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ECONOMIC COMMISSION FOR AFRICA

**First Meeting of the Statistical Commission for Africa
(StatCom-Africa I)**

Addis Ababa, Ethiopia
20– 24 January 2008

**Report on the Development of a
Core List of Environment Indicators**

I. Introduction

1. The United Nations Statistical Commission established at its thirty-fourth session in 2003, the Intersecretariat Working Group on Environment Statistics (IWGES). The main objective of the working group on environmental statistics is to firmly anchor environment statistics as part of official statistics by improving and strengthening basic environment data.
2. The African region has benefited from the work undertaken by the IWGES through training and capacity building activities. In 2005, the United Nations Environment Programme (UNEP) co-sponsored a training workshop on environment statistics organized by the United Nations Statistics Division (UNSD) jointly with the Economic Community of West African States (ECOWAS) and the Economic Commission for Africa (ECA).
3. A second training workshop was co-organized by the UNSD, the UNEP, and the ECA to agree on a core set of environmental indicators and statistics for national and regional reporting, and train participants from national statistical offices and ministries/agencies responsible for environment on basic concepts, methods and best practices in environment statistics. The workshop aimed at providing a forum for exchange of information on the status of national environment statistics, as well as establishing a network of environment statisticians among the countries as recommended by the Action Plan of the Environment Initiative of the New Partnership for Africa's Development (NEPAD).
4. The present report examines the main outcomes of that second workshop. The second chapter will focus on the account of proceedings and the recommendations of the workshop. The third chapter will deal with work undertaken on data collection and dissemination, while the fourth and last chapter will draw attention of StatCom-Africa on the expected programme on environment statistics in the Africa region for 2008-2009.

II. Methodological work

5. The workshop was held at the United Nations Conference Centre at ECA in Addis Ababa, Ethiopia from 16 to 20 July 2007. It was attended by participants from National Statistical Offices (NSOs) and Ministries of Environment from 17 countries and 12 international, regional and non-governmental organizations.
6. The following agenda was adopted:
 - a) Environmental policy and the need for environmental indicators and statistics
 - b) Concepts and methods of environmental statistics and indicators
 - c) Institutional aspects of environment statistics
 - d) Statistics on freshwater, coastal and marine resources, environmental health and natural disasters
 - e) Statistics on land use and agriculture, forests and biodiversity
 - f) Statistics on waste, air, energy and minerals

- g) Data collection and dissemination challenges
 - h) A regional programme of environment statistics – list of indicators and set of tabulations
7. The workshop bearing in mind the critical role of environment issues in sustainable development policies and programmes, was concerned by the scarcity of data and information on environment to assess the state of the environment in Africa. The workshop therefore made recommendations on the following issues: (i) Institutional and coordination; (ii) Capacity building; (iii) advocacy; (iv) data gaps; (iv) methodology, knowledge management and networking; (v) Core set of environment indicators

Institutional and coordination issues

- a) Countries (which have not done so yet) to design a National Strategy for the Development of Statistics (NSDS) as the overarching framework for statistical capacity development, including the appropriate legal framework, institutional set-up, distribution of responsibilities and coordination mechanisms;
- b) UNEP, UNSD, ECA, United Nations Development Programme (UNDP) and African Development Bank (AfDB) to assist countries to develop and implement a sectoral strategy for the development and mainstreaming of environment statistics as a component of the NSDS, capitalizing on the outcomes of the African Environment Information Network (AEIN), the African Environment Outlook (AEO) process and global/national development reports;
- c) The strengthening of coordination, collaboration and partnerships at country, sub-regional and regional level by developing appropriate interim mechanisms of data exchange where the legal framework does not yet exist;
- d) Recognising that some important environment issues are transboundary, urged ECA, UNSD, and other partners to support UNEP AEIN Collaborating Centers and National Focal points in developing a sub-regional environment statistics strategy and networking;
- e) UNEP, UNSD, ECA, UNDP and AfDB to support countries in reporting on the Millennium Development Goal (MDG) 7;
- f) National statistical offices to put in place an environment statistics unit, strengthen the unit's capacity and strongly collaborate with the AEIN focal point at national level;

Capacity building

- g) ECA, UNEP, UNSD, UNDP and other partners to work together within the framework of the Bali Strategic Plan for Technology Support and Capacity Building, to develop training materials including e-learning tools on environment statistics and pilot test in the AEIN and in countries where the One UN concept is in use;

- h) The development of a curriculum on environment statistics and sustainable development indicators to be used in African Statistics Training Centres and universities engaged in statistical training to establish a firm conceptual foundation and ensure the sustained availability of trained human resources;

