# Module 2 – Introduction and Background to Integrated Environmental Assessment in Africa

#### Overview

This module introduces the background against which IEA and reporting has been developed in Africa. By the end of the module, you will have learned about:

- The key points in the development of environmental assessment and reporting in Africa
- □ The AEO process
- □ Early environmental assessments in Africa
- □ The link between environment and sustainable development in more recent African initiatives and environmental assessment reports

#### 2.1 Introduction

Integrated environmental assessment (IEA) and reporting has been used to link human development, economic activity, and environmental management in the context of sustainable development. The realization of the importance of these links has been evolving since the late 1960s in the United States of America and early 1970s at the international level when in Stockholm, in 1972, the United Nations Conference on Human Environment adopted a declaration which, among other decisions, provided for environmental assessment and reporting (UNEP 1981) (see Section 2.3 below). More than a decade later in 1983, the United Nations established the World Commission on Environment and Development (WCED), which went on to define the relationship between environment and development in its 1987 report, *Our Common Future*. The report also advanced the concept of sustainable development, which defines environmental policy responses today. The WCED declared in the report that the then existing institutions and decision making process, both at national and international levels, could not cope with the demands of sustainable development (WCED 1987).

For Africa, one of the most important policy initiatives in terms of environment and development issues, was the 1980 Lagos Plan of Action, and the formation of AMCEN in Cairo, Egypt, in 1985. The objective of AMCEN was to strengthen cooperation between African governments in economic, technical, and scientific activities, to halt and reverse "the degradation of the African environment in order to satisfy the food and energy needs of the peoples of the continent" (AMCEN 1985). It has become the guiding forum for Africa leading up to the United Nations Conference on Environment and Development (UNCED) held in Rio in 1992. The 40 chapters of the UNCED Agenda 21 laid a solid foundation for the promotion of sustainable development in terms of social, economic, and environmental progress (UN 1992). Although other important conferences have occurred since then, Agenda 21 remains a major blueprint for environmental management across the world.

The latest in this series of conferences was the 2002 World Summit on Sustainable Development (WSSD) held in Johannesburg which reviewed the progress made on the declarations at Rio in 1992. It reaffirmed the World's commitment to sustainable development and adopted the Johannesburg Plan of Implementation, stressing that the resources to overcome poverty and achieve sustainable development were available. Chapter VIII of the Plan of Implementation specifically addresses sustainable development in Africa. The Chapter also highlights the international community's recognition of the NEPAD Action Plan of the Environment Initiative (UN 2002).

#### 2.2. Early environmental assessment activities in Africa

Environmental assessment for decision making in many African countries was mainstreamed in the 1980s as national environmental profiles, and during the implementation of NCS and NEAPs. Before then, assessments were in the context of national reporting on flora and fauna under MEAs such as the 1973 Convention on International Trade in Endangered Species (CITES), particularly in terms of listing of species on the different appendices of the convention.

In 1985, UNEP published a booklet - *Report of the Executive Director of the United Nations Environment Programme*, which highlighted the then African environmental

situation and some of the major policy initiatives. A major policy response measure proposed by Africa is the 1982 *World Charter for Nature*, which was initiated by the president of the Democratic Republic of Congo (DRC) (then Zaire), and adopted by both the Organization of African Unity (OAU) and the UN General Assembly (UNGA).

In the lead up to the UNCED, virtually all countries in Africa prepared UNCED national reports highlighting environment and development issues. The AMCEN process was key to leading this process.

Early SOE reports gave good descriptions of the state of the environment as observed at the time the reports were written. A review of the history, progress and lessons learned from the writing of SOE reports was discussed at a workshop in Harare in August/September 1997. It showed that over time, there had been a lot of change in national and sub-national environmental reports (including SOE Reports), in three main characteristics: ownership, participation, and links to policy. Early reports were not a result of user demand but were produced in response to external demand (IUCN/ROSA 1997). Table 2 below gives some examples characteristic of early African reports to illustrate lack of ownership by African countries (e.g. Angola, Lesotho, Mauritius etc); little commitment and poor networking in their production (e.g. Malawi, Mozambique); and little or no link to policy (e.g. Tanzania, Zambia).

Regarding actual state of the environment reports, the 1994 *State of the Environment in Southern Africa* perhaps provides the first comprehensive assessment of the environment at sub-regional level. Similar reports have been produced since then.

