PART I

FRAMEWORK FOR ENVIRONMENTAL MANAGEMENT

Chapter 2

Global Landmarks for Environmental Governance

Introduction

The 'environment' became a global policy issue in the mid-1960s (Carter 2001). By that time, many governments had adopted a techno-centric approach that considered environmental problems to be the unfortunate side-effects of economic growth and development. Therefore, the main assumption was that governments would eventually find a way of addressing such problems (Howlett and Ramesh 1995). The standard approach to dealing with such environmental problems was re-active rather than pro-active (UNEP 2002; UNEP 2003b; UNEP 2003a). This approach could not, however, stem the ever-increasing and complex environmental problems, such as resource depletion, waste, pollution and global warming.

A number of global landmarks in environmental management and policy are worth mentioning: The World Commission on Environment and Development (WCED), which produced the now famous document *Our Common Future* (or The Brundtland Report) (WCED 1987), the United Nations Summit on Environment and Development that took place in Rio de Janeiro, Brazil, 14–17 June 1992, leading to the adoption of Agenda 21 as the global action plan on sustainable development (UNCED 1992), the World Summit on Sustainable Development (UN 2002), the Millennium Development Goals (UNDP 2003) and the Decade of Education for sustainable Development (UNESCO 2004). These and other relevant landmarks are discussed in the following sections.

The Stockholm Declaration of 1972

The Stockholm Declaration was made in Stockholm, Sweden in June 1972. This followed an invitation by Sweden, as it had just experienced 'severe damage to thousands' of its lakes from acid rain following critical air pollution in Western Europe (UNEP 2003a:4). Twenty-six principles and an Action Plan of 109 recommendations guide the Stockholm Declaration (UNEP 2003a; Sands 2003; Leeson 1995). The general principles from the Stockholm Declaration are presented in Box 2.1.

Box 2.1: Principles of the Stockholm Declaration

Principle 1:	Human rights must be asserted, apartheid and colonialism condemned
Principle 2:	Natural resources must be safeguarded
Principle 3:	The earth's capacity to produce renewable resources must be maintained
Principle 4:	Wildlife must be safeguarded
Principle 5:	Non-renewable resources must be shared and not exhausted
Principle 6:	Pollution must not exceed the environment's capacity to clean itself
Principle 7:	Damaging oceanic pollution must be prevented
Principle 8:	Development is needed to improve the environment
Principle 9:	Developing countries therefore need assistance
Principle 10:	Developing countries need reasonable prices for exports to carry out environmental management
Principle 11:	Environment policy must not hamper development
Principle 12:	Developing countries need money to develop environmental safeguards
Principle 13:	Integrated development planning is needed
Principle 14:	Rational planning should resolve conflicts between environment and development
Principle 15:	Human settlements must be planned to eliminate environmental problems
Principle 16:	Governments should plan their own appropriate population policies
Principle 17:	National institutions must plan development of states' natural resources
Principle 18:	Science and technology must be used to improve the environment
Principle 19:	Environmental education is essential
Principle 20:	Environmental research must be promoted, particularly in developing countries
Principle 21:	States may exploit their resources as they wish but must not endanger others
Principle 22:	Compensation is due to states thus endangered
Principle 23:	Each nation must establish its own standards
Principle 24:	There must be cooperation on international issues
Principle 25:	International organisations should help to improve the environment
Principle 26:	Weapons of mass destruction must be eliminated

Source: Adopted from Clarke and Timberlake (1982) as cited by UNEP (2003: 3).

