifications framework) inscribes certain rules through which individuals reason about the 'self', and discipline the actions they are to take. These inscriptions are enacted through ordered symbolic systems through which people come to interpret, organize and act in the world. Popkewitz (2001:160) notes that Foucault's (1979) notion of governmentality is useful as it helps to focus on new principles of governing that become embodied in (new) forms of pedagogy (for example forms of pedagogy that are underpinned by social constructivist perspectives or action competence ideals).

development activities which structure participation in particular ways. This governmentality is not only emerging in state-driven programmes, but also in some of the donor-driven; NGO and university-led programmes[44], where attempts are made to 'institutionalise' particular narratives and approaches. This increased governmentality leads to processes of inscribing the possibilities for participation and action in particular ways (Popkewitz, 2001). This emerging issue has not been engaged critically or in any depth in southern Africa, as it is a relatively new phenomenon within transformation oriented processes. The emphasis to date has been on transforming 'the other' or on transforming 'the system', rather than on a critical reflexive review of the implications of these interventions for environmental learning processes in southern Africa. This may also be one of the key issues to engage in the Education for Sustainability narrative. What possibilities for participation and action are inscribed in this narrative?

Both EEASA and the SADC REEP programme reflect that 'a reflexive orientation which supports open processes of teaching and learning in diverse contexts' seems to be a useful orientation to environmental education praxis (SADC, 2002:13). These processes are characterized by:

- A responsiveness which allows for participation and deliberation
- Participation which involves sharing experience, criticality, and bringing in of new knowledge
- Practical and reflexive applications of knowledge in diverse contexts
- Critical and evaluative processes which foster meaning-making and criticality (SADC 2002; EEASA 2002).

To enable these open, reflexive processes in diverse contexts, the SADC REEP has developed a framework for operation based on key principles which include: Responsiveness; Flexibility and structure; Participation and partnerships; Recognition of diverse contexts; Regionalisation; Building on existing structures and research; Transparency and accountability; Process and product; Open-endedness; and Monitoring, evaluation, research and reflexivity (SADC 2002: 21-25).

Thus, from the above it seems that the environmental education narratives in southern Africa are more concerned with responsive processes of change in context, than with adoption of global(ising) narratives. In recent years, environmental education processes have begun to re-orient towards these global(ising) narratives, as can be seen from the subtitle of the EEASA Gaborone Declaration (EEASA 2002) which carries the title "Environmental Education processes for sustainable development". In many instances, the adoption of the rhetoric is more a process of 'signaling' awareness of the current political

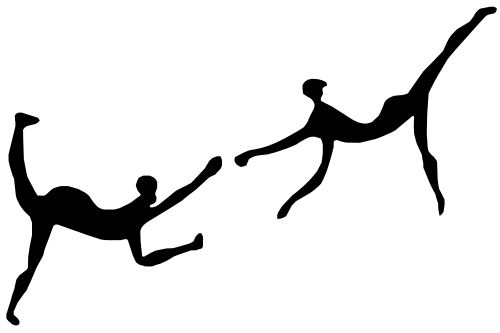
[44] I include our own programmes within this discussion, along with many other programmes.

economy influencing environmental education, and less of a process of critical engagement with notions of sustainable development. As yet, there appears little evidence that environmental educators in southern Africa have engaged critically with understandings of sustainable development, and how this relates to environmental education processes in the region. This, it would seem, is one of the intentions of this futures research.

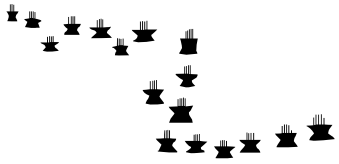
In the process of beginning their engagement with the 'ESD narrative' and broader sustainable development narratives, it would seem that environmental educators in the region have been 'keeping the environment in focus', while tentatively considering the political and other imperatives to re-orient towards sustainable development. There are also signs of 'passive resistance' to the global(ising) narrative of ESD, and some suspicion surrounding its colonizing character (in much the same way in which passive resistance to colonialism took place in African societies). As this paper has indicated, this is somewhat of an ambivalent process, which would appear to require more in-depth deliberation and debate in the region.

Futures research question

- Can this futures research open up a debate involving more critical engagements with the notion of sustainable development, as it relates to environmental education praxis?



Concluding focus



Some implications for the futures research

The political discourse surrounding environmental education (globally) has changed significantly over the past twelve years (since the Rio Earth Summit). The discourse is increasingly centred on adoption of the ESD narrative, as outlined in the institutional narratives of WSSD, UNESCO and the IUCN. Of concern to this research is the fact that eco-justice perspectives are being dominated by neoliberal orthodoxy in global deliberations on Sustainable Development. This orthodoxy is all pervasive, complex and difficult to engage and is shaping policy development under NEPAD and also the SADC RISDP, as governments try to develop strategies to alleviate poverty within contemporary patterns of globalisation. This orthodoxy is, however, contributing to increased levels of poverty, with impacts that are reverberating across the continent, and are affecting Africa's capacity for self-determination, governance and provision of education. At the same time, this narrative is being presented as the 'salvation narrative' for Africa's environment and development issues. This orthodoxy is also leading to an increased commodification of nature and life, and privatization of key resources such as water. The associated ESD narrative appears to be, in turn, narrowing the focus on environmental education processes, while broadening the focus on multiple dimensions that need to be considered in transforming education systems worldwide. How should environmental education practitioners in southern Africa respond, particularly since governments will be required to develop ESD strategies in all countries within the framework of the UN Decade of ESD?