The AEO-1 report launched at the 9<sup>th</sup> AMCEN session in Uganda in July 2002, was the first comprehensive IEA report at the regional level. Through its sub-regionally distributed network of CCs and other stakeholders, the AEO process has spawned several initiatives of which capacity-building is an integral part.

Training Manual on	Integrateg	Environmental Assessment and	d Reporting in Africa

COUNTRY	NATIONAL & SUB-NATIONAL REPORTS AND RESPONSIBILITIES	CONSTRAINTS AND SUCCESSES
Angola	Prepared in 1992 for UNCED.	Outdated environmental legislation and policies. Lack of coordination between ministries.
Lesotho	State of Environment Report for UNCED 1992. SOE prepared through National Environmental Secretariat within the President's Office headed by General Secretary every three years or as rate of change demands. Uses local consultants, with peer reviewers to cross-reference validity of information. Used as a tool for decision making and for academic institutions.	
Malawi	Report for UNCED 1992; NEAP 1994 and related Environmental Support Programme; Environmental Management Reports for catchments; Environmental Management Project report; National Inventory of Natural Resources Management; NATURE; Rio+5; National Environmental Information Systems Report State of Environment.	Time, lack of data and information, and lack of commitment are constraints to the production of SOE
Mauritius	Ministry of Environment prepared an SOE for UNCED in 1992 with the assistance of a foreign consultant but the document was mainly descriptive. Instead, the NEAP, the National Environmental Policy and white papers were used for decision making.	Lack of baseline data.
Mozambique	National Environment Management Programme 1994, National Environment Policy 1995, Environment Framework Act 1997, 1st SOE 1990. Institutional leader Environmental Division 1990, Environmental National Commission 1992, Ministry for Coordination of Environmental Affairs 1994.	Lack of networking; human and financial resources and current data. Also SOE not prioritised by some sectors.
Namibia	National: Environmental Profile of Namibia, Namibia's Green Plan, Sector Environment reports such as desertification etc. under responsibility of Ministry of Environment and Tourism. Sub-national: Environmental profile and atlas, Namibia's least known wilderness, Biodiversity.	No previous culture of sharing or reporting information on the environment; budget limitations; technical inexperience.

### Table 2.1: Some early reports on the environment from African countries

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COUNTRY	NATIONAL & SUB-NATIONAL REPORTS AND RESPONSIBILITIES	CONSTRAINTS AND SUCCESSES
South Africa	Department of Environmental Affairs and Tourism responsible for legislation, but Interdepartmental Committee for Environmental Co-ordination lead agency for co-ordination from different sectors. Little produced because of country's isolation and exclusion. Report for UNCED 1992; various Environmental Management Plans.	Plenty of information available but no culture of sharing. Gaps at regional level which need to be filled.
Swaziland	Secretariat established under Ministry of Tourism and Department of Environment 1992 in preparation for SOE. Produced report for UNCED 1992, EIA legislation, Environmental issues paper in preparation for National Development Strategy, Swaziland Environmental Action Plan 1997, Biodiversity Plan.	Challenge to develop and implement EIAs across institutions.
Tanzania	Conservation Strategy, National Action Plan, Forestry Action Plan, National Action Programme to combat desertification, UNCED 1992, EIA Guidelines, Marine Contingency Plans produced through Environmental Management Council and NGOs, establishment of Environmental Information Centre and Tanzania Natural Resources Information Centre at Dar es Salaam. Sub- national: Regional Environmental Profiles since 1991, Environmental Pollution Status reports through five district consultative committees and strategies.	Inadequate resources; unreliable and unavailable data; weak networks; bureaucratic procedures; political clout is limited because politicians do not understand the issues.
Zambia	NEAP 1994 produced by Ministry of Environment and Natural Resources; SOE 1994 coordinated by Environmental Council of Zambia. Sub-national: Environmental Profile of Lusaka produced by Lusaka City Council; Lusaka Action Plan; Provincial Environmental Action Plans. Annual reports on pollution.	Lack of awareness; no trained personnel in environmental reporting; difficult to access information on environmental issues.
Zimbabwe	First SOE 1992 compiled from provincial reports with Ministry of Environment funding only. EIA Policy 1992. Ministry of Environment Committee responsible for development of indicators available for chapter coordinators of SOE.	