The significant achievements of the Stockholm resolutions were: (a) recommendations for the establishment of new institutions and coordinating mechanisms for the institutions already in place (the Action Plan); (b) the definitions of a framework for future actions to be undertaken by the international community (the recommendations); and (c) the adoption of the guiding principles outlined in Box 2.1 (Sands

2003). The Action Plan recommended that the UN General Assembly formulate four institutions that included an inter-governmental Governing Council for Environmental Programmes to guide and coordinate environmental management programmes; an environment secretariat; an Environment Fund and lastly, an inter-agency Environmental Co-ordinating Board that would ensure cooperation and coordination among major bodies involved in the implementation of environmental programmes within the UN systems. The United Nations Environment Programme (UNEP) was born out of the Stockholm Declaration as the secretariat. Today, its mission is spelt out as the need to:

> Provide leadership and encourage partnership in caring for the environment by inspiring, informing and enabling nations and peoples to improve their quality of life without compromising that of future generations (UNEP 2003a:4).

According to Clarke and Timberlake (cited in UNEP 2003a:5), the environment was placed firmly on most government agendas following the Stockholm Declaration. The authors indicate that there were only around ten ministries and departments responsible for the environment in existence prior to the declaration. Whereas by 1982, more than 110 countries had established such ministries or departments to deal with pressing environmental matters.

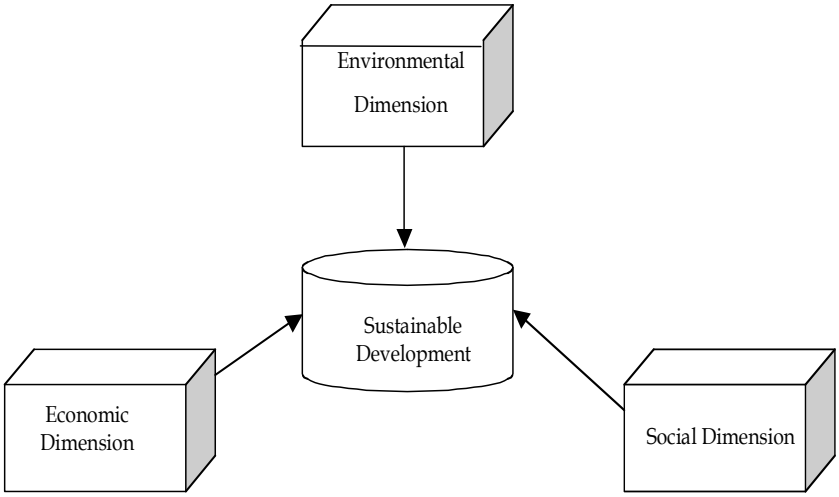
Sandbrook (1992), credits the Stockholm Conference for having managed to place the environment in the global arena. However, he notes deep divisions between countries of the North (developed) and those of the South (emerging and developing), an aspect that re-surfaced again during the Rio Summit. According to Sandbrook's observations, the conference was a dialogue of the deaf between the rich and the poor. In order to clean up the polluted world, governments from the North advocated for all nations and industry to agree to share the burden. However, governments of the South wanted industry to create more jobs and eradicate poverty, even at the cost of the environment. In the perspective of former India's Prime Minister Indhira Ghandi, of all the pollutants that were faced, the worst was poverty (Sandbrook 1992).

Our Common Future and Sustainable Development

Our Common Future called upon world governments to embrace the concept 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 1987:8). This way, sustainable development implied capturing the three conventional pillars namely: economic, social and environmental (Figure 2.1).

The aim of the World Commission on Environment and Development was to find practical ways of addressing the environmental and developmental problems of the world (WCED 1987). In particular, it had three general objectives: re-examine the critical environmental and development issues and formulate realistic proposals for dealing with them; propose new forms of international cooperation on these issues so as to influence policies and events in the direction of needed

Figure 2.1: Sustainable Development from *Our Common Future*



changes; and raise the levels of understanding and commitment to action of individuals, voluntary organisations, businesses, institutes and governments. *Our Common Future* reported on many global realities and recommended urgent action on eight key issues to ensure that development was sustainable. These were: population and human resources, food security, the urban challenge, energy, industry, species and ecosystems, managing the commons, and conflict and environmental degradation. These eight key issues were identified as early indicators of sustainable development.

