UNITED NATIONS STATISTICS DIVISION (UNSD)

Workshop on Environment Statistics in support of the implementation of the Framework for the Development of Environment Statistics (FDES 2013)

Balaclava, Mauritius

26-29 January 2015

UNSD Environment Statistics Self Assessment Tool (ESSAT) and COMESA Environmental Statistics Assessment 2014

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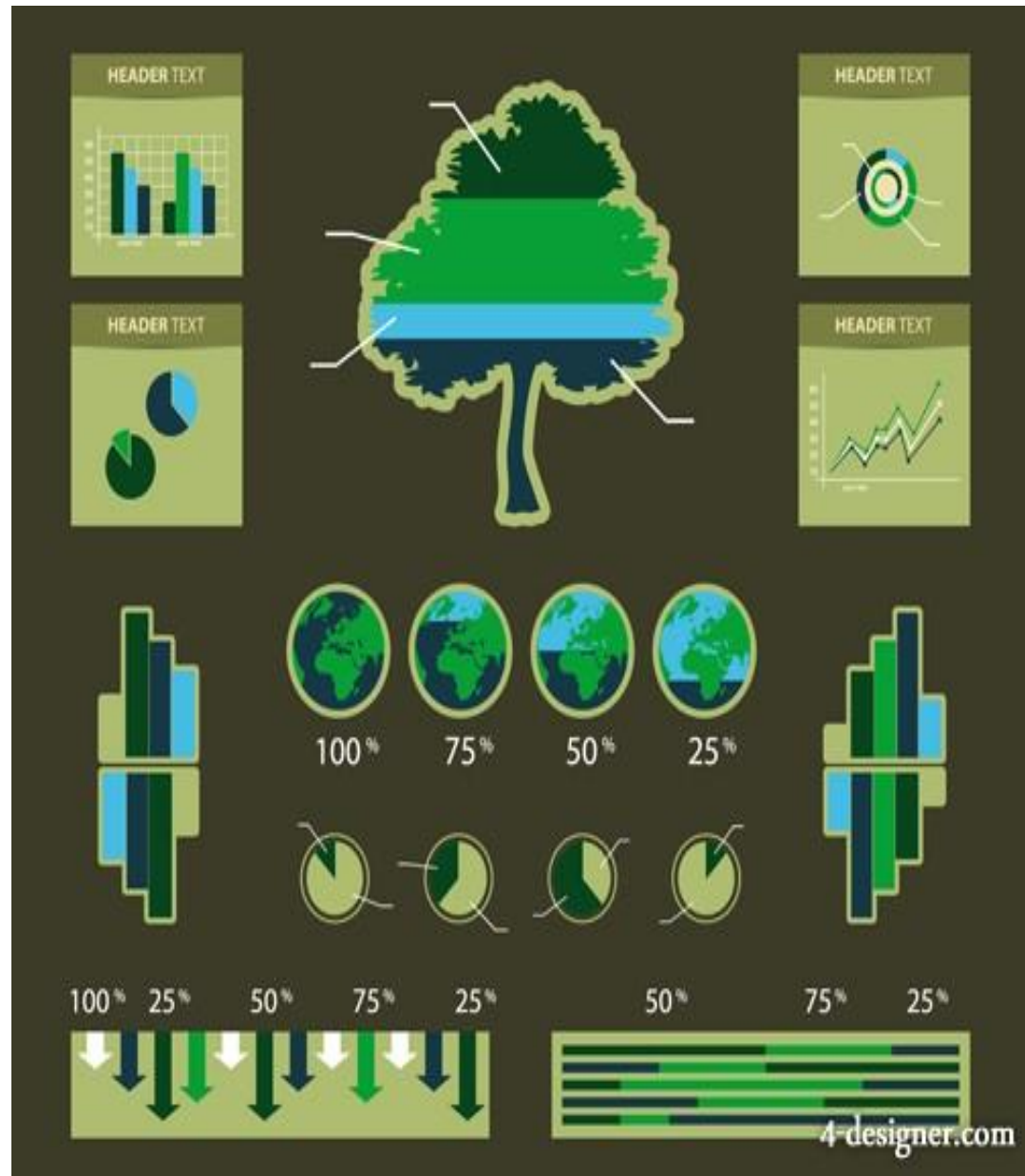
Introduction

- This presentation highlights the ESSAT and results of the 2014 COMESA Environmental Statistics Assessment which was another key activity in developing new statistical interventions for the COMESA Secretariat.

- The presentation contains sections on the background, ESSAT Tool, COMESA assessment results and lastly issues for the COMESA and UNSD consideration and decision

Background

- The environment and climate change constitute major development challenges of the 21st century.

- Development sustainability requires harmonious natural resource management.

- *Paradox:*

- conserving natural resources

- combating climate change,

- addressing, with economies heavily dependent on natural Resources, urgent poverty and infrastructure problems, compounded by population growth on the other hand.

- COMESA Treaty provide the policy context for sustainable development and cooperation of the environment.
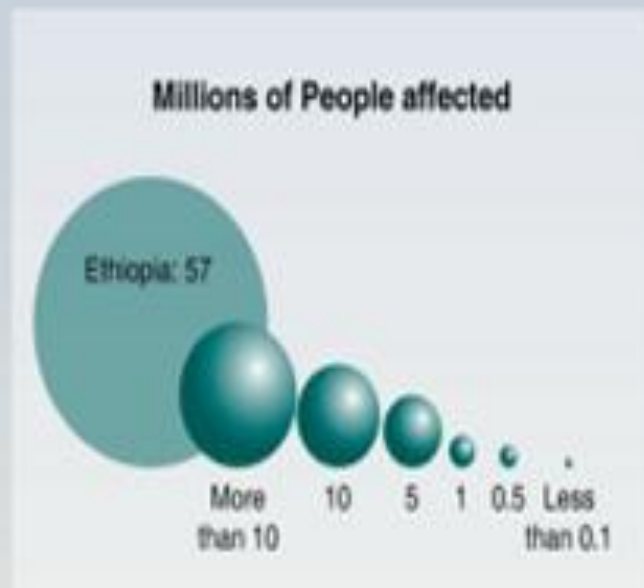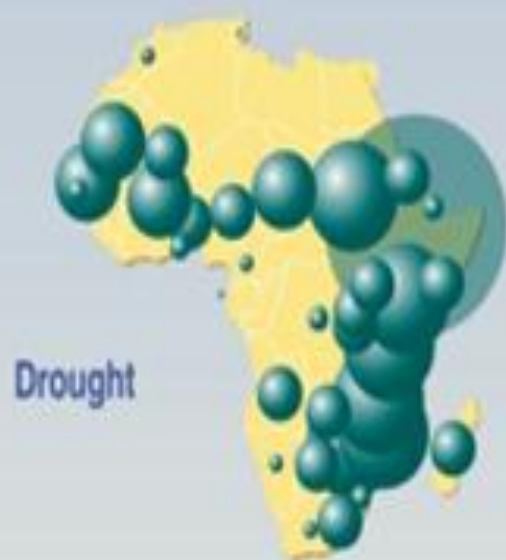
Background

- *Paradox:*

- However, the extent of destruction of their natural resources and ecosystems observed since the last decade and their severity in the medium and long terms have raised the awareness of their governments on environmental challenges.

- Also, with the mobilization of technical and financial partners supported by the global nature of environmental issues, developing countries now pay special attention to these issues given the number of these countries that have ratified the various related **Environmental Agreements.**

- There is need to articulate these developments and align them with COMESA priorities for the development of the environment as a whole and environmental statistics specifically.

- In order to initiate a regional intervention COMESA has undertaken an assessment of available environmental statistics.

People affected by Natural Disasters during the period 1971-2001

Drought

Famine

Flood

Epidemic related to disasters

Millions of People affected

Ethiopia: 57

More than 10   10   5   1   0.5   Less than 0.1

Source: The Office of U.S. Foreign Disaster Assistance (OFDA), The Centre for Research on the Epidemiology of Disasters (CRED), International Disaster Database, www.cred.be/emdat, Université Catholique de Louvain, Brussel, Belgium.