Source: SADC/IUCN/SARDC 1997 (unpublished)

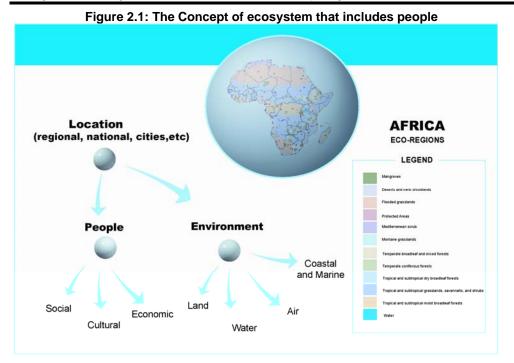
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The various reports highlighted, and many others published over the years, provide a rich source of environmental data and information as well as trends, particularly since the 1980s. Taken together with socioeconomic reports produced by other agencies, for example, the United Nations Development Programme (UNDP), the United Nations Educational, Scientific and Cultural Organization (UNESCO), the United Nations Children's Fund (UNICEF), the Food and Agriculture Organization of the United Nations (FAO), the World Food Programme (WFP), the United Nations High Commissioner for Refugees (UNHCR), the World Bank, and others, these reports have become critical to IEA and reporting. The old reports also provide important information on the evolution of assessment – from SOE to IEA and reporting. The evolution has also seen a transition of the various frameworks and methodologies from resource and sector-focus to more complex methodologies which take into account social, economic and environmental interactions.

The different frameworks which were common in the past include:

- Issues framework land degradation and soil erosion, water and air pollution and waste management
- Environmental resource framework agriculture, forestry, tourism, energy
- Environmental media framework land, air, water and biota
- Environmental process framework pressure, state, response.

The environmental process framework has since evolved to include all of the above within the driving forces-pressures-state-impacts-responses (DPSIR) framework, which was used in the AEO-1 report. Other methodologies include vulnerability and resilience assessment, ecosystem assessment as employed by the Millennium Ecosystem Assessment (MA), and human-ecosystem assessment.



The DPSIR framework has been adapted to the Opportunities Framework, which was used to prepare the AEO-2 report. The main difference between the DPSIR and Opportunities Frameworks is that the latter highlights the state of the current environmental assets and the opportunities they provide for sustainable development in Africa. The emphasis is on opportunities rather than losses – the environmental losses are analysed in the context of foreclosure of opportunities.

Integrated environmental assessment (IEA) and reporting has become commonplace across Africa with many countries now using it to assess and report on the national environment. However, it is common for national level reporting for countries to start using traditional SOE reporting. Box 2.1 gives a summary of Libya's First National Report on the State of the Environment, 2002. Although the IEA and reporting skills had been well developed at the time this report was made, the Environment General Authority of Libya strategically decided to produce its first report using the traditional SOE reporting process with a possibility of using the IEA and reporting process in subsequent reports.

#### Box 2.1: Libya's First National Report on the State of the Environment, 2002

Libya is about 1 775 000 km<sup>2</sup>. 94.73 per cent of the country is desert, only 3.94 and 0.29 per cent are covered by agriculture and forests respectively. The population of the Jamahiriya was 3.23 million in 1984, growing to 4.4 million in 1995. Estimates for the 2005 population are 5.87 million. The majority of the population live along the northern coast in the country's major cities. The percentage of the population living in cities has increased dramatically since the 1970's; in 1973 it was 57.5 per cent, but by 1995 it had

reached 85.39 per cent. The districts that contain the four major cities of Tripoli, Benghazi, Misurata, Azzawiya and Derna have a population density of 45 persons per  $km^2$ , a hundred times the density of the districts to the interior of the country (0.45 persons per  $km^2$ ). The country greatly depends on oil and other oil-related products and has not been able to diversify the sources of its income over the almost 40-year period during which it has pumped oil for export. Oil, however, is a non-renewable resource and continued dependence on it without diversification is not acceptable under Libya's efforts to achieve sustainable development.

