



**GEO AFRICA DATA PORTAL WORKSHOP
AND
AEO DATA WORKING GROUP MEETING**

**17-20 NOVEMBER 2003
UNEP, NAIROBI**

REPORT

AFRICA ENVIRONMENT OUTLOOK

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AFRICA ENVIRONMENT OUTLOOK

1. Background

The Africa Environment Information Network (AEIN) initiative is designed to support the Africa Environment Outlook (AEO) process. Among other things, the initiative aims to strengthen organizational networking and capacities related to the management of data and information for the environmental assessment and reporting in the Africa region. A specific short-term objective is to support the implementation of decisions of AMCEN with respect to the AEO preparation process, while strengthening capacity for state of environment (SoE) reporting at the national and sub-regional levels. The UNEP Division of Early Warning and Assessment (DEWA) is coordinating the technical implementation of AEIN.

UNEP-DEWA has also embarked on a process to establish and make operational a data portal for the Global Environment Outlook (GEO) reporting process. The GEO Data Portal, an internet-based, distributed, global environmental information services, is built around the concept of a collaborative community of authoritative environmental information service providers. As part of the development a portal for the Africa region has been proposed to provide an authoritative single-entry point for relevant environmental information applications and services in the region. The purpose of the GEO Africa Data Portal is to support UNEP's integrated assessment and reporting, focusing particularly on AEO, GEO and related reporting processes in collaboration with key partners at national and sub-regional levels.

An over-arching objective of AEIN is to build capacity for establishing the essential data foundation and structures for managing the information needed to support country-level integrated environmental assessments and reporting, and which would feed into the AEO and GEO processes. Another objective is to harmonize the information base and approaches for reporting on the various multi-lateral environmental agreements (MEAs) at the national level. It is against this background that UNEP/DEWA organized two work-sessions to bring together stakeholders to discuss issues relating to the development of the GEO Africa Data Portal, as well as issues relating to indicators and core data sets for the preparation of AEO-2, under the framework of AEIN.

2. GEO Africa Data Portal Workshop

2.1 Objectives

The AEIN advocates a *framework* approach to ensure that there is synergy among various information management initiatives. In this regard the success of development of the GEO Africa Data Portal will depend, to a large extent, on open and effective cooperation with key partners involved in environmental information management and related systems development in the region. The development of partnerships and harmonized mechanisms would be central to meeting this challenge, and would involve building consensus among stakeholders on appropriate tools for collecting, managing and providing environmental data/information within the Africa region, and agreeing on the way forward for the development of the data portal for the region.

To this end the objectives of the GEO Africa Data Portal workshop, held 17-18 November 2003, were to:

- Get consensus on harmonising different [tools] for the purpose of collecting and providing data/information within the Africa region in support of the AEO process;
- Agree on the way forward for the development of the GEO Africa data portal;
- Help participants understand how the GEO Africa Data Portal would be used in the AEO-2 process in terms of scenario and indicator development and analysis.

(See the workshop facilitator's Terms of Reference, Annex 1).

Specific objectives of the meeting were to:

- i. Follow-up on decisions made at the Global/Regional Data Portals, Standards and Tools Meeting in June 2003 in Geneva by developing a pilot regional manifestation of the GEO Data Portal (global) developed by GRID – Geneva;
- ii. Discuss steps to harmonize data contents and tools of the Global and Regional Portals;
- iii. Review the content (features and functionality) of the prototype *Africa Sustainable Development Data and Indicator Information System Toolkit* (Africa SDIIS) as the tool for harmonizing data collection and for use in the development of the Africa Regional Data Portal, and elicit inputs from key relevant partners with regard to the harmonization and streamlining of efforts, and establish linkages to on-going programmes and activities with a view to building synergy;
- iv. Plan future actions to complete the development of the Africa Regional Data Portal in the light of the global GEO Data portal template according to the specification from UNEP-DEWA, and recommendations and specific suggestions from the workshop.

