# National Action Plan for Improvement of Environmental Statistics in The Gambia

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# Executive Summary

Challenges facing environmental statistics in the Gambia are the quantity and quality of environment statistics and their integration with socio-economic statistic. It is necessary to strengthen national capacities in production and management of environmental statistics to measure progress towards sustainable development.

The statistical system comprises data users, producers and suppliers whom the Gambia Bureau of Statistics (GBoS) must coordinate to produce environmental statistics.

Currently there is no Action Plan for Environmental statistics in the Gambia. The objectives of the national action plan 2018-2022 are: inter-institutional collaboration; methodological development and dissemination of know-how; capacity building and technical assistance; investing in physical infrastructure; human resource development and management; and networking, resource mobilization and advocacy. The objectives, output, activities and timelines for the National Action Plan for the development of environmental statistics is based on the revised Framework for the Development of Environment Statistics (FDES 2013) and the NSDS 2018-2022.

Environmental statistics stakeholders in the country faced challenges in terms of the amount of data collected and the level of data analysis and management. Most institutions in the Gambia do not collect data on the environment and most of the statistics /research units do not have such database.

Environmental challenges facing the country require policies and legislations, action plans and the ratification of international conventions and treaties. The action plan discussed the various policies, legislations and treaties relating to the environment. Finally the activities are costed and concluded with discussion on the ways forward for environmental statistics in the country.

## Acronyms and Abbreviations

ANR - The Agriculture and Natural Resources Policy

AU – African Union

BADEA - Arab Bank for Economic Development in Africa

CAPI - Computer-Assisted Personal Interviewing

EIA - Environmental Impact Assessment

ECOWAS - Economic Community of West African States

ESSAT - Environment Statistics Assessment Tool

FAO - Food and Agriculture Organisation
FDES - Framework for the Development of Environment Statistics

GBoS – Gambia Bureau of Statistics

GAMWORKS - Gambia Agency for the Management of Public Works

GDP – Gross Domestic Product

GEAP - The Gambia Environmental Action Plan

GHG - Green House Gas

GEF - Global Environment Facility

GNI - Gross National Income

HDR  - Human Development Report

ICT - Information Communication and Technology

IHS - Integrated Household Survey

IT – Information Technology

LDC - Least Developed Country

LGA – Local Government Area

MDA - Ministries Departments and Agencies

MEA - Multilateral Environment Agreements

NAPA - National Adaptation Plan of Action

NARI - National Agricultural Research Institute

NBSAP - National Biodiversity Strategy and Action Plan

NAWEC - National Water and Electricity Company Limited

NDMA - National Disaster Management Agency

NDP - National Development Plan

NEA – National Environment Agency

NEAP –National  Environmental Action Plan

NEMA - National Environment Management Act

NSDS I- National Strategy for the Development of Statistics Frist Generation

NSDS II - National Strategy for the Development of Statistics Third Generation

NSO - National Statistical Office

PAGE - Programme for Accelerated Growth and Employment

PRSP - Poverty Reduction Strategy Paper

SDG - Sustainable Development Goal

SEEA - System of integrated Environmental and Economic Accounting

TWG – Technical Working Group

UNDP - United Nations Development Program

UNEP - United Nations Environment Programme

UNFCCC - United Nations Framework Convention on Climate Change

UNSD - United Nations Statistics Division

# 1.   Background and justification

## *1.1    Background*

High quality statistics and integrated information are important inputs into evidence-based policy and decision-making. They are also key to monitoring the internationally agreed goals, sustainable development goals, Africa Agenda 2063, the 2030 Development Agenda and the National Development Plan (NDP). Given the critical role of high quality environment statistics, and their integration with socio-economic statistics, it is imperative to strengthen national capacities of developing countries for the sustained and regular production of a set of priority environment statistics and indicators, in order to measure progress towards sustainable development. In line with this objective, the Environmental Pillar of the United Nations Statistics Division's (UNSD) Development Account Programme on Statistics and Data under the 10th  Tranche aims at strengthening the developing countries capacities to measure and monitor the Sustainable Development Goals (SDGs) indicators in environment statistics.

The Gambia is one of the target countries of the Environment Pillar that will receive support in the development of environment statistics through the implementation of the revised Framework for the Development of Environment Statistics (FDES 2013). The United Nations Statistical Commission recognized FDES, at its forty-fourth session in 2013 as the framework for strengthening environment statistics programmes in countries. Under the DA10 Programme, the Gambia will develop a national action plan to support environment statistics and to develop a compendium of environment statistics.

The FDES 2013 positions the environment within the conceptual foundation that considers social and economic activities as integral parts of and interacting with the environment.  The economic and social context and the interaction with the environment conditions are presented in sub-sections 1.1 and 1.2.

