

**Workshop on Environmental Statistics for the ECOWAS Region
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Country Paper – GHANA

Environmental Statistics in Perspective

Background

In March 1988 the government of Ghana initiated a major effort to put environmental issues on the priority agenda through preparation of the National Environmental Action Plan (NEAP). This was in reaction to a host of environmental problems that had arisen from the exploitation of Ghana's abundant natural resources to meet socio-economic needs. The major problems included deforestation, desertification and soil degradation. Others were water and air pollution associated mainly with industrialization.

The rate and extent of environmental degradation is always known to be at some cost. In the case of Ghana where socio-economic development thrives on and it is supported largely by natural resources and the environment generally, the potential cost of degradation on the economy was considered significant. The total estimated annual loss due to environmental degradation in 1988 for instance, amounted to 41.7 billion cedis, an equivalent of 4 percent of total GDP.

The National Environmental Action Plan (NEAP) was the strategy through which the key issues to the protection of the environment and better management of renewable resources was to be pursued. The NEAP defined a set of policy actions, related investments, institutional mandates and strengthening activities to make Ghana's development approaches environmentally sustainable. The adoption of the NEAP in 1991 led to a number of significant developments necessary to ensure sound resource management in the following major areas:

- Land management;
- Forestry and wildlife;
- Water management;
- Marine and coastal ecosystems;
- Industrial pollution;
- Mining;
- Hazardous chemicals control; and
- Human settlements.

Some of the specific developments included:

- The establishment of the Ghana Environmental Protection Agency (EPA) with more enhanced mandate than its predecessor Environmental Protection Council (EPC), to regulate, set standards and enforce them, etc; and

- The establishment of the Water Resources Commission, and subsequent adoption of policy framework for water abstraction for different uses, water law, and control of waste discharges into water bodies, etc.

It was perhaps taken for granted that information and data generated by and/or needed for the effective function of the relevant agencies would be accessible or available to one another. Information and data originated from agencies remain in their respective custodies, often in original state and may be guarded rather jealously. The absence of a clear cut policy and financial commitment to facilitate environmental information and data harmonization, access, sharing, etc among resource management agencies and other users was an unfortunate oversight in the NEAP initiative.

Situation of environmental statistics in Ghana

There is paucity of environmental statistics in the country. This is because most of the existing data were perhaps originally not conceived with organized statistics in perspective, and have therefore not aimed at such systematic objective. There appears to be no commitment to disclose or publish such data for purposes of sharing with others agencies or for the benefit of the reading public. There are however a few locations or facilities that may be contacted as reasonably organized sources of environmental information. These are listed below.

- The EPA Library contains many magazines, books, videos films and newspapers on environmental subjects, and other environmental publications and reports;
- The Environmental Quality Department of EPA generates and holds huge environmental monitored data on water quality, air quality and noise situation;
- The Chemicals Control and Management Centre of EPA holds data on pesticides and other chemicals import, distribution and management in Ghana;
- Digital maps and data produced at the Centre for Remote Sensing and Geographic Information Systems (CERSGIS), Geography Department of the University of Ghana;
- Environmental Impact Assessment (EIA) documents provided by proponents contain vital environmental information, including extensive baseline data of development-affected areas;
- Annual reports of the EPA and other relevant agencies tend to contain considerable amount of data and statistics on aspects of the environment nationally;
- Universities in Ghana have several departments dealing with the environment and generate relevant information and data;
- Many of the institutes of the Council for Scientific and Industrial Research (CSIR) also generate extensive environmental information and data.

Availability and sources of environmental data

Various organizations have at different occasions held or maintained a variety of environmental data. These are mainly located in files and publications of departments and agencies that deal with the relevant components of the environment.

Documents from international organizations may often also contain vital environmental data which have been obtained from governmental sources. Such organizations include the World Bank, the United Nations Agencies and many others, including bilateral development partners and agencies.

Some major specific sources of environmental data in Ghana in addition to the above include:

Ministry of Environmental and Science	Environmental Protection Agency
Water Resources Commission	Community Water and Sanitation Agency
Water Research Institute	Ghana Water Company
Soil Research Institute (CSIR)	Survey Department
Ministry of Lands & Forestry	Meteorological Services Department
Forestry Commission	Volta River Authority
Forestry Service Division	Ministry of Health
Wildlife Division	Minerals Commission
Centre for Remote Sensing & Geographic Information System (CERSGIS)	Ghana Tourist Board
Energy Commission	

Special information network initiative

The National Framework for Geospatial Information Management (NAFGIM) is a spatial data infrastructure (SDI) initiative in Ghana. The concept was developed as an integral part of the national effort to manage spatial data on the environment and resources over the past decade. It seeks to bring together technology, policies institutional resources and standards necessary to enhance the production, storage, access and utilization of geographic data and information in Ghana.

NAFGIM is expected to complement and enhance the mandate activities of the participating institutions through the provision of a co-ordinated data discovery and distribution service. It also constitutes Ghana's response to the increasing need for the national, regional and global development communities to share information that is strongly manifested in the development of SDI's in many countries.