Libya's The First National Report on the State of the Environment (2002) states that "the main objective of development is to fulfil the needs of man [sic] such as food, clothing, shelter, job opportunity and his aspiration for a better life". The main factors that constrain the achievement of this objective sustainably in Libya relate to limited water supply. Up to 95 per cent of the total water supply is ground water but is supplemented at an increasing rate by valley water (2.7 per cent); desalinated water (1.4 per cent) and reusable treated water (0.7 per cent). The most important use of water is agriculture (85 per cent) which is continuously increasing with greater demands for food for a rapidly growing population. Urban and industrial purposes take 11.5 per cent and 3.5 per cent respectively. Safe water drawing limits have been calculated especially for underground aquifers, but they are not followed because of excessive demand. In the Gefara Plain, for example, safe drawing limits are exceeded by 5.61 per cent leading to fast depletions in the quantity and degradations of quality of water supplies. Infiltration of sea water to compensate for drawn water especially in the coastal strip has led to serious degradation of water quality rendering some of the water drawn unsuitable for most uses. Encroachment of salt water into underground aquifers has also been experienced further south for similar reasons. Serious health, environmental and socioeconomic effects, together with socioeconomic losses may be expected from these occurrences. In addition, land is becoming dry, salty, and less able to support increasing populations and/or provide jobs. This may not be a reversible state of the environment.

Legislation on water management and use has been passed under a general umbrella of laws that address environmental protection in general with specific laws, administrative and technical decrees, and regulations on water management and use. The legislation is promulgated with due consideration to relevant international rules and standards. An example of water legislation includes Law No.3 of 1982 in regard to the regulation of water sources utilization. The law has 14 Articles including those that emphasize that every person shall undertake to preserve water (Article 1); and that people are the owners of water sources (Article 2). The law sets priorities for the provision of licenses for water drilling in the order of human usage, agriculture, and mining and industrial purposes (Article 8).

Source: Government of Libya 2002

#### 2.3 UNEP environmental assessment mandate

The United Nations Environment Programme (UNEP) derives its mandate from UNGA 2997 of 1972, which also facilitated the establishment of UNEP as discussed above. The resolution states in part that UNEP should keep the global environment under review (UN 1972). The UN Conference on the Human Environment whose recommendations led to Resolution 2997 was also emphatic in highlighting the importance of environmental assessment and report (see Box 2.2 below).

## Box 2.2: Decision on environmental assessment at the UN Conference on Human Environment, 1972

One of the early decisions of the international community on environmental assessment and reporting highlighted the following:

- To facilitate the development of social and cultural indicators for the environment, in order to establish a common methodology for assessing environmental developments and preparing reports on the subjects.
- To prepare, on the basis of (the) national reports on the state of, and outlook for, the environment, periodic reports on regional or sub-regional situations and on the international situation in this matter.

Source: UNEP 1981

The Division of Early Warning and Environmental Assessment (DEWA) is one of eight UNEP sub-programmes (divisions) responsible for implementing UNGA Resolution 2997. The DEWA mission is to:

Provide the world community with improved access to meaningful environmental data and information, and to help increase the capacity of governments to use environmental information for decision making and action planning for sustainable human development (UNEP 2006).

#### 2.4 The Global Environment Outlook process

Up to the mid-1990s, an integrated, global environmental assessment report was lacking. In response to the need for comprehensive, integrated, policy-relevant assessments of the global environment, UNEP launched the GEO process in 1995. The GEO assessment aims to ensure that environmental problems and emerging issues of wide international significance receive appropriate, adequate and timely consideration by governments and other stakeholders. The overarching objectives are to:

- Provide access to the best scientific knowledge for international environmental governance and the mainstreaming of environmental concerns in social and economic sectors, and in support of internationally agreed environmental goals.
- Facilitate interaction between science and policy through multi-scaled and multidimensional integrated assessment process and products of high legitimacy, credibility and utility
- Build geographic and gender-balanced partnerships and capacity for environmental assessments.

A worldwide network of CCs forms a strong assessment partnership at the core of the process and a focus for building capacity at various levels. Comprehensive peer review and consultative mechanisms with governments, NGOs, and scientific institutions are other integral elements. Advisory groups provide guidance on conceptual approaches and methodology development and capacity-building. This process is underpinned by a dedicated, interactive online data system called the GEO Data Portal

(http://geodata.grid.unep.ch/). This participatory and consultative process gives GEO assessments scientific credibility, accuracy and authority targeting a wide audience by providing information to support environmental management and policy development. Annex 1 highlights the major stakeholders in the GEO assessment. In addition to these stakeholders being players, they are also a major target audience and potential GEO spokespeople. Through their own organizations and networks at global and regional levels, these GEO stakeholders can also help "spread the word" on GEO. The first GEO assessment report was initiated by the UNEP Governing Council in its decision 18/27 (1995) where the Executive Director was requested to prepare a new comprehensive report on the present and future state of the world environment, including possible response measures to address the situation (UNEP 1995). Following the establishment of the GEO process and production of the first GEO report, the Governing Council renewed the mandate for GEO in 1997, 1999 and 2003 and 2005 (GC19/3, GC20/1, GC22/1/IB, GC23/6). The GC/GMEF decisions in 2003 and 2005 facilitate the preparation of GEO-4.