UNEP   GRID Arendal

Typical environmental challenges

	Africa	Asia-Pacific	Europe & former USSR	Latin America & Caribbean	North America	West Asia	Polar Regions
Land: degradation	Critically important	Critically important	Important	Critically important	Important	Critically important	Lower priority
Forest: loss, degradation	Critically important	Critically important	Important	Critically important	Lower priority	Lower priority	Negligible
Biodiversity: loss, habitat fragmentation	Important	Critically important	Critically important	Important	Important	Important	Important
Fresh water: access, pollution	Critically important	Critically important	Critically important	Important	Critically important	Critically important	Lower priority
Marine and coastal zones: degradation	Important	Critically important	Critically important	Important	Important	Critically important	Lower priority
Atmosphere: pollution	Important	Critically important	Critically important	Critically important	Critically important	Important	Negligible
Urban and industrial: contamination, waste	Important	Critically important	Critically important	Critically important	Critically important	Critically important	Important

Legend: Critically important — Important — Lower priority — Negligible

The ESSAT and COMESA assessment

COMESA	UNSD ESSAT
Q10. Existence of a Ministry in charge of environmental issues/If so, does this ministry have a mandate to <u>collaborate in producing /produce statistics on the environment?</u>	B1. In your country, who has the legal mandate to produce statistics? B3. Which is the responsible institution of the national statistical system?
Q5. Does the country have a National Statistics Development Strategy (NSDS) or an ongoing multi-year statistics development program?	B5. Is there a national statistical work plan/programme/strategy (e.g. NSDS)?
Q12. How is the relationship between the NSO and the various structures that produce statistics on the environment?	B2. Is there a national statistical system?
Q11. Number of the ministries, structures or institutions that have a mandate to produce statistics on the various sectors of the environment	B4. Which other institutions are included/involved? C1.1. In your country, who has the legal mandate to produce environment statistics? C2.1. How would you describe collaboration among institutional partners for the production of environment statistics?

The ESSAT and COMESA assessment

COMESA	UNSD ESSAT
Q11. Number of the ministries, structures or institutions that have a mandate to produce statistics on the various sectors of the environment Q 12. How is the relationship between the NSO and the various structures that produce statistics on the environment?	C1.2 Is there a national environment statistical system? C1.3 Which is the responsible institution of the national environment statistical system? C1.4 Is there a national environment statistics programme in place?
Q12. How is the relationship between the NSO and the various structures that produce statistics on the environment?	C1.6 Location of the environment statistics programme/unit in the national statistical office (NSO)
Q 25. Is a national environmental statistics yearbook published in your country?	C.1.10 What are the dissemination vehicles of environment statistics?
Q13. Is there a National committee of validation for environmental statistics in your country? Q15 What are the main reasons for which the environmental statistics coordination framework does not operate satisfactorily	C2.2 What are the main barriers to collaboration among institutions for the production of environment statistics? C2.3 Is there is a committee, inter-agency group or roundtable of institutions participating in the production of environment

The ESSAT and COMESA assessment

COMESA	UNSD ESSAT
MODULE 1: AIR/ATMOSPHERE	Topic 1.1.1. Atmosphere, climate and weather
MODULE 2: SOIL	Topic 1.1.4. Soil characteristics
MODULE 3: BIODIVERSITY	Topic 1.2.3. Biodiversity
MODULE 4: WASTE	Topic 3.3.1. Generation of waste
MODULE 5: WATER	Topic 2.6.1. Water resources Topic 2.6.2. Abstraction, use and returns of waters
MODULE 6: ENERGY	Topic 2.2.1. Stocks and changes of mineral energy resources Topic 2.2.2. Production and consumption of energy from non-renewable and renewable sources
MODULE 7: FORESTRY AND WOOD	Topic 1.2.4. Forests Topic 2.5.1. Timber resources
MODULE 8: COASTAL AND MARINE RESOURCES	Topic 1.2.3. Biodiversity Topic 1.3.3. Marine water quality

COMESA Coverage and responses

The questionnaire was sent to all the COMESA member states: namely:

1. Burundi
2. Comoros
3. Djibouti
4. DR Congo
5. Egypt
6. Eritrea
7. Ethiopia
8. Kenya
9. Libya
10. Madagascar

11. Malawi
12. Mauritius
13. Rwanda
14. Seychelles
15. Sudan
16. Swaziland
17. Uganda
18. Zambia
19. Zimbabwe

4 countries did not respond:
Swaziland, Uganda, Eritrea, Libya

Coordination of environment statistics

- Most countries (93%) have a national poverty reduction or development strategy

- All countries have a Ministry in charge of environmental issues

- National environmental statistics validation committee is absent in most countries. Only 27 % have such committees.

Coordination of environment statistics

	Issue requiring coordination	Responses – Yes/total (%)
1	Does the country have a poverty reduction strategy or other national development policy document?	14/15 (93%)
2	If yes, does this document explicitly target environmental problems faced by the country?	12/13 (92%)
3	Does the country have any environmental policy document?	13/14 (93%)
4	Does the country have a National Statistics Development Strategy (NSDS) or an ongoing multi-year statistics development program? (B5 OF ESAT)	12/14 (86%)
5	Are the statistics in the environmental sectors identified in the poverty reduction strategy paper or development policy integrated into the NSDS or the development policy?	11/14 (79%)
6	diagnostics and action plan about identified environmental problems Diagnostics	8/10 (80%)
7	diagnostics and action plan about identified environmental problems) Action Plan	5/10 (50%)
8	Existence of a Ministry in charge of environmental issues	15/15 (100%)
9	does this ministry have a mandate to collaborate in producing/produce statistics on the environment?	13/15 (86%)
10	Coordinate/collaborate in the production of statistics on the environment	11/14 (79%)
11	Is there a National committee of validation for environmental statistics in your country?	4/15 (27%)
12	Country already implemented (is implementing) a capacity building	5/15 (33%)

Environment Information System (EIS), Environment Statistics and Environment-Economic Accounts

- 60% of the countries have an EIS but in differing operational stages

- Most countries (approx. 80%) do not have a publication on environment statistics

- Only 17% of the countries have compiled environment-economic accounts but all the rest 83% have plans to start compiling them

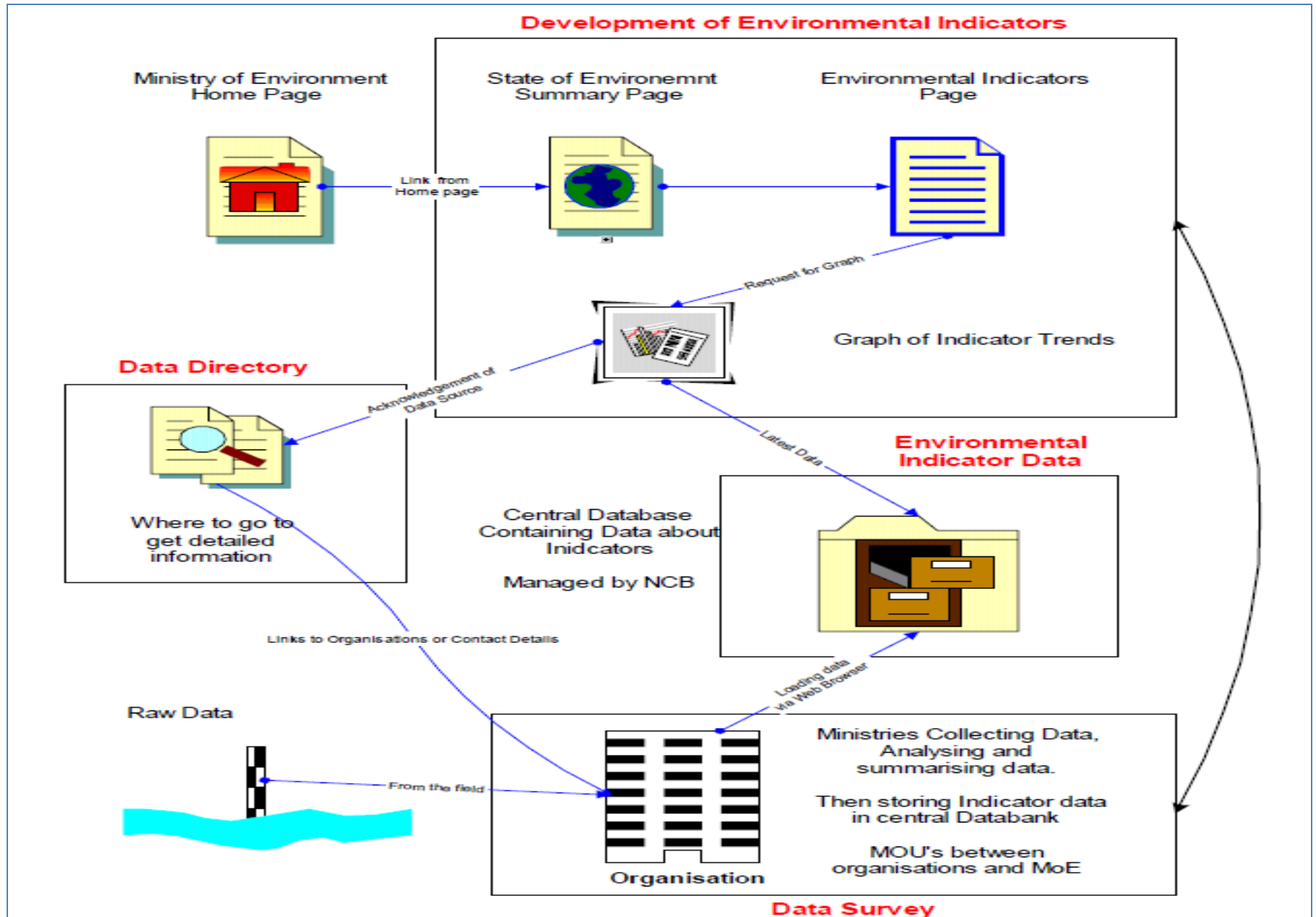# Environmental Information and Knowledge Management