The specific objectives of NAFGIM include:

- The avoidance of duplication in the capture and maintenance of spatial information in Ghana;
- The provision of the institutional, technical and administrative framework to ensure:

- That investment in spatial information leads to increases in the value and quality of information available to government and the development community at all levels of decision-making.
- Improved access to information through the documentation of the existing data sets by the creation of metadata databases.
- Improved integration of datasets through the development of common standards.
- Consistent and harmonized policy framework for the exchange of data and information that achieves cost recovery and sustainability.

It is commonly believed that considerable amounts of data exist in the Ghana. This is to be expected since data collecting departments have been established and data collected for over a century. The existing formats, quality and coverage of the data are often not suitable for capture and processing using modern spatial information technologies without expensive transformations. NAFGIM is accepting all the available data. It is necessary spatial be collected in ways that make them easily integrated with other data with minimum expenses in terms of effort and financial outlay.

There are some sixty (60) spatial information producing and using institutions and organizations in both the public and private sectors that are participating in NAFGIM. These include:

1. Survey Department

- 1:50,000 map series
- 1:250,000 map series
- 1: 25,000 map sheets
- Geodetic framework
- Aerial photographs
- National /International boundaries
- Regional boundaries
- District boundaries
- Metro/ Municipal boundaries
- Towns
- Digital elevation model (with Soil Research Inst.)

2. CERSGIS

- Satellite image
- The Coastal Zone (with Wildlife Department)

3. Electoral Commission

- Constituency areas and boundaries

4. Soil Research

- Digital elevation model (with Survey Department)
- Ecological zones
- Major soil groups
- Soil suitability information
- Agro- ecological zones

5. Lands Commission

- Land ownership areas

6. Forestry Commission

- Reserved forests

7. Wildlife Division

- Wildlife conservation areas
- Coastal wetlands (with CERSGIS)
- The Mole wildlife reserve

8. INSTI CSIR

- Historical and Cultural sites

9. Geological Survey Department

- Mineral occurrence
- Geological Information
- Geophysical Information
- Groundwater basins (with Research Institute)

10. Minerals Commission

- Mining concessions
- Exploration concessions
- Winning areas

11. Ghana National Petroleum Corporation

- Exploration concession areas
- Production areas

12. Volta River Authority

- Power Sites
- Power distribution network
- Navigable waters and Harbours (with GPHA)

13. Meteorological Services Department

- Mean annual/ Monthly rainfall
- PET
- Mean annual / monthly temperature

- Ecological zones (with Soil Research Inst.)
- Agro-ecological zones (with Soil Research Inst.)

14. Ghana Highways Authority

- Roads and rail network (with Feeder Roads Dept.)

15. Feeder roads department

- Roads and rail network (with Ghana Highways Authority)

16. Ghana Ports and Harbours Authority

- Navigable waters and harbours

17. Health Research Unit/Ministry Of Health

- Health Facilities

18. Statistical Services Department

- Geo-coded National Gazetteer 1970/1984/2000
- Demographic and Economic characteristics 1970/1994/2000

19. Water Research Institute/CSIR

- Surface drainage basins
- Stream flow information
- Drainage network
- Groundwater basins (with Geological Survey)

20. Water Resources Commission

- Water bodies
- Water abstraction
- Stream and water body conservation buffer zones.

Difficulties encountered in data collection.

There are many difficulties involved in data collection especially on the environment. Up to date there is no data bank on the environment which could be readily accessed.

Data and information are mostly scattered in files and documents at the Ministries and agencies and little attempt is made to harmonize these information and make them available to the public. Where such information is made available, the format may not be suitable for the use to which it is intended. It is assumed that there is no standard format for collection and individual agencies are not guided by any laid down procedures.

Data collection is done randomly and not consistently. The result is that trends and projections cannot be produced from such statistics. It was suggested that even

environmental agencies do not make conscious efforts at data collection, but only collect such data when there are projects to be implemented perhaps from donor agencies for which funding is available.

There is also the human factor. Most people are unwilling to provide information and data because of the feeling that the data collector will use it for a personal financial or prestigious gain so he should pay something for what he wants to collect. This is pervasive in most institutions.

The secrecy code in the public service does not allow people to freely provide information unless authorized to do so. Most public servants will not provide information so easily because of the fear of loss of job or to incur the displeasure of their superior officers. In the same vein some officers are not sure what amount of information should go out hence will not give out anything to be on the safer side.

Future plans for environmental statistics.

There are many plans for improving the situation because of the realization that data and information are important in accurate assessment and trend analysis. The EPA is mandated by law that set it up to prepare a database on the environment. Management has enlarged the Environmental Information and Data Management Department to be able to start internal database creation for the various departments within the Agency.

A draft policy guideline for environmental information is being prepared in EPA which mandates all departments and regional offices to prepare databases to statistically capture their activities.

The SISEI project has been put in place by UNITAR to circulate environmental issues including data, statistics and maps on the Internet under the web address. www.sisei.net/ghana . Technical training for authors and editors took place in 2004 and all relevant institutions will collaborate to share information on the net.