Providing Education for All in Africa is clearly a challenge for all in Africa, and partners around the globe as we seek greater equity. Of significance to this research is the link between the Millennium Development Goal emphasizing Education for All and the Millennium Development Goal emphasizing Environmental Sustainability. Making these links through this future research, through sharing insights into ways of improving the **quality of education** would seem possible. Where possible, links could be made to the regional Education for All forums.

In a SADC context, the education and training goals in the Food, Agriculture and Natural Resources Sector, and the cross-cutting environment and sustainable development priorities of the SADC RISDP are not reflected in the Human and Social Development Sector Action Plans and priorities. This seems to represent a significant policy gap at the regional level.

There appears to be a poor understanding of the relationships between education, capacity building, training, participation and awareness in key international guiding frameworks such as the WSSD Implementation Plan, the SADC RISDP, and NEPAD. Could this futures research assist with clarification of this, in order to 'position' environmental education within the NEPAD and other frameworks? In particular, the NEPAD environmental action plan adopts a sectoral approach to environmental action, but reflects an extremely poor articulation of the role of education in achieving the goals of the action plan. Most emphasis is placed on the building of institutional capacity, with little attention being given to human capacity to act within these institutional frameworks.

In the shift towards 'Sustainable Development' as dominant salvation narrative, and ESD, there appears to be a narrowing and marginalizing of environmental perspectives and dimensions of sustainability and development issues, and in some cases a 'virtual disappearance' of environmental education discourse has been identified. How should southern Africans respond, particularly when almost 75% of people in southern Africa depend on the environment and biophysical life-support systems for their livelihoods. Should we abandon a strong environmental focus in favour of a dominance of economic discourse, as reflected in the WSSD Implementation Plan?

The ESD agenda appears to have become broader and 'diffuse'. It seems to be providing a 'catch all' for a range of social / development issues such as gender equity, poverty alleviation, cultural and linguistic diversity etc. which are all important to human development more broadly, and thus to the broader project of education. Environmental education has been narrowed within this framework to be directly linked to conservation and biodiversity protection. In the international institutional narratives (UNESCO and IUCN) these two discourses appear to have become conflated, and not enough attention is being paid to the environmental dimension of the ESD discourse; in fact, it seems to have more or less disappeared from sight in the documentation providing orientation to stakeholders and governments around the globe.

In some of these documents (e.g. UNESCO, IUCN) there is sensitivity to contextual relevance of education and training processes, but these are not well articulated.

There appears to be a need for:

- A clear articulation of environmental education in relation to the ESD framework
- A clear articulation of environmental education in relation to Education for All strategy in an African context where countries are struggling to achieve Education for All
- A clear articulation of environmental education in relation to the NEPAD capacity building for sustainable development framework

- A clear articulation of environmental education in relation to the Millennium Development goals
- A clear articulation of environmental education in the context of the SADC RISDP, particularly the role of the Human Resources Action Plan and the other sector plans that will require environmental education and capacity building processes (e.g. FANR, Water etc).
- A stronger articulation of the learning processes involved, and the range of sectors in society involved in environmental education in the region, as most of the policy-related documents tend to focus on structure and political framings, rather than educational framings.
- Attention also needs to be given to the nature of ODA and its influence on praxis, particularly the longer-term sustainability of initiatives established under short term funding frameworks.

The UN Decade of ESD: 2005-2015

The UN Decade of ESD will start next year. It is clearly a significant item on the agenda for this futures research.

As indicated above, UNESCO will be the 'lead agent' implementing the UN Decade of ESD. The IUCN has endorsed the UN Decade of ESD and is encouraging its members to do the same. Governments around the globe, through their commitments to Agenda 21, the Millennium Development Goals and the WSSD Implementation Plan are all committed to the development of ESD strategies. The question for southern African environmental education would be: Will the environment be 'in focus' in the defining of the ESD plans and strategies, and how will the narrowing of emphasis on environmental education be addressed in the defining of the ESD plans and strategies?

UNESCO (2003:4) indicate that ESD is an "... emerging and dynamic concept that encompasses a new vision of education that seeks to empower people of all ages to assume responsibility for creating and enjoying a sustainable future ... it is education for sustainable development". They note that there will be overall agreement on 'What is ESD", but that there will be nuanced differences according to local contexts, priorities and approaches. This means that there will not be one 'right' definition of ESD, but "... there will be overall agreement on the concept of sustainable development that education addresses". From the discussions in this paper (in part 2), it seems that this 'overall agreement' is not, in fact a global reality, and this assumption of UNESCO would therefore seem to be erroneous.