GEO assessment has evolved since its launch through the publishing of:

- GEO-1: For life on Earth in 1997,
- GEO-2000: UNEP's Millennium Report on the Environment in 1999, and
- GEO-3: Past, present and future perspectives in 2002.

#### 2.5 GEO-4 assessment objectives

The drafting of the GEO-4 report is advanced. Its launch in 2007 will be two decades after the release of the Brundtland Commission's seminal report - *Our Common Future*. The Brundtland report provides the baseline upon which the 20-year GEO-4 retrospective is founded.

The overall theme of the GEO-4 report is "Environment for Development." It will include the valuation of environmental/ecosystems goods-and-services, and the role of such services in enhancing human wellbeing, minimizing human vulnerability to environmental change, and supporting development. Both the issues of environmental valuation and enhanced human wellbeing were strongly endorsed by the first GEO-4 Production and Authors' Meeting held in Nairobi in June 2005. The baseline for the report is the 1987 Brundtland Commission seminal report published as *Our Common Future*.

The GEO-4 report objectives include the following:

- Show how the environment is key to sustainable development, human well-being, conflict prevention, prosperity and poverty alleviation.
- Identify the direct and indirect drivers of environmental change and their impacts on the environment, and human well-being.
- Show the impacts of policy responses since the Brundtland Commission report in 1987 in terms of addressing the environmental challenges of today.

- Identify some emerging issues at global and regional levels that may have significant impact on human well-being
- Use global and regional scenarios to show impact of different policy interventions to highlight to policymakers some options worth considering to better manage the environment and derive sustainable benefits for current and future generations.
- Highlight the need for immediate action at different levels to mitigate and adapt to negative environmental change from human actions and enhance well-being.

The GEO approach to IEA and reporting has continued to evolve with the preparation of each GEO report, strengthening areas considered weak. For example, state-and-trends issues were analysed separately from policy responses in GEO-1 but strengthened in subsequent reports in the series. Such developments have enriched IEA processes at different sub-global levels – from regional and sub-regional to national to local levels. At the global level, UNEP has established a network of CCs across the globe, which assist in the assessment at different levels. At national levels, ministries and/or departments of environment are responsible, responding to statutory requirements to report on the state of the environment.

The most fundamental developments in the GEO IEA process (), include the following:

- Introduction and strengthening of capacity-building activities across different spatial levels. While capacity-building was not central to the GEO-1 process, it has since become key during the preparation of subsequent reports.
- Refinement of the DPSIR analytical framework, which underpinned GEO-2000 and GEO-3 as a key component of the UNEP IEA and reporting process. The analytical framework has since been further refined, adapting the framework used in the Millennium Ecosystems Assessment.
- Strengthening of consultations with policymakers, the scientific community and other stakeholders. Upfront consultations to determine the needs of both policymakers and the scientific community have redefined the GEO assessment, particularly the GEO-4 process. With the chapter content increased from five to 10, the GEO IEA has introduced chapter working groups comprised of 15-20 experts for each of the 10 chapters. The result has been a more decentralized process with strong involvement of both government and other stakeholders, wider buy-in and ownership of the assessment; and enhanced profile of the GEO assessment.

The strength of the GEO IEA process is also its adaptability for use at different spatial levels. It is now being used at global, regional, sub-regional, national, city and ecosystems levels. Despite some variations in terms of emphasis in its application, the GEO IEA has two common elements of analysis:

 Integration of state-and-trends issues with policy responses as well as that of environmental issues with socioeconomic developments. Such integration provides for a better understanding of the complexity of human-environment interactions, and the influences each has on the other. • Use of scenarios to try to determine the likely impacts of certain policy decisions to address the environmental challenges facing society today. Scenarios and modelling underpin the future perspectives of the outlook chapter.