Unsustainable development was attributed mostly to the limitations of technology and social organisation, natural resources, and the ability of the biosphere to take up the cumulative negative impacts from human activities. Hence, both technology and social organisation could be regulated and improved to pave the way for a new era of sustainable economic growth (WCED 1987). Unsustainable economic growth was understood as the main cause of skewed resource distribution (including income) leading to poverty, as people failed to provide basic needs such as food, shelter and clothing. The poor were associated with the direct impoverishment of the environment, as 'a world in which poverty is endemic will always be prone to ecological and other catastrophes' (WCED 1987:8). In this regard, calls were made for economic growth that realised the importance of the earth's life support systems: water, soil and the atmosphere (Cahill 2002).

Our Common Future's definition of sustainable development was also adopted during the UN Earth Summit of 1992, which set Agenda 21 as a global action plan for implementing sustainable development (UNCED 1992). However, in as much as the definition takes cognisance of people, many environmental policies and legis-

lation, both on global and national scales, it hardly recognises them as the primary focus of development (Jacobs cited in Cahill 2002:2). In this respect, Jacobs identifies equity (commitment to meet basic needs of the poor), quality of life (that economic growth should not be taken to equate to human well-being), and participation (involving as many stakeholders as possible in environmental policy processes) as additional key themes in attaining sustainability. Cahill (2002) also warns of the need to distinguish between the concepts of sustainability and sustainable development. He maintains that the former refers to the end-state, whereas the latter refers to the means by which that end is achieved. However, the two terms are often used interchangeably. This is the case in this book.

Although popular and, at times, generic, the phrase 'sustainable development' is complex and often highly contested. This has resulted in its mis-use at various fora, from the grassroots, through to national, regional and global levels. In fact, it has become a global refrain. Therefore, what we present here are a few pointers to what we believe could comprise true sustainability in managing the environment for poverty eradication in Africa. True sustainability implies that we as individuals, households, communities, nations and the whole world at large succeed in removing selfish motives from development; are ready to be good environmental stewards; and that world governments set the right platforms for true dialogue and let sustainability agenda filter down to regional and national levels, resulting in tangible deliverables at the grassroots. The last point means refraining from repeating extraordinarily resource-intensive global talk-shows, such as the 1992 Rio Summit, 1997 Rio+5 Summit and the 2002 World Summit on Sustainable Development held in Johannesburg, South Africa, commonly known as the WSSD, and its Implementation Plan.

Leeson (1995) advocates the principle of sustainable development. He is particularly concerned with broader national or regional trends, and the long-term consequences of negative social and economic developments. This confronts policymakers with the task to select between 'more immediate, quantifiable merits of a proposed course of action and the more speculative benefits to future generations of present self-denial' (Lesson 1995:38). However, in Africa, the time has come when we may need to consider sustainable development and sustainability as open questions. Since no one can really accurately predict the future, we should continue searching for appropriate positioning and responses, and approach sustainability with an open mind, acting responsibly.

The Rio Declaration on Environment and Development

The Rio Declaration on Environment and Development, Rio de Janeiro, 3–14 June 1992, underscored twenty-seven principles (UN 1992). These principles, shown in Box 2.2, are set out here in full; bearing in mind that access to online information remains critical in many African countries. The principles will permit further debate and research into how far the African continent and those outside it have measured up to them.

Box 2.2: Principles Established by the Conference on Environment and Development, 1992

Principle 1: Human beings are at the centre of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature.

Principle 2: States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources, pursuant to their own environmental and developmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.

Principle 3: The right to development must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations.

Principle 4: In order to achieve sustainable development, environmental protection shall constitute an integral part of the development process and cannot be considered in isolation from it.

Principle 5: All States and all people shall cooperate in the essential task of eradicating poverty as an indispensable requirement for sustainable development, in order to decrease the disparities in standards of living and better meet the needs of the majority of the people of the world.