Networking and seeking mechanisms that could serve to align on-going initiatives into comprehensive and harmonized approaches were integral parts of the workshop objectives. The meeting also served as a formal launching of the GEO Africa Data portal implementation process.

2.2 Meeting format

A consultative work-session format was adopted. The agenda for the meeting is as indicated in Annex 2.

There were several presentations during the first half of the first day to provide the appropriate context for deliberations (Annex 9). The presentations covered the following:

- A brief overview of the AEIN framework and implementation strategy;
- Presentations on three different data tools;
- Demonstration of a prototype of the GEO Africa Data Portal developed by GRID-Geneva;
- Identification and cataloguing of environmental information resources;
- Outcomes of the AEO-2 Editorial Coordinators' Meeting held in Pretoria, 27 – 30 July 2003, focusing on the chapter structure of the report;

The presentations were followed by discussions in the main, as well as smaller groups.

2.3 Participation

There were thirty-five (35) participants drawn from various organisations, including ministries, national institutions, universities, regional institutions, non-governmental organisations, and the private sector and UNEP (Annex 3). Participants included technical personnel from each of the selected thirteen (13) AEIN pilot countries; representatives from each of the UNEP-DEWA's Africa Collaborating Centres (CCs); representatives of UNEP's GRID centres in Nairobi, Geneva, and Arendal; members of the Africa Data Working Group; and other UNEP staff in Nairobi.

Representatives from UNEP/GRID-Geneva were invited mainly to ensure that outcomes of the workshop would be in line with the global GEO Data Portal initiative, and Global Environment Outlook (GEO) process.

2.4 Deliberations

After the presentations participants were invited to individually provide inputs by way of desirable features and functionalities that they would wish to have in a data management *toolkit*. The inputs were consolidated into a list of functionalities for AEO data toolkit (Annex 4). Participants were then divided into three groups to discuss the features and functionalities of the different tools that were presented, using this list as a reference, and agree on one tool that reflected the best of all the desirable features and that could be used as the prototype for further development.

Outcomes of the discussion groups are as follows:

Group 1

Points of Discussion were:

- Need for harmonization of tools to better support the SOE-R processes
- To build interfaces in the existing databases and come-up with one platform/tool using the same standards
- The group deemed necessary to task the national focal point institutions to popularise AEIN in support of the harmonisation process.
- National level data are our primary core data (original source) and the international data will be secondary (reference to “alternative sources of data”)
- Capturing data at national level will be a crucial challenge and there should be agreement on a methodology for data collection at the national, sub-national and local level through the AEIN National Teams.

After examining the different tools presented and their compliance with the functionality requirements, the group agreed on the following:

- a) Data Content: Core data sets to be captured at the national level and aggregated at the sub-regional/regional level.
- b) Data Discovery: All the listed items are essential and every country should be able to adapt to these steps.
- c) Data Management: The tool should comply with all the listed functionalities and that CCs should work in synergy with National Focal Point institutions. Secondly, common standards for operationally of the system should be selected.
- d) Manipulation and analysis:
 - The tool must be simple and platform independent, however, bearing in mind that this might create a much more complex application and therefore difficult and costly to maintain.
 - Be able to link to different databases;
 - Provision should be made for future up-dates including for sub-national and national data;
- e) Reporting: Must be able to link with map servers;
- g) Other considerations: The tool should be web interfaced for easy connection on the web;

- h) Issues: The group assumed that UNEP would be responsible for the management and maintenance of the tool/system.

Group 2

The group was of the view that the various tools had been developed in different historical and opportunity contexts. They are complementary, and are good for use at the sub-regional (CATISOE), regional (CEDARE/SDIIS) and global (GRID/GEO Data Portal). They each target specific users, and are relevant at their respective levels (scale).

An additional national level information management tool should be developed with technical characteristics and functionalities similar to the tools presented. It should be able to handle thematic, spatial and temporal entities; have capabilities for indicator computation; should be able to display and output the results into maps, tables, graphs, text format, compatibility and interoperability with sub regional tool.