The GEO IEAhas strengthened the accessibility of reliable environmental data and information for improved policy-making at different levels. Today, there is greater investment by the international community and governments in environmental assessments, both in terms of human and funding resources. Despite the availability of such a wealth of information state-and-trends of the global environment, policymakers still face many environmental challenges. Many of these are complex, requiring enhanced understanding of analyses for effective response measures.

#### Box 2.3: Websites to be accessed as resources for more information

- NEPAD: <u>http://www.nepad.org</u>
- MDGs: <u>http://www.developmentgoals.org</u>
- AMCEN decisions: <u>http://www.unep.org/ROA/AMCEN/decisions.asp</u>
- AEIN: <u>http://www.unep/dewa/Africa/aeoprocess/aein.asp</u>
- Frameworks of Environmental Statistics and Indicators: <u>http://www.unescap.org/stat/envstat/stwes-015.pdf</u>

#### 2.6 Africa Environment Outlook

Regional SOE reports have developed from the GEO process. These reports focus on strategies that are more relevant to their regional environments. Africa, as a region, contributes to the GEO process through the AEO process. The origin of the AEO reporting process is AMCEN whose UNEP-based Secretariat has worked to strengthen the process of producing the AEO Report (). The process involves wide consultation and participation with stakeholders throughout Africa and reflects sub-regional and multi-stakeholder perspectives and priorities. It identifies and stresses the importance of emerging issues and gives early warning on impending environmental threats. In relating human activity, environment, policy formulation and sustainable development, the AEO reporting process uses IEA and reporting as an effective tool for communication between science and policy.

As a regional report, the AEO emphasizes those issues that are most relevant to the African continent. Most importantly, it is integrated with initiatives that link environment assessment to sustainable development. These include:

- NEPAD Environmental Initiative Action Plan
- Environmental targets set under the Millennium Development Goals (MDGs)
- Environmental recommendations adopted by AMCEN
- Recommendations of the African Ministerial Council on Water (AMCOW)
- Africa Environment Information Network (AEIN)

**Comment [MS1]:** REFERENCE IS AMCEN DECISION.

### 2.7 Sustainable development as the basis of more recent environmental assessment reports in Africa

The main emphasis of the African initiatives on which the AEO is based is sustainable development. Chapter VIII of the WSSD Plan of Implementation (UN 2002) as well as the NEPAD Environment Action Plan (NEPAD 2003) have articulated Africa's sustainable development issues.

On a global scale, the concept of sustainable development first gained international attention in the late 1980s based on a realization that the continuous well-being of humankind depends on the well-being of the environment. In 1987, the WCED also known as the Brundtland Commission defined in *Our Common Future* sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs", a generation's long outlook into the future. There was emphasis in the report that equity, growth and environmental protection can be simultaneously maintained. These views have been subsequently endorsed by governments. In September 2000, commitment was given to sustainable development and poverty alleviation at the Millennium Summit in the form of the MDGs in-which governments re-affirmed their commitment to sustainable development and poverty alleviation (UN 2000). Commitment to the same principles has been given especially by the Rio Declaration on Environment and Development and Agenda 21 (UN 1992), and by the WSSD Plan of Implementation (UN 2002).

For the African continent, further endorsement has come from the NEPAD Action Plan for the Environment Initiative. NEPAD particularly emphasizes poverty reduction as the keystone of sustainable development. The overall effect of the various endorsements has been to develop a new conceptual framework for development bringing the environment to the centre. They have also increased the need for broader based IEA and reporting that takes into account the dynamic links among ecological, socioeconomic and policy issues more systematically (NEPAD 2003).

The traditional pattern of decision making on the environment that isolated problems according to sectors that characterized the early SOE reports as already highlighted earlier:

- was less effective in developing appropriate policies linking human activity, environment and sustainable development;
- was not sufficiently focused on adaptive management for long term perspectives; and
- did not have an in-built framework that required the participation of different sectors of society in decision making processes.

Integrated Environmental Assessment (EIA) and reporting so far offers a more comprehensive and effective alternative because it involves many different stakeholders, expertise and is consultative and participatory.

#### 2.8 Questions for discussion

A:

A:

- Q: What is your understanding of a more traditional SOE reporting, and why is it considered traditional?
- Q: Why might a strategy taken by Libya (of using the traditional SOE approach) be advantageous in the early stages of building integrated environmental assessment?