HARDWARE

EIS

SOFTWARE

PEOPLE

Environmental Information system set up

Environment Information System (EIS), Environment Statistics and Environment-Economic Accounts

Issue	Responses – Yes over all responses (% yes)
Availability of environmental information system (EIS)	9/15 (60%)
Is this information system operational?	5/9 (55%)
Does the country plan to develop an information system on the environment?	9/10 (90%)
Is a national environmental statistics yearbook published in your country?	3/15 (20%)
In compiling Environment Statistics, has your country use the UN Framework for the Development of Environment Statistics (FDES)?	5/14 (35%)
Are Environment Economic Accounts produced in your country?	2/13 (15%)
Is Water Economic Accounts the module of the Environment Economic Accounts compiling in your country?	6/10 (60%)
Was the FDES used to produce the Environment Economic Accounts	4/8 (50%)
Does the country plan to compile environmental economic accounts?	11/13 (85%)

Regional environmental indicators in the assessment

MODULE 1: AIR/ATMOSPHERE

- Ambient concentrations of air pollutants in urban areas

- Per capita and total emissions of carbon dioxide

- Consumption of ozone depleting substances

- Variations in mean annual rainfall from the annual long-term mean

- Variations in mean annual temperature from the annual long-term mean
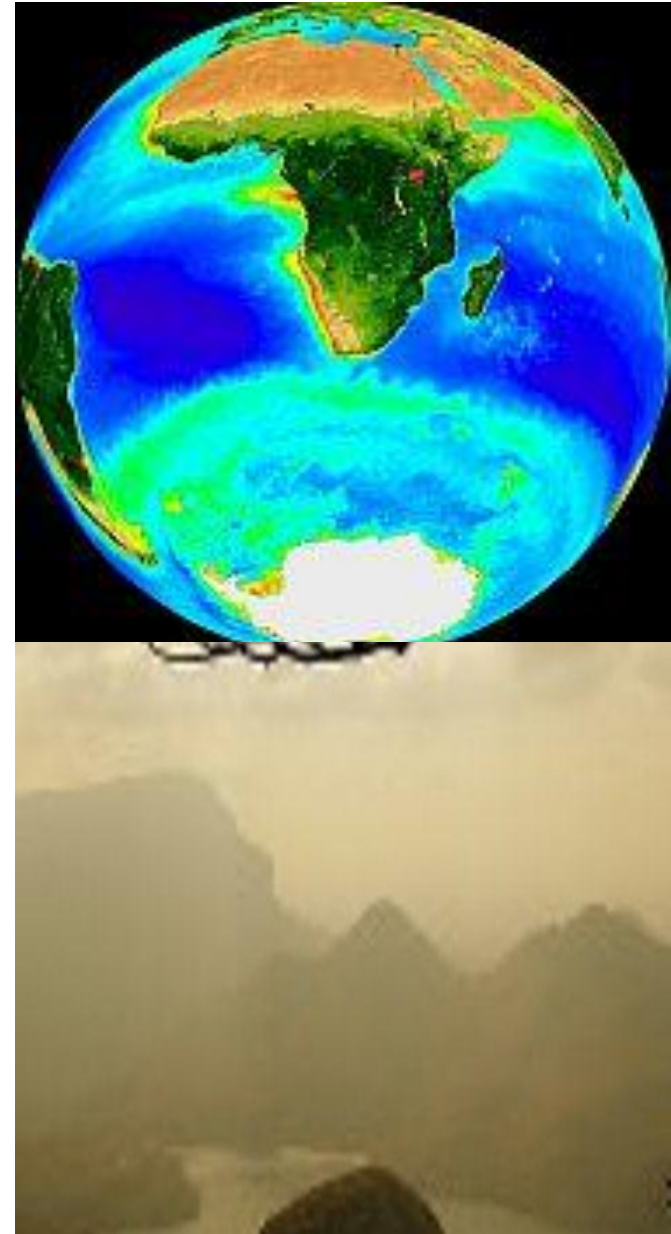
Regional environmental indicators in the assessment

MODULE 2: SOIL

- Land affected by desertification

- Proportion of the surface area of farmlands under irrigation

- Use of agricultural pesticide per unit of farmland

- Stocking density (number of livestock per grazing unit)

Regional environmental indicators in the assessment

MODULE 3: BIODIVERSITY

- Proportion of protected land areas

- Percentage of endangered plant species among known species

- Percentage of endangered animal species among known species

Regional environmental indicators in the assessment

MODULE 4: WASTE

- Amount of waste produced

- Municipal Solid waste collected per capita

- Proportion of the population served by municipal waste collection facilities

Regional environmental indicators in the assessment

MODULE 5: WATER

- Proportion of population using a safe drinking water source
- Yearly total of renewable water resources per capita
- Wastewater treatment
- Proportion of the population connected to the wastewater collection system
- Utilization rate of total water resources
- Intensity of water use based economic activities

Regional environmental indicators in the assessment

MODULE 6: ENERGY

- Total primary energy production
- Total electricity generation per capita and by source
- Total energy consumption per capita and per unit of GDP
- Use of traditional fuels as a percentage of total energy consumption
- Proportion of households with access to electricity

Regional environmental indicators in the assessment

MODULE 7: FORESTRY AND WOOD

- Proportion of surface area covered by forest
- Rate of reforestation/deforestation
- Proportion of exports of forest products
- Proportions of surface area of protected forests in relation to the total forest area

Regional environmental indicators in the assessment

MODULE 8: COASTAL AND MARINE RESOURCES

- Percentage of total population living in coastal areas
- Loss of coastal areas due to erosion
- Number of endangered marine species
- Proportion of protected marine areas
- Total and per capita salt-water fish catch
- Annual change of sea level

Status of Environment Statistics by Topic

- Biodiversity Statistics are the most commonly available in the countries since they include simple indicators such as protected areas.

- Soil and Air/Atmosphere are the least available.