Principle 6: The special situation and needs of developing countries, particularly the least developed and those most environmentally vulnerable, shall be given special priority. International actions in the field of environment and development should also address the interests and needs of all countries.

Principle 7: States shall cooperate in a spirit of global partnership to conserve, protect and restore the health and integrity of the earth's ecosystem. In view of the different contributions to global environmental degradation, States have common but differentiated responsibilities. The developed countries acknowledge the responsibility that they bear in the international pursuit of sustainable development, in view of the pressures their societies place on the global environment and of the technologies and financial resources they command.

Principle 8: To achieve sustainable development and a higher quality of life for all people, States should reduce and eliminate unsustainable patterns of production and consumption and promote appropriate demographic policies.

Principle 9: States should cooperate to strengthen endogenous capacity-building for sustainable development by improving scientific understanding through the exchange of scientific and technological knowledge, and by enhancing the development, adaptation, diffusion and transfer of technologies, including new and innovative technologies.

Principle 10: Environmental issues are best handled with the participation of all concerned citizens, at the relevant level. At the national level, each individual shall have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous materials and activities in their

communities, and the opportunity to participate in decision-making processes. States shall facilitate and encourage public awareness and participation by making information widely available. Effective access to judicial and administrative proceedings, including redress and remedy, shall be provided.

Principle 11: States shall enact effective environmental legislation. Environmental standards, management objectives and priorities should reflect the environmental and developmental context to which they apply. Standards applied by some countries may be inappropriate and of unwarranted economic and social cost to other countries, in particular developing countries.

Principle 12: States should cooperate to promote a supportive and open international economic system that would lead to economic growth and sustainable development in all countries, to better address the problems of environmental degradation. Trade policy measures for environmental purposes should not constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade. Unilateral actions to deal with environmental challenges outside the jurisdiction of the importing country should be avoided. Environmental measures addressing transboundary or global environmental problems should, as far as possible, be based on an international consensus.

Principle 13: States shall develop national law regarding liability and compensation for the victims of pollution and other environmental damage. States shall also cooperate in an expeditious and more determined manner to develop further international law regarding liability and compensation for adverse effects of environmental damage caused by activities within their jurisdiction or control to areas beyond their jurisdiction.

Principle 14: States should effectively cooperate to discourage or prevent the relocation and transfer to other States of any activities and substances that cause severe environmental degradation or are found to be harmful to human health.

Principle 15: In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.

Principle 16: National authorities should endeavour to promote the internalisation of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the cost of pollution, with due regard to public interest and without distorting international trade and investment.

Principle 17: Environmental impact assessment, as a national instrument, shall be undertaken for proposed activities that are likely to have a significant adverse impact on the environment and are subject to a decision of a competent national authority.

Principle 18: States shall immediately notify other States of any natural disasters or other emergencies that are likely to produce sudden harmful effects on the environment of those States. Every effort shall be made by the international community to help States so afflicted.

Principle 19: States shall provide prior and timely notification and relevant information to potentially affected States on activities that may have a significant adverse transboundary environmental effect and shall consult with those States at an early stage and in good faith.

Principle 20: Women have a vital role in environmental management and development. Their full participation is therefore essential to achieve sustainable development.

Principle 21: The creativity, ideals and courage of the youth of the world should be mobilized to forge a global partnership in order to achieve sustainable development and ensure a better future for all.

Principle 22: Indigenous people and their communities and other local communities have a vital role in environmental management and development because of their knowledge and traditional practices. States should recognise and duly support their identity, culture and interests and enable their effective participation in the achievement of sustainable development.

Principle 23: The environment and natural resources of people under oppression, domination and occupation shall be protected.

Principle 24: Warfare is inherently destructive of sustainable development. States shall therefore respect international law providing protection for the environment in times of armed conflict and cooperate in its further development, as necessary.

Principle 25: Peace, development and environmental protection are interdependent and indivisible.

Principle 26: States shall resolve all their environmental disputes peacefully and by appropriate means in accordance with the Charter of the United Nations.