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- Q: What the similarities and differences among different assessment and reporting frameworks highlighted earlier in this module i.e. issues, environmental sector, resource and environmental process frameworks? Do you think these frameworks are still relevant today, and why?
- A: \_\_\_\_\_
- Q: Why is there a need for more integrated decision making that takes into account the environment, economy and human society and links among them?
  A:

- Q: Give two characteristics that strike you from the early reports on the environment from African countries given in Table 1.

A:

#### 2.9 References

AMCEN (1985). Annex I: Resolution adopted by the conference at its first session. African Ministerial Conference on the Environment. UNEP/AEC 1/2: Proceedings of the First Session of the African Ministerial Conference on the Environment, Cairo, Egypt, 16-18 December.

http://www.unep.org/roa/Amcen/docs/AMCEN\_Decisions/WORD/Amcen%201%20decisi on.doc

Dürrenberger, G., Behringer, J., Dahinden, U., Gerger, Å., Kasemir, B., Querol, C., Schüle, R., Tobara, D., Tóth, F., van Asselt, M., Vassilarou, D., Willi, N. and Jaeger, C.C. (1997). *Focus Groups in Integrated Assessment: A Manual for a Participatory Tool*. Darmstadt. Ulysses Working Paper 97-2. ZIT - Centre for Interdisciplinary Studies in Technology, Darmstadt. http://www.jvds.nl/ulysses/eWP97-2.pdf

Government of Libya (2002). The First National Report on the State of the Environment. Government of Libya, Tripoli

IUCN/ROSA (1997). Proceedings of a Workshop on Environmental Reporting: Experiences, Lessons and Next Steps, Harare, Zimbabwe, 31 August - 3 September 1997. IUCN - World Conservation Union / Regional Office for Southern Africa, Harare

NEPAD (2003). Action Plan for the Environment Initiative. New Partnership for Africa's Development, Midrand. http://nepad.org/2005/files/reports/action\_plan/action\_plan\_english2.pdf

Rump, P.C. (1996). State of the Environment Reporting: Sourcebook of Methods and Approaches. United Nations Environment Programme, Nairobi

SADC/IUCN/SARDC (1997). [Some early reports on the environment from African countries]. Southern African Development Community / IUCN – The World Conservation Union / Southern African Research and Documentation Centre. Unpublished data.

UN (2002). World Summit on Sustainable Development Plan of Implementation. Proceedings of the World Summit on Sustainable Development. Johannesburg, South Africa. 26 August – 4 September. United Nations. http://www.un.org/esa/sustdev/documents/WSSD\_POI\_PD/English/WSSD\_PlanImpl.pdf

UN (2000). United Nations Millennium Declaration. A/RES/55/2. United Nations, New York. http://www.un.org/millennium/declaration/ares552e.pdf

UN (1992). Agenda 21. Proceedings of the United Nations Conference on Environment and Development. Rio de Janeiro, Brazil, 3-14 June 1992. United Nations. <u>http://www.un.org/esa/sustdev/documents/agenda21/english/Agenda21.pdf</u>

UN (1972). Resolution 2997 (XXVII) of the General Assembly, 15 December 1972: Institutional and Financial Arrangements for International Environmental Cooperation. A/RES/27/2997. United Nations, New York. http://daccessdds.un.org/doc/RESOLUTION/GEN/NR0/270/27/IMG/NR027027.pdf **Comment [M2]:** I put together this reference for the table above, the data is unpublished, right? MUNYARADZI TO CONFIRM.

UNEP (2006). DEWA Home Page. United Nations Environment Programme. http://www.unep.org/dewa/

UNEP (2003). *Global Environment Outlook 3.* United Nations Environment Programme, Nairobi

UNEP (2002). *Africa Environment Outlook: Past, Present and Future Perspectives.* United Nations Environment Programme, Nairobi

UNEP (1995). <u>Report of the Governing Council on the work of its eighteenth session</u>. Proceedingds of the Eighteenth Session of the Governing Council of the United Nations Environment Programme. Nairobi, Kenya, 15-26 May 1995. <u>http://www.unep.org/gc/gc18-report.doc</u>

UNEP (1981). *In Defence of the Earth: The Basic Texts on Environment: Founex, Stockholm, Cocoyoc.* United Nations Environment Programme, Nairobi

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