Advocacy

- i) The strengthening of data user-producer dialogue;
- j) Countries, sub-regional and regional organizations to put environment statistics on the agenda of the African Statistics Day celebration to promote understanding and use of environment statistics among policy and decision makers;

Data Gaps

- k) To identify data gaps at national, sub-regional and regional levels based on the agreed core set of environmental indicators and find mechanisms to fill in those gaps;
- l) UNSD and UNEP to include natural disasters, coastal and marine environment, and biodiversity in the scope of their questionnaire;

Methodology, Knowledge management and networking

- m) Countries with the assistance of ECA, UNEP, UNSD, UNDP and other partners to agree on detailed concepts, methods and definitions for the calculation of the indicators that are consistent with existing international standards;
- n) Within the framework of AEIN, national, sub-regional, and regional organizations, to disseminate environment statistics and spatial data on-line through an African data portal (on-line database);

Core set of environment indicators

- o) Countries with the assistance of ECA, UNEP, UNSD and other partners to conclude the development of a core set of African environment indicators to reflect the environmental national priorities and the needs of national, sub-regional, regional and international organizations;
- p) The updating of the NEPAD-AEO core set of indicators to be harmonized with the agreed upon core list of indicators identified by countries, regional and international organizations during this workshop; and
- q) To put in place a task force (AEO-Data Working Group, ECA, UNSD and other partners) that will undertake the following: to streamline indicators and develop methodology sheets; circulate to the group and other regions; finalize the list of indicators; test them on selected countries and organize seminars for the launching.

8. The detailed report of the workshop is available for consultation at the African Centre for Statistics (ACS)'s website: www.uneca.org/statistics.
9. A core list of environmental indicators taking into account the revised list of MDG indicators, was developed on 11 thematic areas (cf. annex for details of indicators):
 - a) Natural Disasters and Environmental Performance
 - b) Air
 - c) Land use
 - d) Agriculture
 - e) Forests and woodlands
 - f) Coastal and Marine Resources
 - g) Fresh water
 - h) Biodiversity
 - i) Energy and minerals
 - j) Waste
 - k) Health and Environment

III. Data Collection and Dissemination

10. UNEP and ECA have started work on data collection and dissemination of environment statistics. The African Statistical Yearbook will include a theme on Environment. Further work will be undertaken in identifying data gap in accordance with the developed core list of environment statistics.

IV. The work programme on environment statistics in 2008-2009

11. The Secretariat seeks the endorsement by StatCom-Africa of the recommendation to establish a Task Force on Environment Statistics that will streamline the proposed core list of environment statistics and develop methodology sheets.
12. The task force will prepare a work programme on environment statistics for the Africa region in order to avoid duplication of efforts and efficiently implement the recommendation of the workshop held in Addis-Ababa. It will closely work with the Intersecretariat Working Group on Environment Statistics on its proposed 2008-2009 work programme which is considering pooling of resources by joint training and capacity building actions in the region covered by ECA.

Annex

Core List of Environment Indicators

- Coding:
 1. Identical indicator exists (MDG, CSD, etc.) Definition and methodology available.
 2. Similar to existing indicator (MDG, CSD, etc.) Definition and methodology available.
 3. Definition and methodology to be developed
 4. Indicator has to be selected and developed.
 5. Suggested for deletion
 6. Add new indicator
- Other: Indicates that the same or similar indicator is used by an International, Regional or Intergovernmental organization

Natural Disasters and Environmental Performance

Priority area	Proposed indicator	Code	Links to MDG, CSD, NEPAD, Other
Exposure to various types of natural hazards, drought, floods etc	Percentage of population living in hazard prone areas [CSD]	2	CSD/ NEPAD Other
	Frequency of extreme events*	3	NEPAD/ Other
Impacts to various types of natural hazards, drought, floods etc	Human and economic loss due to natural disasters [CSD]	1	CSD/ NEPAD/ Other
Inadequate early warning system for the timely prediction of location and intensity of future natural disasters	% of population having access to information from EWS	3	
Adaptive capacity	Public expenditure on disaster reduction and related measures	4	

Air

Priority areas	UNSD Proposals	Code	Links to MDG, CSD, NEPAD, Other
Air quality	Ambient concentrations of air pollutants in urban areas [CSD]	1	CSD/ NEPAD/ Other
Climate change	Carbon dioxide emissions, total, per capita and per \$1 GDP (PPP)[MDG]	1	MDG/ CSD/ NEPAD/ Other
	Emissions of greenhouse gases [CSD]	1	CSD/ NEPAD/ Other
	Frequency of extreme events*	1	NEPAD/ Other
	Annual variability of rainfall (at least 30 years)	4	NEPAD/ Other
	Annual variability of temperature (at least 30 years)	4	NEPAD/ Other
Ozone Layer Depletion	Consumption of ozone-depleting substances [MDG]	6/1	MDG/ CSD/ Other