Principle 27: States and people shall cooperate in good faith and in a spirit of partnership in the fulfilment of the principles embodied in this Declaration and in the further development of international law in the field of sustainable development.

Source: Report of the United Nations Conference on Environment and Development, Rio de Janeiro, 3–4 June 1992.

The Rio summit stipulated one of its fundamentals as the 'precautionary principle' (Principle 15). The precautionary principle states that 'action to protect the environment against the danger of severe and irreversible damage need not wait for rigorous scientific proof' (Weiss 2003:137). It transpired because most issues of environmental policy depend on science and technology. The precautionary principle has led to governments developing strategies for pro-active management of environmental risks under conditions of scientific uncertainty, which is usually the situation in decisions affecting environmental policy (Weiss 2003). Other principles of interest, with regard to recent environmental management trends in Africa, are the application of economic instruments, especially the 'polluter pays' principle (Principle 16), and the adoption and application of environmental impact assessments

(EIAs) to ensure development does not harm the environment (Principle 17). As presented in Chapter Seven, many countries in Africa now have legislation to guide EIAs.

During Rio, the divide between developed and developing economies persisted. Governments from the North had an agenda to 'solve issues of the climate, forests and endangered species' (Sandbrook 1992:16). For governments from the South, it was the same story of poverty. They lobbied for the coupling of development and the environment. Hence, if the North wanted the South to stop deforestation, slow down the consumption of fossil fuels (chiefly coal) and reduce birth rates, then the North had to pay.

The Rio conference witnessed the adoption of Agenda 21, a blueprint for sustainable development (UNCED 1992). Agenda 21 (21st Century Agenda) is a list of action points agreed by world governments. The plan realised that economic development neglects other developmental issues (Castro 2004). Agenda 21 actions include: promoting environmentally sound management of solid waste and sewage; combating poverty; education, training and awareness; protecting and promoting human health; protecting the atmosphere; managing fragile ecosystems; and conserving biological diversity. Since then, many multilateral environmental agreements (see Chapter Three) have been put in place and ratified by many countries globally, including South Africa. A full review of the progress in addressing Agenda 21 was undertaken during the World Summit on Sustainable Development (WSSD) held in Johannesburg, South Africa, in September 2002, which led to the WSSD Plan of Implementation (UN 2002).

Article 21 of the WSSD Plan of Implementation calls for the prevention and minimisation of waste, and the maximisation of re-use, recycling, and the use of environmentally friendly alternative materials. It also calls for the participation of all government authorities and stakeholders in minimising adverse effects on the environment. Actions to achieve this include the implementation of a waste management hierarchy.

The desire to promote education, public awareness and training (Chapter 36 of Agenda 21) in order to achieve good environmental stewardship was recognised as one of the key means of implementing Agenda 21. Chapter 36 makes reference to the Declaration and Recommendation of the Tbilisi Intergovernmental Conference on Environmental Education, which was held in 1977 and provided the fundamental principles. Three key issues and the basis for action were spelt out (Quarrie 1992). They include:

Reorienting Education Towards Sustainable Development

Education was to be recognised as a process by which societies can reach their fullest potential, thereby improving capacity to address environmental and development related issues. To be effective and efficient, environmental and developmental education was supposed to deal with the dynamics of both the natural and human environments. These were supposed to be integrated into all disciplines, making use

of both formal and non-formal methods, as well as effective means of communication.

Increasing Public Awareness

Chapter 36 noted the low levels of awareness about the interrelated nature of anthropogenic activities and the environment. This was linked to inaccurate and insufficient information, particularly for developing countries. In addition, developing countries also faced problems related to technology and environmental expertise.

Promoting Training

This should have a job-specific focus, aimed at filling identified gaps regarding the knowledge base and necessary skills in environmental and development management. Simultaneously, training must promote awareness of environmental and development concerns (as a two-way process) at local, national and global levels.