The group made the following complementary recommendations about the tools:

- Be applied to different languages at all the levels
- Have a common basis of understanding (the sources, glossary, table of correspondence)
- Be able to store, analyze and handle various types and format of data.
- Be platform independent and any use (specialist and non specialist) friendly
- Be able to generate customized report and disseminate in multi-media formats.

Scales and data handled:

Scale	Level of Aggregation
National (??)	Local, Sub-national
Sub-regional (CATISOE)	Sub national, National
Regional (SDIIS)	National, Sub-regional
Global (GEO Data Portal)	Sub-regional, Regional

Group 3

The group considered the following:

- Basic: (1) allow management of data by the country (national level);
(2) be able to report on the data within the system ;
- For each theme and eventually issue, there are a number of indicators that can be used; a limited list of indicators should be agreed upon per issue;
- Developers should work with experts to assist in standardising formulae for indicators/indices development;
- A common tool that is user-friendly and, can as closely as possible, accommodate the functionalities listed (Annex 4);
- The fact that the different tools [presented] deal with different levels of detail raise concerns as regards compatibility of tools, especially how they deal with spatial data, e.g., projections;

The group proposed that common environmental indicators should be collected by sub-region and then integrated for production of AEO-2.

The group agreed that the tools presented were complementary. Data management was core in the GEO Portal; the SDIIS appears to be well suited for reporting/presentation, while the tool by the SARDC is for the management of bibliographic information. In this respect the group agreed that there was no “competition” between the prototype tools. The important thing was to have a flexible *database*. What was needed was a thorough technical review of the various functionalities to determine how the tools could be re-adjusted to suit the production of AEO-2. It was acknowledged that there were issues of economies of scale, which would point to the advantages of using one tool. Such a tool should allow the retention of sub-national data; to aggregate it for upload, etc. The metadata must be able to indicate how data was treated for uploading.

In the end the successful tool would be one that would be adopted and used by countries participating in the network. The tool should be able to bring together data from different countries and compare them effectively.

2.5 Conclusions and Recommendations

Participants at the GEO Africa Data Portal Workshop recognised the need for a *data management toolkit* which meets the requirements for *integrated analysis* for the AEO/GEO processes. In this regard the participants made the following recommendations:

- i. That the Africa Sustainable Development Data and Indicator Information System (SDIIS) toolkit, developed by the Centre for Environment and Development for the Arab Region & Europe (CEDARE), should be adopted as the *prototype* to be further developed for *managing* and *analysing* data at regional level to satisfy the requirements of the AEO process;
- ii. That the toolkit should be scalable in order to be useful for *national/sub-national applications and reporting obligations*, in addition to supporting AEO and GEO processes;
- iii. That the best *features* of the other tools presented during the workshop, and which may not be available in the SDIIS, should be incorporated into the new data management tool to enhance it.
- iv. That the list of desirable functionalities discussed during the work-session (Annex 4) should be taken into consideration during the further development of the toolkit;
- v. That developers and the CCs should carry out an assessment of the widely used toolkits at the national, sub-regional and regional levels in Africa, and ensure that *functionalities* which users find useful are also incorporated in the prototype as part of an on-going development of the toolkit;
- vi. That the toolkit should be available in Arabic, English and French for use by GEO/AEO/AEIN focal institutions at national and sub-regional levels to facilitate a smooth integration of outputs into the global GEO data processes;
- vii. That the General Multilingual Environmental Thesaurus (GEMET) developed by the European Environment Agency (EEA) will be incorporated into the new tool to provide a thesaurus function. In this connection UNEP-DEWA will ensure that the Arabic language is added to GEMET;