Land use

Priority area	Proposed indicator	Code	Links to MDG, CSD, NEPAD, Other
Land tenure/ownership	% of population (by groups, gender) with secure land tenure	3	NEPAD/ Other
	% of land area by ownership categories	3	NEPAD
Land Quality (degradation)	Land affected by desertification [CSD]	1	CSD/ NEPAD/ Other
	Land degradation [CSD] -wind/water erosion -salinization	1	CSD/ NEPAD/ Other
	(%) proportion of land/area effected by contamination	3	NEPAD/ Other
Land use change	Land use change [CSD]	3/1	CSD/ NEPAD/ Other

Agriculture

Priority area	Proposed indicator	Code	Links to MDG, CSD, NEPAD, Other
Agriculture	Agricultural Production Index [FAO]	1	NEPAD/ Other
Irrigation	% of land/agricultural area under irrigation	3	NEPAD/ Other
Use of pesticides/ fertilizers	Use of agricultural pesticides [CSD]	1	CSD/ NEPAD/ Other
	Number of reported cases of contamination of toxic substances	3	NEPAD
	Fertilizer consumption [FAO]	1	CSD/ NEPAD/ Other
Rangeland carrying capacity	Livestock pressure over carrying capacity [LADA]	1	NEPAD/ Other

Forests and woodlands

Priority areas	UNSD Proposals	Code	Links to MDG, CSD, NEPAD, Other
Forest change (loss/ degradation)	Proportion of land area covered by forest [MDG]	1	MDG/ CSD/ NEPAD/ Other
	% of forests damaged (abiotic, biotic and human induced) [UNECE/FAO]	1	CSD/ Other
	Area of forest under sustainable forest management [CSD]	1	CSD/ Other
	Rate of afforestation/ deforestation	3	NEPAD/ Other
Forest resources management	% of exports of forestry products	3	NEPAD/ Other
Established protected areas (forests etc.)	% of protected forest areas to the total forest area	1	Other

Coastal and Marine Resources

Priority areas	UNSD Proposals	Code	Links to MDG, CSD, NEPAD, Other
Urbanization of coastal zones	Percentage of total population living in coastal areas [CSD]	1	CSD/ NEPAD/ Other
Coastal and marine pollution	Proportion of coastal areas affected by pollution	3	CSD/ NEPAD/ Other
	Coastal water quality	6/1	NEPAD/ Other
	Number and area of marine aquaculture sites	3	
Coastal erosion/ sedimentation	% change in coastal areas lost	3	NEPAD/ Other
Marine biodiversity	Number of marine species (mangroves, fisheries, etc) threatened and extinct	3	NEPAD/ Other
	Change in area under mangrove forest	3	NEPAD/ Other
	Proportion of marine area protected [CSD]	1	MDG/ CSD/ NEPAD/ Other
	Total & per capita marine fish catch	1	NEPAD/ Other
	Total & per capita marine aquaculture fish catch	1	NEPAD/ Other
	Proportion of fish stocks within safe biological limits [MDG]	6/1	MDG/ CSD/Other
Climate change- sea level rise	Annual sea level change	3	NEPAD
Poverty eradication	Number of people making a living from marine resources	3	Other

Fresh water

Priority areas	UNSD Proposals	Code	Links to MDG, CSD, NEPAD, Other
Water Accessibility;	Proportion of population using an improved drinking water source [MDG]	1	MDG/ CSD/ NEPAD/ Other
	% of population connected to public water supply	1	NEPAD/ Other
Water Quantity;	Proportion of total water resources used [MDG]	1	MDG/ CSD/ NEPAD/ Other
	Ratio of external renewable water resources to total renewable water resources	6/1	Other
	Total annual renewable water resources per capita	6/1	NEPAD/ Other
	Change in surface water discharge	3	NEPAD
	Annual groundwater recharge	3	NEPAD/ Other
Water Quality (Pollution);	Emissions of organic water pollutants (BOD) total/per worker	3	NEPAD/ Other
	Biochemical oxygen demand in water bodies [CSD]	1	CSD / NEPAD Other
	Chemical oxygen demand in water bodies	1	Other
	Average annual concentration of total phosphorus in lakes and rivers	1	NEPAD/ Other
	Average annual concentration of total dissolved solids/sediment flux in lakes and rivers	1	NEPAD/ Other
	Average annual concentration of total nitrogen in lakes and rivers	1	NEPAD/ Other
	Average annual concentration of dissolved oxygen in lakes and rivers	1	NEPAD/ Other
	Presence of faecal coliforms in freshwater [CSD]	1	CSD / Other
Water usage;	Total annual water use per capita	1	NEPAD/ Other
	% of (change in amount/volume) freshwater used for domestic use, irrigation, industry	1	NEPAD/ Other
	Water use intensity by economic activity [CSD]	6/1	CSD/ Other
Water borne diseases (bilharzias, river blindness, sleeping sickness, etc);	Incidence of water borne diseases	3	NEPAD/ Other