UN Conference on Desertification

The United Nations Conference on Desertification (UNCOD), held in Nairobi in 1997, remains a global landmark in addressing environmental concerns of desertification. An estimated 500 delegates from ninety-four countries gathered in Nairobi in August and September 1997 to discuss the problems of desertification. UNCOD spelt out the Plan of Action, the immediate objective of which was to prevent and arrest the advance of desertification and, where possible, to reclaim desertified land for productive use (UN 1997). The main objective was to sustain and promote, within ecological limits, the productivity of arid, semi-arid, sub-humid and other areas vulnerable to desertification in order to improve the quality of life of inhabitants. The Plan of Action outlined twenty fundamental principles. UNCOD acknowledged that countries affected by desertification are at different stages with respect to their appreciation of and ability to address desertification problems. Given this scenario, countries were required to first define the extent and impact of desertification by: strengthening or establishing a national body for assessment and monitoring of desertification; and determining criteria for identifying and assessing desertification and its causes. If the problem of desertification existed, a system to monitor the problem would be set up (UN 1997).

Millennium Development Goals

Millennium Development Goal 7 stipulates the need to ensure that environmental sustainability is achieved at the lowest possible scale, thus, the household (UNDP 2003). Three targets were set, namely to: integrate the principle of sustainable development into national policies and programmes by 2015; halve the proportion of people without access to safe drinking water and basic sanitation; and by 2020, achieve significant improvement in the standards of living of at least 100,000,000 squatter residents. The risk of urban squatters remains. Fragile and even stable

ecosystems easily succumb to heavy population densities, resulting in the depletion of naturally occurring life support systems, and which affect quality of life issues like waste management and sanitation. Other goals are stipulated as to: eradicate extreme poverty and hunger; achieve universal primary education; promote gender equality and empower women; reduce child mortality; improve maternal health; and combat HIV/AIDS, malaria and other diseases.

The MDG environmental objectives, unlike the others, have been criticised for their generic and immeasurable targets (International Atomic Energy Agency 2005). In addition, the MDGs also fail to take cognisance of possible synergies across the goals. One area African governments should work towards, if implementation is to be accelerated, is harmonising and domesticating the MDGs. However, there are other challenges associated with the domestication of MDGs. Priority areas differ. For example, Zimbabwe has placed as a priority the need to work towards social development and poverty eradication (Government of Zimbabwe 2004). Zimbabwe prioritises the MDGs addressing poverty, the empowerment of women and HIV/AIDS. It therefore came as no surprise that the country became the first African nation to have a female vice president in 2005. Although not a priority area, the Ministry of Environment and Tourism was tasked with achieving the MDG environmental goals (Box 2.3).

Box 2.3: Zimbabwe's Environmental Targets and other Issues for MDGs

Targets

- integrate the principles of sustainable development into national policies and programmes and reverse the loss of environmental resources
- halve, by 2015, the proportion of people without access to safe drinking water and basic sanitation
- by 2020, achieve a significant improvement in the housing condition of at least one million slum dwellers, peri-urban and high-density lodgers.

Indicators

- proportion of land area covered by forest
- land area protected to maintain biological diversity
- GDP per unit of energy use (as proxy of energy efficiency)
- proportion of people with sustainable access to improved water source
- proportion of people with access to improved sanitation
- number of housing units produced annually.

Challenges

- implementation of the land resettlement programme in a sustainable manner
- provision of decent housing in urban areas
- provision of safe water and sanitation, particularly in rural areas

- establish waste management practices to combat air and water pollution
- implementation of the provisions in the 2002 Environmental Management Act
- implementation of multilateral environmental agreements
- energy provision.

Priorities for Development

- environmental awareness
- strengthen development of appropriate alternative renewable energy sources
- provision of decent housing in urban sanitation programme
- consolidation of the rural water supply and sanitation programme
- improved management of urban environments
- expand biodiversity.

Priority for Development Assistance

- implementation of multilateral environmental agreements
- environmental awareness
- capacity building in data collection and analysis.