- viii. That users of the toolkit should develop new features and modules to suit their specific national needs, and where these are found to be generally useful such features be incorporated into later versions of the toolkit;
- ix. That the developers should provide a beta version to the CCs and the 13 pilot countries by the end of January 2004. They will also provide training modules for the beta release, and a training of trainers' workshop should be conducted for all the testers when the final beta version is released
- x. That a realistic time frame for completing the development and distribution of the toolkit will be discussed and agreed upon by UNEP-DEWA and CEDARE;
- xi. That the adopted toolkit and related processes would form an important component of national-level capacity building for integrated environmental assessment and reporting within the Africa Environment Information Network;
- xii. That the GEO Africa Data Portal be incorporated as an internet-based data access facility within the framework of UNEP.Net closely integrated with the tool;
- xiii. That the GEO Africa Data Portal establishes linkages with other major information management initiatives in Africa such as UNECA-CODI;
- xiv. That a technical team should be constituted to work with the developers of the toolkit as to specific details of the toolkit and the suggested changes;
- xv. That UNEP-DEWA facilitates the development of a training package and guidelines on the basis of the new toolkit;
- xvi. That UNEP-DEWA would have responsibility for managing the tool development process, and future maintenance (updates) of the adopted tool.

3. Data Working Group Meeting

The GEO Africa Data Portal Workshop was followed by a 2-day inception meeting (19 – 20 November 2003) of the Data Working Group for the AEO-2 reporting process.

3.1 Objectives

The objectives of the Data Working Group meeting were to:

- Assure improved, more valid assessments through higher-quality data, indicator and related illustrations (maps, graphics etc) in the AEO-2 report and subsequent AEO process.
- Develop and implement data-related methods, procedures and systems, which will serve future AEO reports and the integrated environmental assessment process.
- Improve the quality and availability of harmonized data sets that are validated by countries and in line with regionally available data sets.

The meeting used the outcomes of the GEO Africa Data Portal Workshop as part of the inputs for its deliberations. The agenda for the meeting is indicated in Annex 5.

3.2 Participation

The meeting was attended by 18 participants, including the facilitator, selected from around Africa. A list of participants is provided in Annex 6.

3.2 Adoption of TOR

The terms of reference (TOR) for the working group were discussed and amended as appropriate (see Annex 7). The meeting agreed to replace the “Africa” in the proposed name, Africa Data Working Group, with “AEO” to be consistent with the focus of the TOR.

3.3 Deliberations

Deliberations focused on item #7 of the TOR, i.e., determination of a list of indicators and core data sets for AEO-2. A presentation on the AEO/AEIN framework and the outcomes of the Editorial Coordinators Meeting (Pretoria, 27 – 30 July 2003) provided the context for the deliberations.

The Editorial Coordinators had agreed that AEO-2 would focus primarily on the needs of policy makers in Africa, using the Action Plan for the Environment Initiative of the New Partnership for Africa’s Development (NEPAD) as the basis for the report. AEO-2 would also provide sub-regional and regional inputs for the GEO-4 report. It had also been agreed that there should be a basis for comparison with issues addressed in the AEO-1 report. In this regard the Editorial Coordinators Meeting in Pretoria had agreed that AEO-2 would adopt the same thematic areas as AEO-1 and GEO-4.

An issue-data-indicator matrix prepared on the basis of the AEO-2 chapter structure was presented to guide the discussions. A summary presentation of the “*Issue-Data-Indicator Matrix for GEO Data Harmonization – Version 1.2*” was also made by way of sharing information from the GEO Data Working Group Meeting held in Geneva, 16-17 June 2003.

As the discussions progressed it became clear that the classical issue-data-indicator matrix was not sufficiently responsive to the stated *priorities* of the Action Plan for the Environment Initiative of NEPAD. It was noted that the priorities have been stated in terms of actionable objectives for *reversing environmental degradation*. The AEO-DWG agreed that emphasis in the AEO-2 report should therefore be put on *what should and can be done with existing (remaining) environmental assets*, in the context of identified *constraints* (issues), rather than focusing on what has been (already) lost, as the proposed GEO issues and indicators would suggest. The group realised that this approach would appear to present challenges with respect to linkages between the AEO and the next GEO report, in terms of one-to-one mapping of the NEPAD environmental priorities (which would define the AEO-2 issues) to the GEO themes and issues. Nevertheless the group concluded that the approach provides a better framework for responding to the stated NEPAD environmental priorities.