- Coastal and Marine Resources are not applicable for land locked countries


Environmental Statistics Availability by Theme
Average scores for the COMESA region
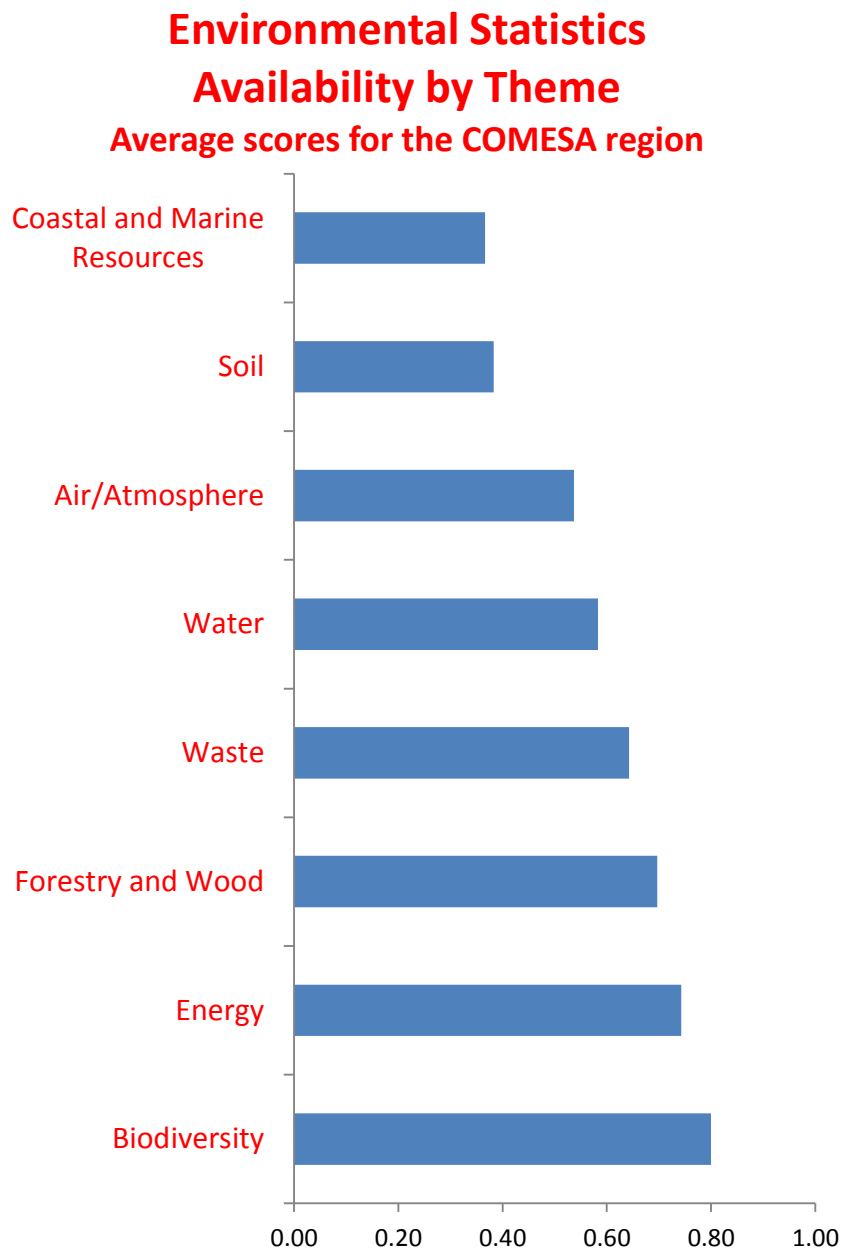
Status of Environment Statistics by Country

➤ **The average score for the region is 0.43 or 43% for the general availability**

➤ **The average score reflects a low availability where nearly half of the reporting countries are below average**

➤ **In general, the availability of environment statistics is below 90% in the COMESA region;**

➤ **Only three countries, namely Malawi, Mauritius and Zimbabwe, have reported having above 80% availability of the indicators;**

➤ **Six countries have above 60% availability**

➤ **Around 10 out of the 19 COMESA countries have a paucity of environmental data**

Availability of environment statistics by country
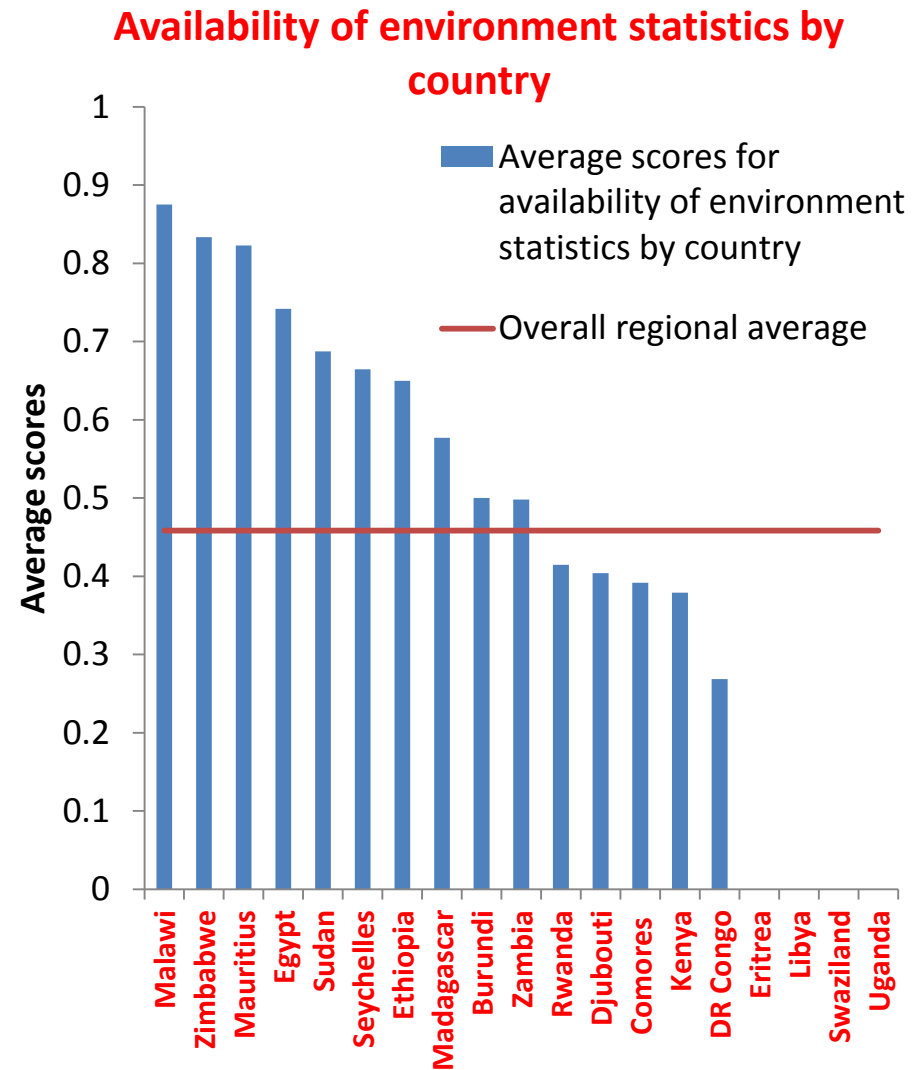
Statistics availability - Air/Atmosphere

- 6 out of the 15 countries that responded have all the statistics on this topic

- However, 5 also are poor in terms of data availability on this topic and among the reporting countries DR Congo and Ethiopia have the least of them.
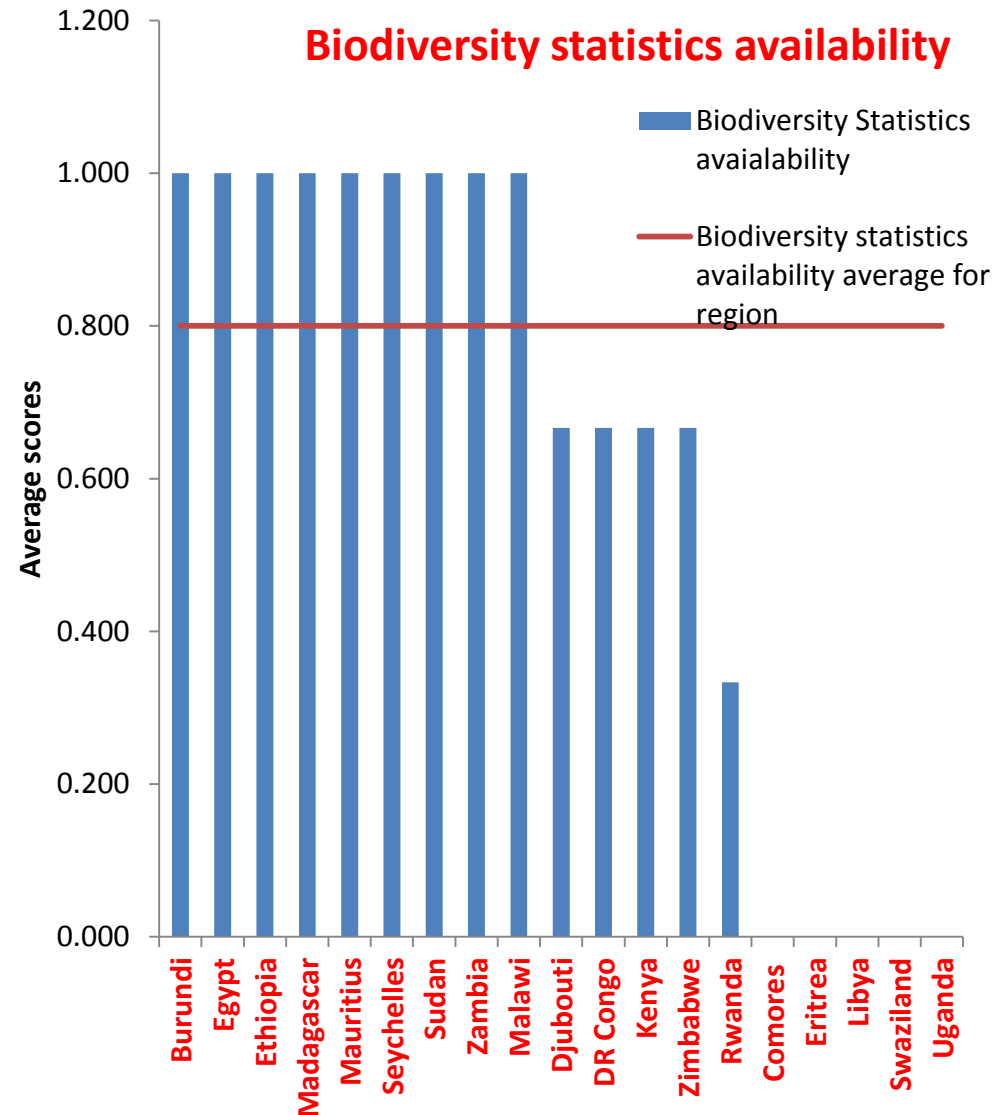