### 1.1.1   Economic Overview

The Gambia is one of the smallest countries in Africa. It stretches for 450 km along the Gambia River. Its 10,689 sq. km area is surrounded by Senegal, except for a 60 km Atlantic Ocean front, and 50 % percent is arable land. The country has a population of  2.101 million (World bank, 2017). With 176 people per sq. km, it is one of the most densely populated countries in Africa.

In 2014, the economy experienced exogenous shocks caused by erratic rainfall and spill over effects of the regional Ebola crisis, causing GDP growth to fall from 5.6% to – 0.2%. Growth rebounded to 4.4% in 2015 but declined to 2.2% in 2016 due to policy slippages, electoral uncertainty, an unusually short rainy season, and a three-month border blockade by Senegalese transporters. GDP growth rebounded to an estimated 5.1% in 2017, driven primarily by agriculture and services, and is projected to stabilize around 4% over the

medium-term, depending on the new administration's ability to conduct a robust transition, attract investors, and lay the foundations for economic transformation.[1]

The Gambian economy is small and hence relies primarily on tourism, agriculture and remittances which are vulnerable to external shocks. The Gambia has few important mineral or other natural resources and has a limited agricultural base. Its economy is however, dependent on the environment.  About 75% of the population depends on crops and livestock for its livelihood. Small-scale manufacturing activity features the processing of peanuts, fish, and animal hides from agricultural activity. In 2017, contribution of travel and tourism to GDP for Gambia was 20.1 percent.

In 2015, the services sector's contribution to Gross Domestic Product (GDP) was 65 per cent. Tourism is the country's main foreign exchange earner" (IHS 2015/16). According to the 2013 Population and Housing Census 31.5 per cent of the employed persons were in the agricultural sector, mainly as subsistence farmers. Groundnut is the main cash crop of the country. It has GDP per capita of US$483.02 in 2017 with an annual GDP growth rate of 3.5 per cent for the same period (World Bank).  The country's Human Development Index (HDI) value was 0.46 in 2017, ranking it 174 out of 189 countries.


### 1.1.2   Social Context

According to the Integrated Household Survey 2015/16 (GBoS, 2016), the proportion of the the population of The Gambia living below the national poverty line has remained flat. National poverty level (those living on less than $1.25 a day) increased slightly from 48.4 per cent in 2010 to 48.6 per cent in 2015/16. In absolute terms, however, the number of people living in poverty increased from 0.79 million in 2010 to 0.94 million during the period, an additional 150,000 people (18.2 % increase).


Poverty also has a rural urban dimension. The poverty rate of the rural areas increased from 64.2 percent in 2010 to 69.5 per cent in 2015/16 (8.3 percent) increase, the poor in rural areas account for about 64 percent of the total poor in the country.  Conversely, urban poverty declined by 5.4 per cent from 33.4 per cent to 31.6 percent. Moreover, the rural areas account for 42.2 per cent of the country's population, but are they account for more than 60 per cent of its poor[2]. In addition, key indicators related to access to health and education, basic services, all show this rural-urban divide.

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[1] African Development Bank, African Economic Outlook 2018
[2] National Development Plan (NDP 2018-2021)

The majority of the poor depend on natural resources for their sustenance and therefore there is a mutual impact on the environment through the farming practices employed, close reliance on water resources, etc. and the environment and human systems are in turn affected by unplanned construction, uncontrolled waste disposal etc. Poverty and population growth affect economic activities and the environment. Increases in poverty and population growth impact the human subsystem and the environment through ~~lead to~~ overexploitation and unsustainable use of natural resources.

## *1.2 Environmental Context*

The climate has Sudano-Sahelian characteristics, i.e. a long dry season from November to May and a short rainy season from June to October with rainfall varying from 900 mm to 500 mm and temperature between 14 degrees C to 40 degrees C.

The River Gambia, which covers 1,130 km long, originates from the Fouta Djallon highlands in Guinea. With its characteristic Sudan Savanna woodland vegetation, The Gambia has the following main ecosystem types: forest ecosystems (close & open woodland ecosystem), agricultural ecosystems (arable and rangeland ecosystems), marine and coastal ecosystems, inland water ecosystems (wetlands) and terrestrial ecosystems (tree/shrub savanna).

The Gambia is endowed with a high diversity of plant and animal species. The components of biodiversity embrace the wild fauna and flora and associated ecosystems as well as the domestic species, including plant varieties and land races of domestic animals.

The economic activities (tourism, agriculture, fishing, manufacturing, construction, etc), poverty and population have an effect on the environment and are also affected by the environment. There has been a growth in construction but mostly unplanned (increase in the number of taxi garages in the country), and increased demands from the transport industry which require upgraded infrastructure. Moreover, population of the Gambia has been growing overtime due to increase in fertility rates (more than 5 births per woman in 2016). Rural urban migration continues to be a challenge since more rural dwellers and migrants continue to move to the urban areas leading to the development of "Business Districts", congestion and hence for Government to provide more social amenities and address ills of urbanization.