A “clean sheet” approach was proposed, and the meeting broke into groups to brainstorm on how best to capture the NEPAD environmental priorities, without being constrained by the current matrix, but remaining within the framework of the proposed AEO-2 chapter structure, as well as the Driving Forces-Pressure-State-Impact-Response (DPSIR) framework.

3.4 Conclusions and Way Forward

The AEO-DWG arrived at the following conclusions:

1. The draft TOR for the AEO-DWG, as revised, were adopted;
2. The chapter structure for AEO-2 as developed and agreed upon by the Editorial Coordinators Meeting was adopted as the basis for the process of identifying appropriate indicators and relevant core data sets for the report;
3. The group agreed that structure of the traditional issue-data-indicator matrix, for instance the draft proposed for GEO (Version 1.2), highlights the negatives (e.g., soil erosion, degradation

of forest quality, over-fishing, etc.) and does not easily lend itself to a focus on *opportunities* for addressing issues and *reversing environmental degradation* in the context of the stated NEPAD environmental priorities (e.g., *sustainable* land use, *rational use* of rangelands, *integrated management* of water resources, etc.; see matrix attached).

4. An “opportunities” approach was adopted — that is, the identification of *potential opportunities* for reversing environmental degradation, focusing on *adding value* to what exists (or remains), *using it efficiently* (and sustainably) to derive *maximum benefit*, *mitigating* the constraints and negative effects, *maximising of the total value of the asset*, and making a case for *safeguarding and improving* the remaining asset in terms of ecosystem and economic goods and services, social value/services of environmental resources, etc., at the national and community/household levels.
5. The structure of a new issue-data-indicator matrix which emphasises opportunities, a so-called “opportunities matrix”, that incorporates the endowment value of the environmental theme (e.g. forest), “opportunities”/potential for development (goods & services), and opportunity cost of inaction, was agreed upon (Annex 8).
6. As stated, the NEPAD environmental priorities are somewhat subjective and do require a number of inter-related issues (and indicators) which must be considered together in order to “measure” environmental performance and respond to the respective priorities. It was suggested that existing issue-specific indicators (from the GEO process) would be used where appropriate and in conjunction with indicators that are more responsive to realities in the region, and analysed in an integrated manner. The AEO-DWG will identify the indicators and core data sets.
7. It was agreed that “issues” would focus mainly on bio-physical environmental factors, and that the Driving Force-Pressure-State-Impact-Response (DPSIR) framework would be used for the analysis of indicators.
8. A small group was tasked to refine the issue-data-indicator matrix, and to explain the new items/terms which had been introduced into the so-called “opportunities matrix”. The group agreed on the following definitions:

Endowment: Existing biophysical and human assets that have potential for use

Endowment value: All values that society places on the endowment (ecosystem and economic goods and services, social value/services, etc.)

Issues: Identified challenges/constraints to achieving the stated NEPAD and GEO objectives

Opportunities/Resource Potential: “opportunity” for countries to make choices for the sound use of *available* resources for development

Data Types: higher order grouping of indicators and information that characterise the parameter of interest (opportunities or issues)

Indicator: a quantitative or qualitative value that measures the variable (i.e., data type) of interest

Opportunity cost: Loss to society of values associated with endowment/assets that come from their misuse