Air/Atmosphere statistics availability
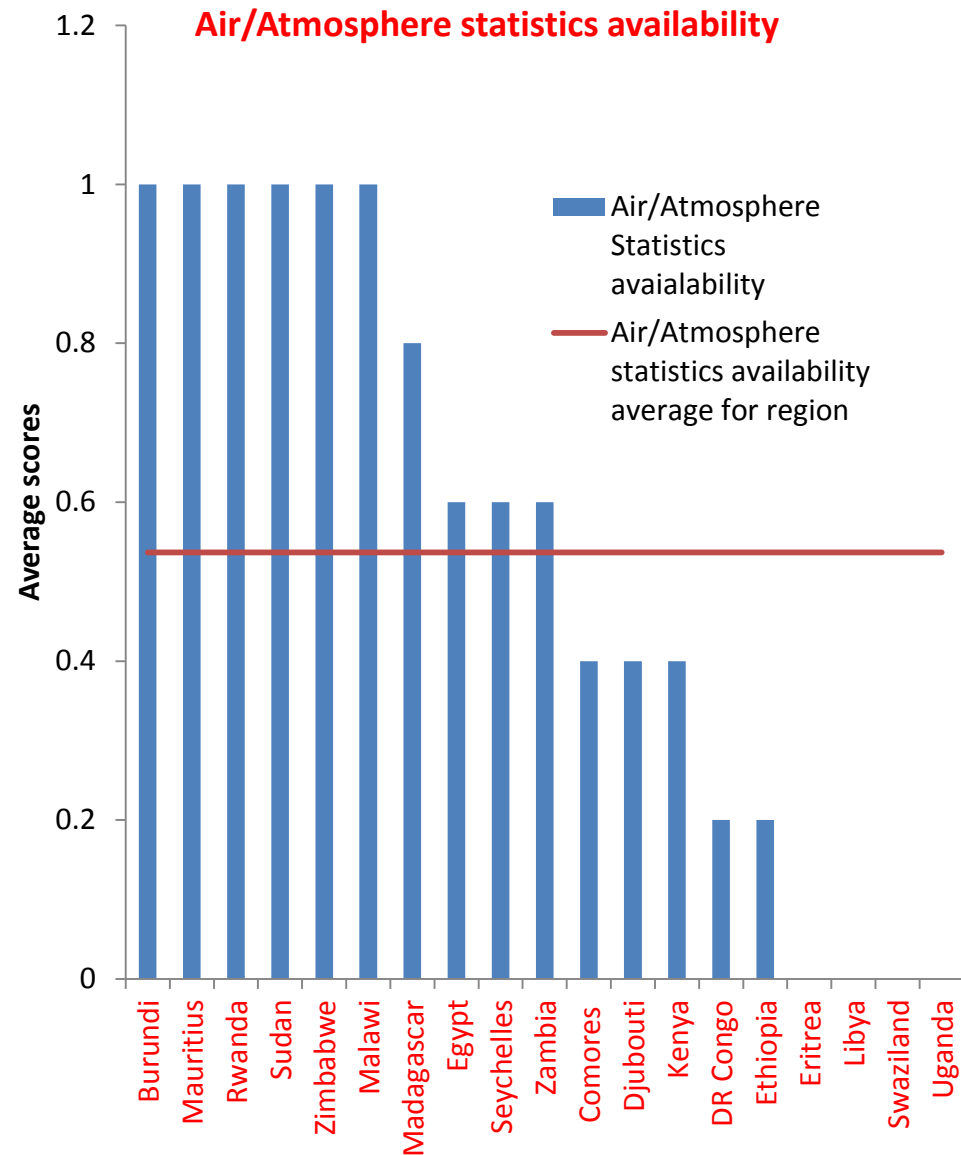
Statistics availability - Soil

- Not many countries have all the indicators on soil;