Source: Compiled from Government of Zimbabwe (2004:51–4).

These are generic priorities for most African countries. For example, the South African municipal election campaigns prior to 1 March 2006 were filled with messages around service delivery and housing. The bucket system became a burning issue, the ANC-led government having failed to eliminate it in a decade. The land question was also deliberated, with a number of political groupings questioning the potential of the willing-buyer-willing-seller arrangement to solve critical land distribution imbalances that favour the former settler masters. Other issues of concern emerging during the campaign included water supply and energy.

Another point of interest (Box 2.3) concerns priorities for development assistance. For a long time, the African continent has been a 'cry baby'. It is time we forge ahead with continental partnerships and share expertise, for example in capacity building for reliable data collection and analysis. Leaders should prioritise funding for research. We are fed with statistics of various kinds, with degrees of bias, due to the fact that Africa does not have coherent databases on various statistics (HIV/AIDS included). Hence, it is important to note that in many cases, statistics are as reliable as the purposes to which they are being manipulated. To this end, we may have to accept that some of our environmental management decisions could have been based on wrong statistics and were therefore wrong.

Decade of Education for Sustainable Development

UNESCO (2004) realises that the concept of sustainable development has changed and will continue to do so. As such, in pursuing education for sustainable development, the Decade of Education for Sustainable Development (DESD), which began in 2005, presents three dimensions of sustainable development: society, environment and economy. Culture has an underlying dimension. Society, the environment and the economy are thus defined, respectively, as:

> An understanding of social institutions and their role in change and development, as well as the democratic and participatory systems which give opportunity for the expression of opinion, the selection of governments, the forging of consensus and the resolution of differences.
>
> An awareness of the resources and fragility of the physical environment and the effects on it of human activity and decisions, with a commitment to factoring environmental concerns into social and economic policy development.
>
> A sensitivity to the limits and potential of economic growth and their impact on society and on the environment, with a commitment to assess personal and societal levels of consumption out of concern for the environment and for social justice (UNESCO 2004:4).

To this end, DESD's global vision is spelt out as 'a world where everyone has the opportunity to benefit from quality education and learn the values, behaviour and lifestyles required for a sustainable future and for positive societal transformation' (UNESCO 2004:23). The key actors are absorbed into the DESD the moment they accept it, thereby becoming stakeholders in the process. Three sets of stakeholders and their roles were identified: governmental and inter-governmental bodies, civil society and NGOs, and the private sector. Governmental and inter-governmental bodies are responsible for policy-formulation, promoting public consultation and input, conducting national and international public campaigns, and integrating education for sustainable development into education systems. Civil society is responsible for public awareness raising, advocacy and lobbying, consultancy and input into policy formulation, executing DESD in non-formal set-ups, participatory learning and action, as well as for mediation between governments and people. The private sector was given responsibility for entrepreneurial initiatives and training, management models and approaches, implementation and evaluation, and the development and sharing of practices of sustainable production and construction. Five key objectives for DESD were framed (UNESCO 2004:4):

- give an enhanced profile to the central role of education and learning in the common pursuit of sustainable development
- facilitate links and networking, exchange and interaction among stakeholders in education for sustainable development

- provide a space and opportunity for refining and promoting the vision of, and transition to sustainable development – through all forms of learning and public awareness
- foster increased quality of teaching and learning in education for sustainable development
- develop strategies at every level to strengthen capacity in education for sustainable development.

DESD is characterised as holistic, and as being interdisciplinary in its approaches to learning for sustainable development across the curriculum. It is values-driven, promotes critical thinking and problem solving, employs multi-methods, is participatory in decision making, and promotes the need to address locally relevant issues as part of the global platform.

Seven strategies are outlined for DESD: advocacy and vision building, consultation and ownership, partnership and networks, capacity building and training, research and innovation, information and communication technologies, and monitoring and evaluation. The outcomes from DESD are measured by the changed lives of 'thousands of communities and millions of individuals as new attitudes and values inspire decisions and actions, making sustainable development a more attainable ideal' (UNESCO 2004:5).