Water Mgt issues	Developed national & river basin IWRM plans	3	NEPAD
	Wastewater treatment [CSD]	1	CSD/ Other
	% of population connected to wastewater collecting system	6/2	Other
	Volume of treated wastewater for domestic use	6/3	Other
	Amount/volume of disposal of wastewater into wetlands	3	NEPAD
	% of treated waste water produced from wetlands	3	NEPAD
Water availability	Urban water supply from dams	4	NEPAD
	Abstraction from boreholes for domestic use in rural/urban settings (per capita yield)	3	NEPAD

Biodiversity

Priority areas	UNSD Proposals	Code	Links to MDG, CSD, NEPAD, Other
Ecosystem	-Proportion of terrestrial area protected by ecological region [CSD]	1	MDG/ CSD/ NEPAD/ Other
Wetlands	Number of wetland species threatened and extinct	3	NEPAD
	% change of the area of wetlands	3	NEPAD/ Other
	Number of Ramsar sites	1	Other
	% of rehabilitated/total area of wetlands	3	NEPAD
Species	Number of restored wetlands sites	3	NEPAD
	Threatened plant species as a % of total known plant species	1	NEPAD/ Other
	Threatened animal species as % of total known animal species	1	NEPAD/ Other
	Proportion of species threatened with extinction [MDG]	6/1	MDG
Invasive Species	Abundance of selected key species [CSD]	1	CSD/ Other
	Abundance of invasive alien species [CSD]	1	CSD/ NEPAD/ Other

Energy and minerals

Priority areas	UNSD Proposals	Code	Links to MDG, CSD, NEPAD, Other
Energy production	Primary energy production total, per capita and by source		NEPAD/ Other
Energy consumption	Share of renewable sources in total energy use [CSD]	1	CSD/ NEPAD/ Other
	Share of imports in total energy supply	6	Other
	Intensity of energy use, total and by economic activity [CSD]	1	CSD/ Other
	Annual energy consumption total and by main user category [CSD]	1	CSD/ NEPAD/ Other
	Total energy consumption per capita	6/1	Other
	Share of households with access to electricity	1	CSD/ NEPAD/ Other
	% of traditional fuel energy use	3	NEPAD/ Other

Waste

Priority areas	UNSD Proposals	Code	Links to MDG, CSD, NEPAD, Other
Development and population growth and urbanization	Generation of waste [CSD]	1	CSD/ Other
	Waste treatment and disposal [CSD]	1	CSD/ Other
	Municipal waste collected per capita	1	NEPAD/ Other
	Municipal waste collected as a % of the amount of waste generated	3	Other
Appropriate and sound guidelines for waste management systems appropriate for the environmental conditions	% share of population served by municipal waste collection	1	NEPAD/ Other
Hazardous substance (as defined in the Basel Convention)	Generation of hazardous waste [CSD]	1	CSD/ NEPAD/ Other
	Total hazardous waste imported	1	Other

Priority areas	UNSD Proposals	Code	Links to MDG, CSD, NEPAD, Other
	Total hazardous waste exported	1	Other
	Number and capacity of facilities for the disposal of hazardous waste	4	Other

Health and Environment

Priority areas	UNSD Proposals	Code	Links to MDG, CSD, NEPAD
Infant and child mortality	Under five mortality rate [MDG]	1	MDG/ CSD/ NEPAD/ Other
	Maternal mortality ratio per 100,000 live births [MDG]	1	MDG/ NEPAD/ Other
	Mortality rate	1	NEPAD
Burden of ill health	% of population with access to primary health care facilities [CSD]	1	CSD/ NEPAD
	Public expenditure in health (in % of GNP)	1	NEPAD/ Other
	Proportion of population using an improved sanitation facility [MDG]	1	MDG/ CSD/ NEPAD/ Other
Informal Settlements	Proportion of urban population living in slums [MDG]	6/1	MDG/ CSD/ Other
	Informal Settlements, area and percentage of population	6/3	NEPAD/ Other