- 7 have above the average while there rest have below average

- Five of the responding countries did not answer the questions on this topic

Soil Statistics availability
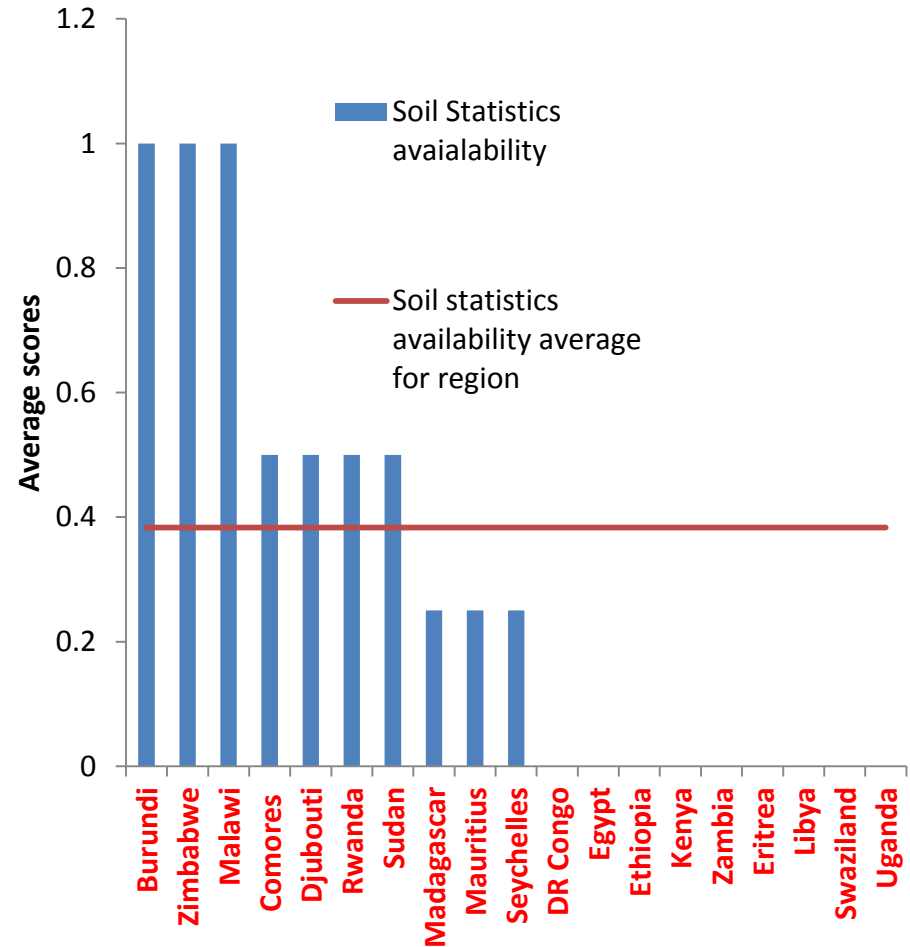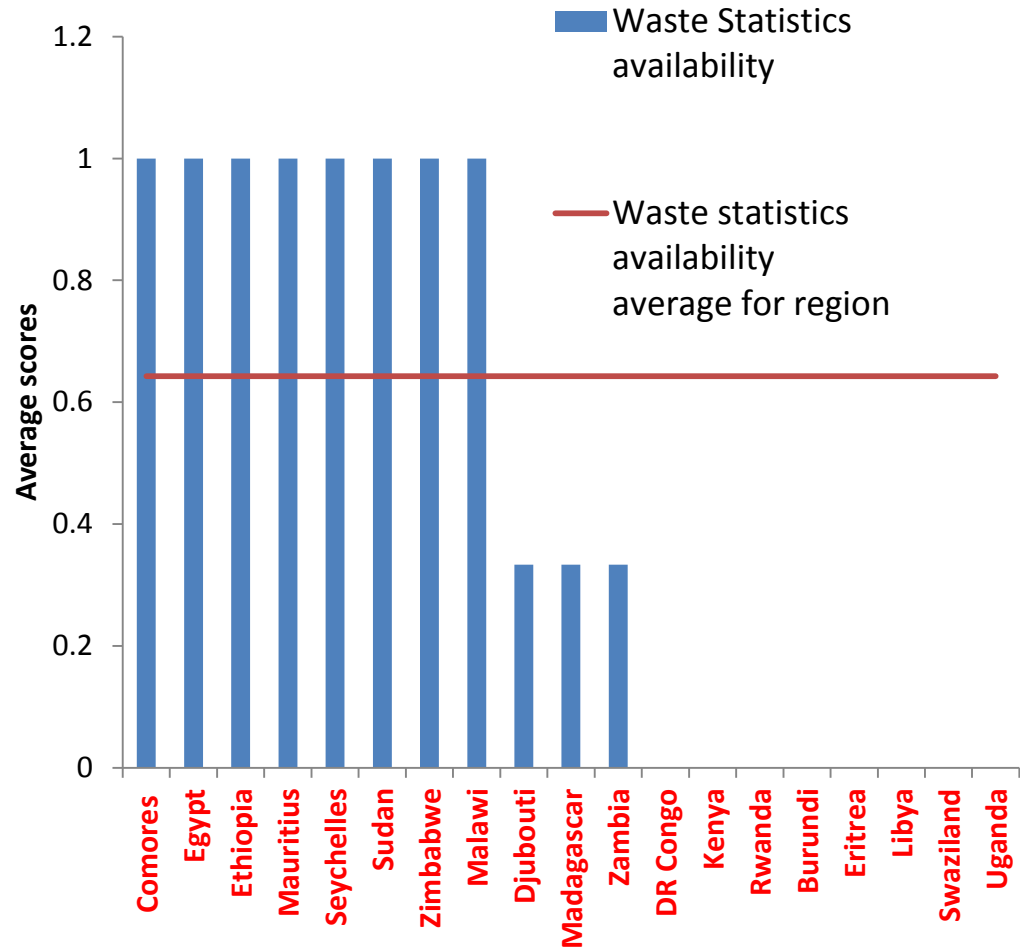
Statistics availability - Biodiversity

- Many countries have statistics on biodiversity (9 out of the 14 responding)
- 5 countries have below average scores on the availability of statistics on this topic

Biodiversity statistics availability

Legend:
- Biodiversity Statistics avaialability
- Biodiversity statistics availability average for region

Y-axis: Average scores (0.000 to 1.200)

X-axis countries: Burundi, Egypt, Ethiopia, Madagascar, Mauritius, Seychelles, Sudan, Zambia, Malawi, Djibouti, DR Congo, Kenya, Zimbabwe, Rwanda, Comores, Eritrea, Libya, Swaziland, Uganda
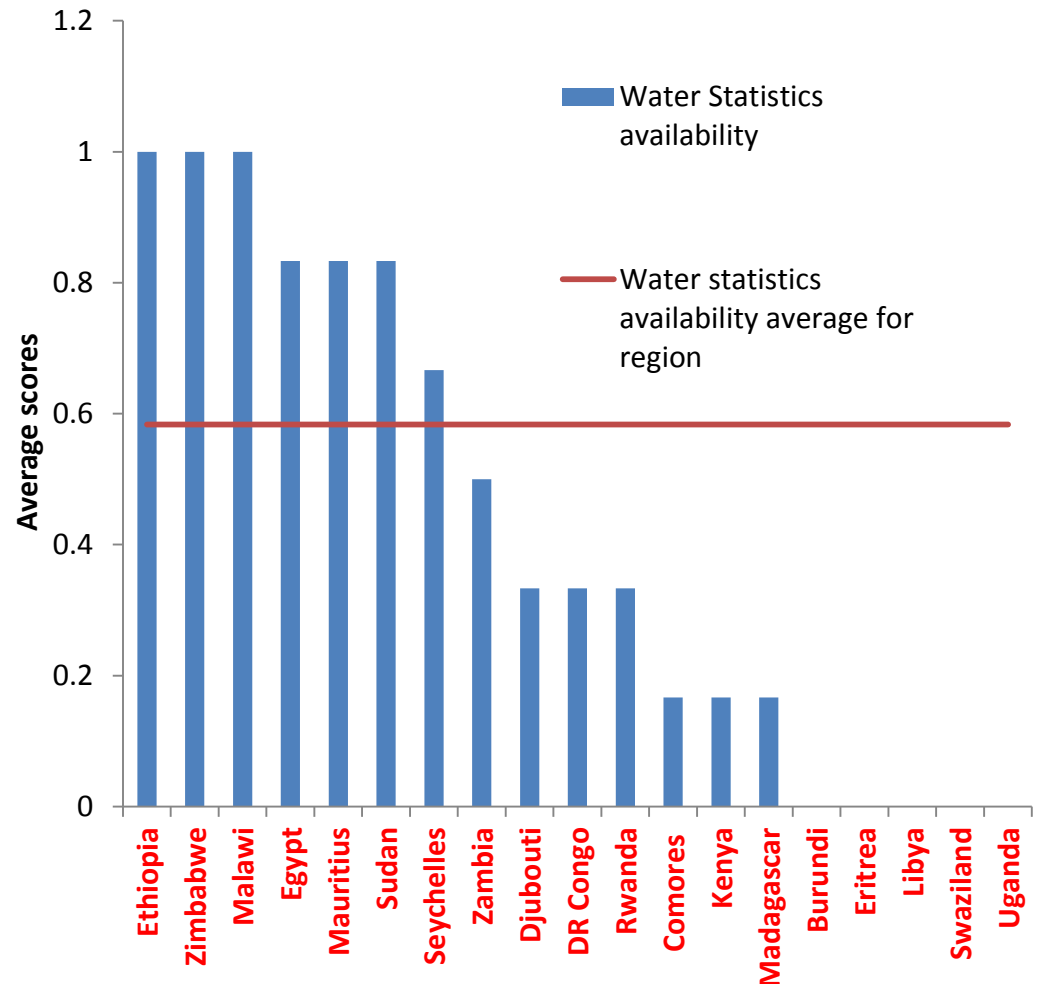
Statistics availability - Waste

- Many countries (8 out of the 11 responding) have statistics on this topic

- Three reporting countries have below average scores for the availability of statistics on this topic