State of Environment Reporting

State of environment reporting (SoER) has become one of the key policy tools for spearheading good environmental governance in Africa. SoER is supposed to provide regular environmental updates by various levels of government. National SoER initiatives usually take place at five-year intervals (MoMET 1998). Five years is considered an adequate period over which 'significant' environmental change can be observed. However, this period is also recommended, as it can be easily adjusted to coincide with election and government cycles in many African states.

Over the years, SoER has become more structured, following an integrated approach to environmental assessment, with a reporting framework having emerged (UNEP 2003a). The reporting framework seeks to establish the causal relationship between humans and nature. It outlines the relationships between causes (now commonly cited as drivers and pressures) to environmental outcomes (the state), and to activities (policies and decisions) that shape the environment and its transformations. SoER is intended to cover the following major themes and major sub-themes: social-economic trends, land, forests, biological diversity, freshwater, coastal and marine, atmosphere, urban areas and disasters. Details of the themes and their subthemes for SoER within the African context are shown in Box 2.4.

Box 2.4: Key Themes in State of Environment Reporting

Land:Consider the levels of degradation and desertification as well as inappropriate and inequitable land tenure
Forests:Record levels regarding deforestation and loss of forest quality
Biodiversity: Look at habitat degradation and loss and the bushmeat trade
Freshwater: Describe and measure vulnerability of water resources, water stress and scarcity, access to safe water and sanitation, deteriorating water quality as well as wetlands loss
Coastal and Marine: Document coastal area erosion and degradation, levels of pollution as well as climate change and sea-level rise
Atmosphere: Assess air quality, climate variability and vulnerability to climate change as well as floods and drought
Urban Areas: Search for signs of rapid urbanisation, assess waste quantities, determine levels of water supply and sanitation as well as air pollution
Disasters: Record events such as droughts, floods, armed conflict and earthquakes.

Source: Compiled from UNEP 2003:31

Depending on the level at which SoER takes place, details and the depth of reporting increase from the continental to the sub-continental, to the national and provincial, and ultimately to the local. Although state of the environment reports have been developed, particularly at sub-regional and national levels in Africa, challenges in the manner in which information is formulated and the regularity with which the reports are produced remain. Most reports are highly technical and scientific. This makes them inaccessible to many policymakers: many of our parliamentarians have only attained basic education status. The reports have had limited impact on policy development and implementation. These aspects require serious redress. A few countries, including South Africa, have realised this limitation and have started producing policy-oriented briefs around various issues pertaining to environmental management in the country packaged in 'policy-friendly' language (DEAT 2002).

Conclusions

This chapter has discussed fundamentals concerning global landmarks. Some of the landmarks elaborated include: the Stockholm Declaration, The World Commission on Environment and Development that produced the now famous document *Our Common Future* (The Brundtland Report), the United Nations Summit on Environment and Development that took place in Rio de Janeiro, Brazil from 14-17 June 1992 leading to the adoption of Agenda 21 as the global action plan on sustainable development, the World Summit on Sustainable Development, the Millennium Development Goals and the Decade of Education for Sustainable Development. The chapter has also conceptualised sustainable development.

Revision Questions

1. What are the fundamental principles of the Stockholm and Rio Declarations?
2. Which major thematic areas should be captured when reporting on the state of the environment?
3. What are the key provisions of the Millennium Development Goals?

Critical Thinking Questions

1. How practical and applicable is *Our Common Future's* conceptualisation of sustainable development to the African environmental agenda?
2. What measures has your government put in place to address the United Nations Decade for Sustainable Development?
3. From your assessment, are these measures adequate?
4. If not, what alternatives could be suggested to improve on the situation?
5. What measures should be put in place to quicken the pace with which the African Union could achieve the Millennium Development Goals?

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