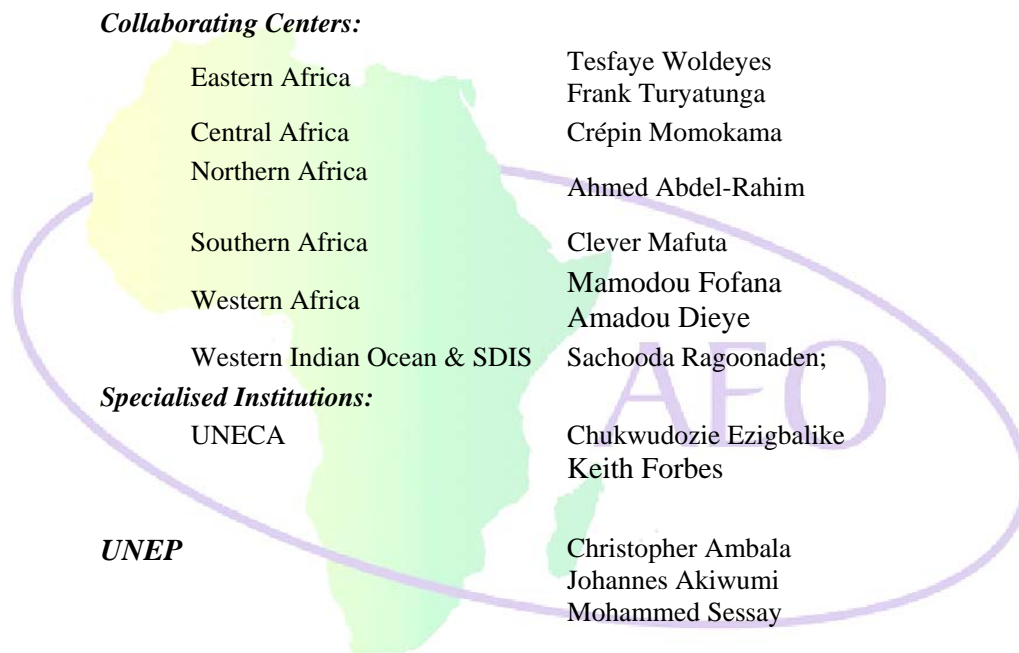
9. It was agreed that the matrix (structure) would be sent out to members of the AEO-DWG and selected thematic for them to contribute examples of opportunities and suggestions for indicators and data sets in their areas of expertise.

3.5 AEO-DWG “Business” Meeting

3.5.1 Membership

The meeting reviewed the proposed membership of the AEO-DWG. The group will be made up of between seven (7) to ten (10) members, primarily composed of experts from Africa at national, sub-regional and regional level. However, it will seek consultations with other experts from international bodies who have experience in the relevant field(s), and may invite such experts to their meetings from time to time.

The following are the current members of the group:



It was proposed that Mr. Jacob Gyamfi-Aidoo should be made a member of the AEO-DWG, representing the private sector. The proposal was accepted.

3.5.2 TOR for Chairperson

The following were adopted as TOR for the chairperson of the AEO-DWG:

- Chair all AEO-DWG meetings;
- Ensure the terms of reference of the group are adhered to;
- Coordinate and liase sub-regional activities data issues;
- Coordinate and liase with the members and the secretariat to organise meetings etc;
- Ensure timely delivery on tasks assigned to the working group;
- Encourage dialogue with both regional and international group in-involved in data issues;
- The chairperson will report to the UNEP-DEWA Regional coordinator for Africa

3.5.3 Election of Chairperson

Mr. Ahmed Abdel-Rehim of the Centre for Environment and Development for the Arab Region & Europe was elected as chairperson of the AEO-DWG.



4. Annexes

- Annex 1: GEO Africa Data Portal workshop & AEO Data Working Group meeting — Terms of Reference for Facilitator
- 2: GEO Africa Data Portal Workshop, 17th & 18th November 2003 —Agenda
- 3: GEO Africa Data Portal Workshop, Nairobi, 17-18 November 2003 — List of Participants
- 4: Functionalities for AEO Data Tool
- 5: AEO Data Working Group Meeting, 19th & 20th November 2003 —Agenda
- 6: AEO Data Working Group Meeting — List of Participants
- 7: AEO Data Working Group (AEO-DWG) — Terms of Reference (Revised)
- 8: NEPAD/AEO/ Opportunities-Issues-Indicator-Data Matrix
- 9: Presentations