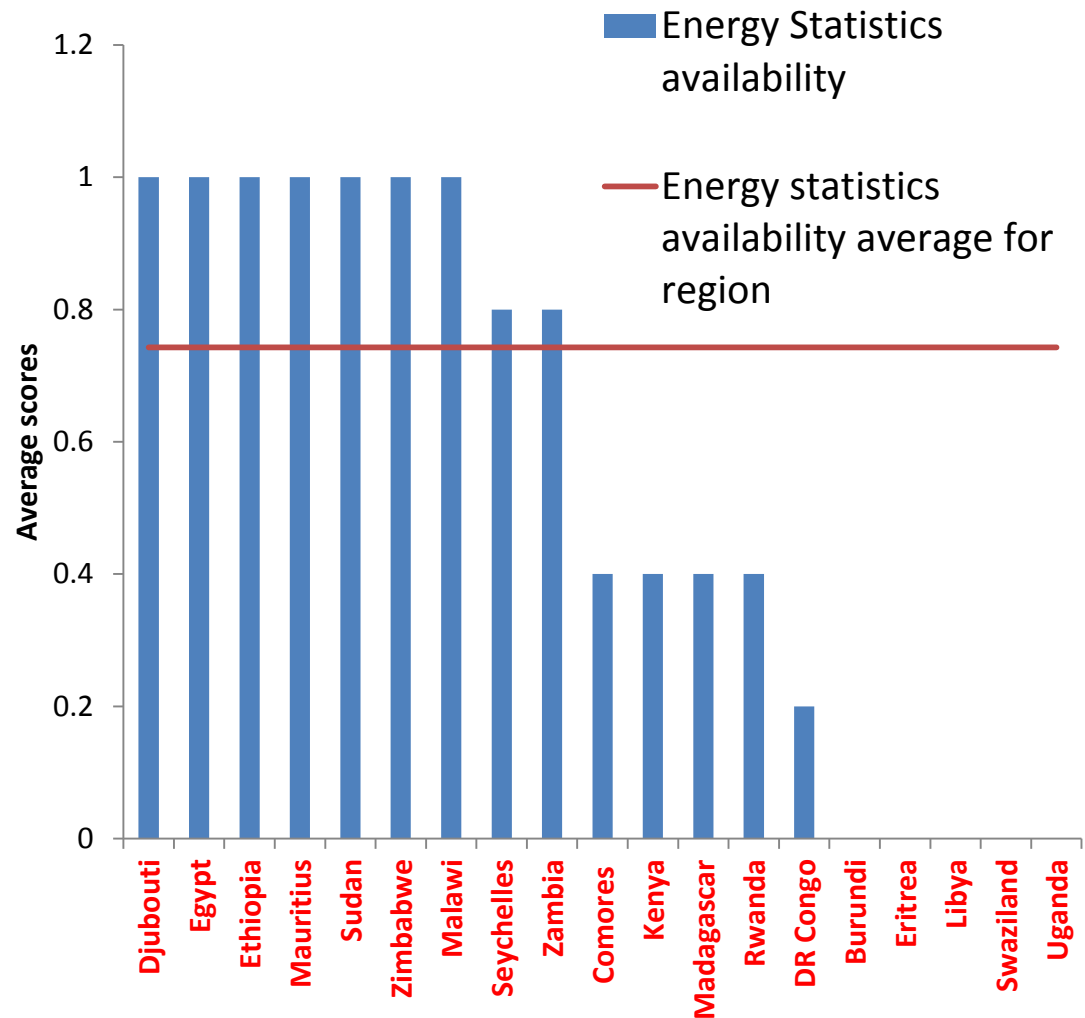**Waste Statistics Availability**

Statistics availability - Water

- Water statistics availability, though important, varies across countries, with 3 countries having high scores but 7 out of the 14 having over the average scores

- Many countries (7 out of 14) have below average availability

Water Statistics Availability

Legend:
- Water Statistics availability
- Water statistics availability average for region

Y-axis: Average scores (0, 0.2, 0.4, 0.6, 0.8, 1, 1.2)

X-axis: Ethiopia, Zimbabwe, Malawi, Egypt, Mauritius, Sudan, Seychelles, Zambia, Djibouti, DR Congo, Rwanda, Comores, Kenya, Madagascar, Burundi, Eritrea, Libya, Swaziland, Uganda

Statistics availability - Energy

- **Energy statistics are quite common with 9 out of the 14 reporting countries having them over the average for the region**

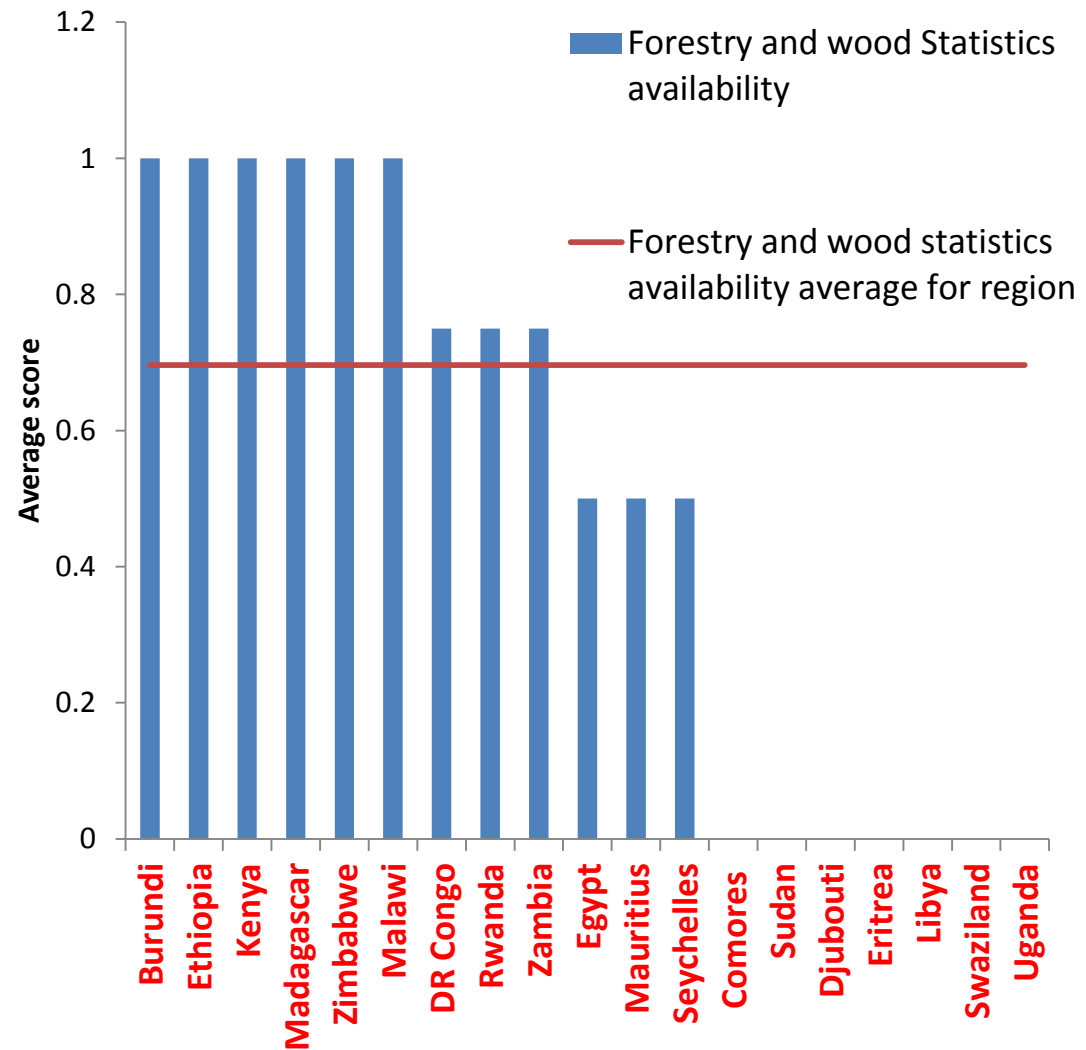- **5 out of the 13 countries responding have below average availability of energy statistics**

Energy Statistics Availability

# Statistics availability - Forestry and wood

- Forestry and wood statistics are common in 6 out of the 12 countries responding