Putenney (2003), reporting from the Commission on Sustainable Development (CSD 11) meeting held in 2003 following the WSSD, notes that "A strong consensus emerged over

the past three days reaffirming education as a strategic key to staying abreast of evolving approaches to sustainability ... Knowledge, how we obtain knowledge, and learning how to organize and use it, have become increasingly important as an integral part of the outcomes of the CSD's work. As one of the four main instruments of the policy framework, education serves to raise awareness, provide access to knowledge, improve understanding, build skills, and is a means to engage cross cultural and value-based issues." (pg. 1). This appears to indicate that the role of education is increasingly being considered as a key 'instrument' for sustainable development, but there appears to be little critical engagement with the kinds of knowledge and skills being sought under this framework.

UNESCO (2003:4), in providing orientation to the UN Decade on ESD, note that, "The goals, emphasis and processes of ESD must ... be locally defined meeting the local environmental, social and economic conditions in culturally appropriate ways". This would appear to be one of the challenges associated with this futures research.

Environmental Education Processes and Sustainability

While it is not the intention of this document to provide a particular 'position' on environmental education in southern Africa, there are clearly a few key questions, which have come to the fore through the analysis presented in this paper:

- Can we or should we (and how should we), in re-positioning environmental education in southern Africa in the context of the changing political economy of sustainable development keep the environment[45] in focus?

- How can we bring sustainability issues into focus in environmental education praxis in ways that continue to enable open processes of learning and change, reflexivity and criticality in context? (i.e. Can we participate fruitfully in the UN Decade of ESD while retaining an ambivalence to the notion of sustainable development, as we seek deeper insight into, and greater clarity on this notion, as well as explore other possibilities for steering practice?)

- Can we 'steer clear' of adopting institutional rhetoric and globalis(ing) narratives / slogans, and continue to seek what 'lies behind' the slogans through ongoing critical and reflexive environmental education work in context?

[45] Note that the 'environment' in southern African environmental education is strongly focused on the socio-ecological environment, and includes social, political, economic and biophysical dimensions. It does not privilege economic discourse in the same way that the ESD narrative does (see Sauve, 2002), nor does it reflect a narrow "natures' focus. Oppositional critiques of EE vs ESD therefore hold little substance in southern African environmental education praxis.

And finally …

The Millennium Development Compact (a compact through which the world community can work together to help the poor countries to achieve the Millenium Development Goals), recommends the following for countries trapped in poverty (amongst other key measures):

- Investing in human development (which includes health, education, water and sanitation); and
- Promoting environmental sustainability and improving urban management.

In discussing the Millennium Development Compact, the Human Development Report (UNDP, 2003) notes that:

> All countries, but especially the very poorest, need to protect the biodiversity and ecosystems that support life (clean water and air, soil nutrients, forests, fisheries and other key ecosystems) and ensure that their cities are well managed to provide livelihoods and safe environments (UNDP, 2003:18).

Environmental education processes in southern Africa have a key role to play in both investing in human development, and in protecting environments to ensure sustainable livelihoods and safe environments for all.

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List of Acronyms

AIDS	**Acquired immune deficiency syndrome**
CSD	**Commission on Sustainable Development**
Danida	**Danish Ministry of Foreign Affairs**
DESD	**United Nations Decade of Education for Sustainable Development**
EEASA	**Environmental Education Association of Southern Africa**
EJNF	**Environmental Justice Networking Forum**
ESD	**Education for Sustainable Development**
EU	**European Union**
FANR	**Food Agriculture and Natural Resources (sector)**
GDP	**Gross domestic product**
GM	**Genetically Modified**
HIV	**Human Immunodeficiency virus**
ICT	**Information Communication Technologies**
IFAD	**International Fund for Agricultural Development**
IMF	**International Monetary Fund**
IUCN	**International Union for the Conservation of Nature**
NEPAD	**New Partnerships for Africa's Development**
NGO	**Non governmental organisation**
ODA	**Overseas development aid (foreign aid)**
RISPD	**Regional Integrated Strategic Development Plan**
SADC	**Southern African Development Community**
SADC REEP	**SADC Regional Environmental Education Programme**
TNCs	**Transnational Corporations**
TRIPs	**Trade-Related Intellectual Property Rights**
US / USA	**United States of America**
UN	**United Nations**
UNCED	**United Nations Commission on Environment and Development**
UNDP	**United Nations Development Programme**
UNEP	**United Nations Environment Programme**
UNESCO	**United Nations Education, Science & Cultural Organisation**
WWF	**World Wide Fund for Nature**
WSSD	**World Summit on Sustainable Development**
WTO	**World Trade Organisation**

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