- 3 countries have below average scores

Forestry and Wood Statistics Availability

Coastal and marine resources

- 7 responding countries have coastal areas

- 5 countries have between 40% to 70% of the data on this topic


Coastal and Marine Resources Statistics Availability
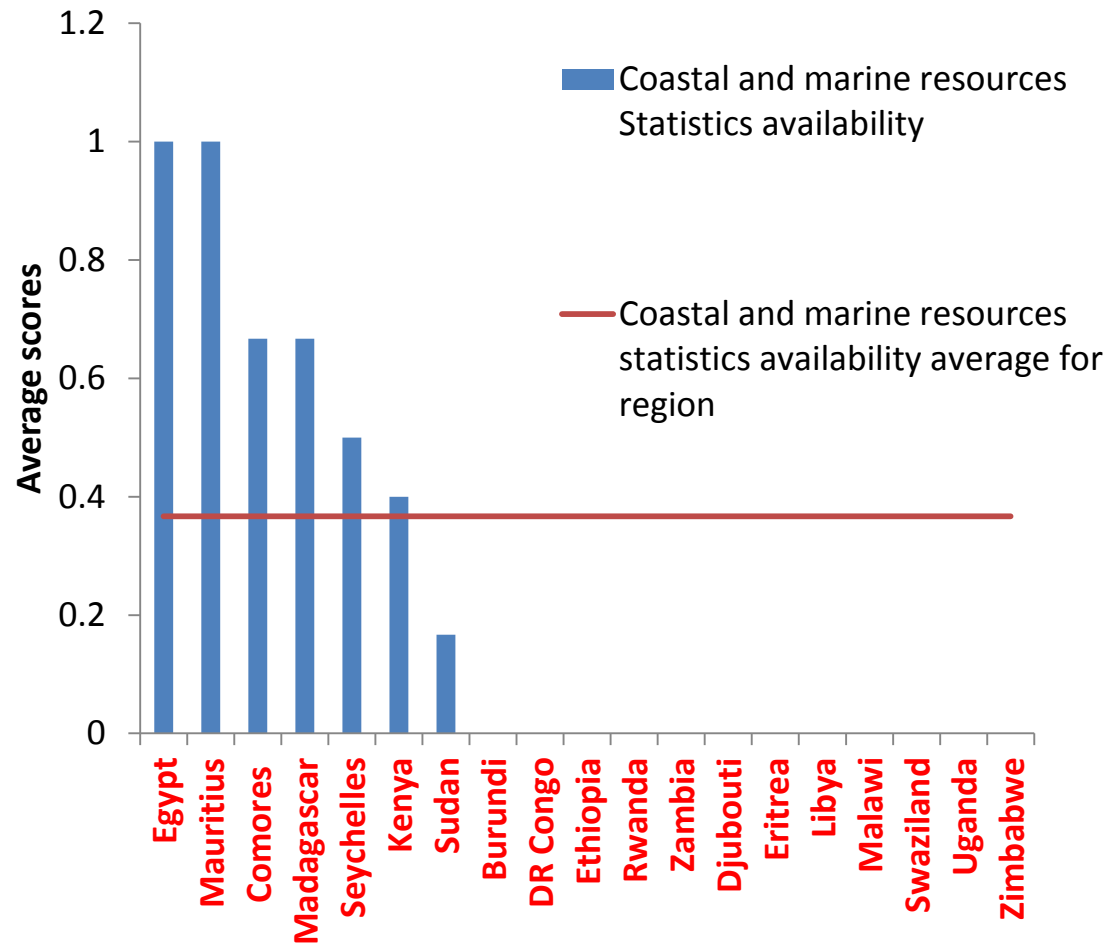
Roadmap

- **<u>Build partnership</u>** – clustering of countries by language, geography, regional belonging – networking – e.g UNSD –FDES, SADC, EAC, IOC etc

- **<u>Create training platforms</u>**, e.g COMESA E-Learning platform followed by workshops and in country facilitations for implementation of the ES programmes

Roadmap

- **Adopting the Framework for the Development of Environment Statistics, (FDES) 2013,**

- **It is the revised version to the original FDES that was published in 1984 by the United Nations Statistics Division (UNSD).**
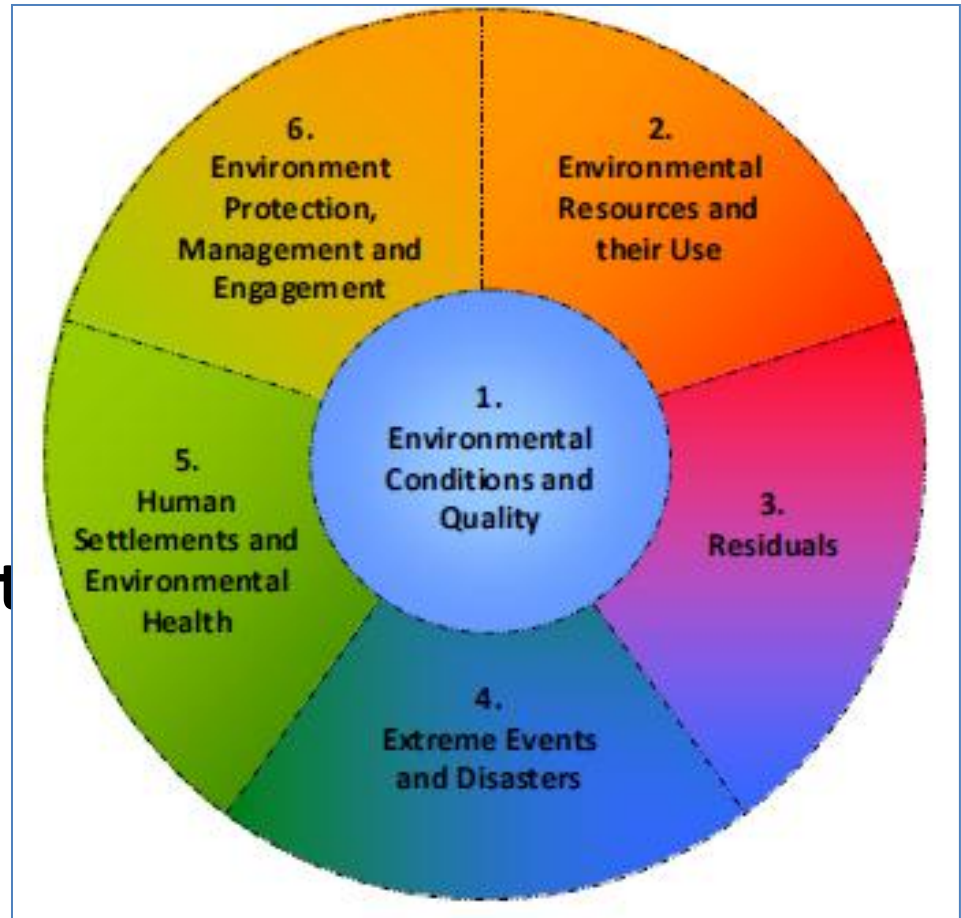
Roadmap

- **The United Nations Statistical Commission, at its 41st session (23-26 February 2010), endorsed a work programme and the establishment of an Expert Group for the revision of the FDES and the development of a Core Set of Environment Statistics, taking into account the scientific, political, technological, statistical and experience based developments of recent decades.**

Roadmap

- The **institutional dimension** of environment statistics is as important as technical capacity

- Given the **multi-disciplinary** and cross-cutting nature of environment statistics, the production of environmental data and statistics involve numerous stakeholders, actors and producers.

- The problems of insufficient institutional development, overlapping mandates and functions, inadequate interagency coordination and other institutional issues are very common in many countries.

- The problems of coordination and heterogeneous development can also escalate to the regional and global levels, where a multiplicity of partner agencies operate with different mandates, work programmes, and production timetables.

Roadmap

- The **legal framework**. In most countries, the legal framework for the production of environment statistics commonly consists of statistical, environmental and other relevant sectoral legislation such as water, energy and agriculture.

- Each of these laws defines the mandate and competencies of the institutions in charge of each sector.

Roadmap

- **Institutional development**: A well defined mandate and a specific unit in charge of carrying out the production of environment statistics is critical for the successful organization of a national environment statistics programme

- This **unit requires a regular budget** for operations and a **minimum number of trained personnel** for the tasks entailed

Roadmap

- **<u>Inter-institutional collaboration</u>**. Environment statistics cover several topics for which the data, whether in the form of administrative records, remote sensing, scientific measurements or survey results, are being generated by NSOs, specialized agencies, ministries, provincial and municipal governments and scientific institutions.

- That necessitates the collaboration of these stakeholders, both at the strategic and technical level

Roadmap

- **Institutional cooperation of national, regional and global bodies.** The institutional challenges common in countries are also faced by international organizations that are involved in the production of environmental data and statistics.

- The operational aspects that are conducive to better coordination and resource utilization among the national, regional and global levels, understanding that all potential partners have different mandates, work programmes and deadlines to meet.

- In addition, reporting requirements for certain international agreements and treaties, which are an important dimension of environment statistics, need to be included in national environment statistics programmes

- **The FDES which COMESA is currently pursuing with UNSD is a key intervention in the development of ES and a first workshop is being held in Mauritius in January 2015....**

Recommendations and Conclusion

- It is noted that **Environment statistics is poor** in several countries despite the availability of many of the indicators. However, many countries can secure the data if proper supports are provided.
- The main challenges reported by the countries are:
  - Lack of Financial resources
  - Lack of human resources
  - Lack of technical capacities
  - Lack of tools/instruments for data collections
  - Lack of institutional coordination
- The main recommendation that follows should cater for addressing the above issues and by adopting the roadmap.

THANKS