**Climate Change and the Environment**

Climate change such as changes in average temperatures, changes in rainfall regime and increase in variability affects the country. It affects the population and the economy through increased flooding, decreased agricultural production, increased deforestation, and overfishing.

The poverty and fragile economic situation in The Gambia is exacerbated by the strong dependence of the key socioeconomic sectors of agriculture, fisheries and tourism on climate-sensitive natural resources. Poor intra-seasonal rainfall distribution serves to increase food insecurity, rural poverty, and hardship (GoTG, 2009). Degraded savannah woodland ecosystems, poor pasture, and insufficient water in drought years are major constraints on the livestock sector and human livelihoods. Indirect effects of droughts are increased forest and woodland degradation through frequent bushfires, changes in land use, and overall reduction in biodiversity.[3]

The Gambia is susceptible to the vagaries of the environment and climate change, in particular droughts and flooding which cause a lot of damage to farmlands, settlements and livestock. Deforestation through illegal logging and bushfires, and sand mining and illegal settlements and other uncontrolled activities are the main contributing factors in a situation already made precarious by climate change. The priority intervention areas are reforestation and ecological restoration programmes, and developing the resilience and adaptive capacity of people to flood and other natural disasters.[4]

## 1.3    Introduction to the FDES

The Framework for Development of Environmental Statistics (FDES) 2013, is a flexible, multipurpose conceptual and statistical framework that is comprehensive and integrative in nature. It marks out the scope of environment statistics and provides an organizing structure to guide their collection and compilation and to synthesize data from various subject areas and sources, covering the issues and aspects of the environment that are relevant for analysis, policy and decision-making.

The FDES 2013 organizes environment statistics into six components and each of them is broken down into subcomponents and statistical topics. The six components are: Environmental Conditions and Quality; Environmental Resources and their Use, covering the availability and use of environmental resources and related human activities; Residuals, covering the use of the environment as a sink for residuals and related human activities; Extreme Events and Disasters; Human Settlements and Environmental Health; and Environmental Protection, Management and Engagement, covering social and economic measures to protect and manage the environment.

The challenges in implementing FDES 2013 are lack of well-functioning statistical units in Ministries and Institutions responsible for production of environment statistics, inadequate number of statisticians, inadequate Information Technology infrastructure, lack of comprehensive data and quality of available statistics in the field of environment.

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[3] National Climate Change Policy of The Gambia, 2016
[4] Gambia National Development Plan, 2017-2020

## *1.4    Rationale*

Most institutions in the Gambia do not collect data on the environment. Moreover, most of the statistics /research units do not have such a database. The role of environment in economic growth and the need for factoring the environment in policy making justifies the need to implement the FDES 2013 framework to address environmental statistics in the country. Environment statistics provide information about the state and changes of environmental conditions, the quality and availability of environmental resources, the impact of human activities and natural events on the environment and the impact of changing environmental conditions.

The institutions face challenges in access to and collection, compilation and dissemination of statistics and access to adequate human resources and Information Technology infrastructure. User access to data is limited.  Capacity development is needed within institutions in the collection and analysis of environmental statistics. In The Gambia, most of the institutions do not share data with others hence culture of data sharing is needed, which would be aided by further development of centralized data, including increased access, harmonization of concepts, definitions and classifications and having producers of data work together to produce a common environmental database.

# 2.  Environmental management

## 2.1  National and international environment policies

### 2.1.1  Overview of key issues facing the environment

Environmental policy making is faced with a series of challenges ranging from data and information gaps, limited IT infrastructure and limited human resource capacity.

The major environmental challenges facing The Gambia are rapid population growth, urbanisation, poverty, climatic and weather conditions, indiscriminate building, droughts, floods, land degradation, loss of forest cover, loss of biodiversity, coastal erosion, deforestation, waste management and greenhouse gas (GHG) emissions, climate change, macroeconomic policies and unfair trading system.

### 2.1.2  National Environmental Policies

Environmental challenges facing the country require policies and legislations, action plans and the ratification of international conventions and treaties. The policies, legislations and action plans dealing with the environment are highlighted.

- **National Environment Management Act (NEMA) 1994**
  National Environmental Agency (NEA) was created by the National Environment Management Act (**NEMA**) which provides the legal framework for the operations of the Agency. The NEA mandate is to ensure an environmentally sustainable economic and social development in The Gambia. It is the lead agency for environment policy formulation and coordination of all environment related activities. NEA also produce the state of Environment Report periodically.

- **Agriculture and Natural Resources (ANR) policy 2009-2015.**
  Developed in 2009, the ANR policy provides the basis for the planning, support, and management of the ANR sector to contribute meaningfully to national priorities.

- **The National Disaster Management Act 2008**
  The National Disaster Management Act sets up a formal structure for integrated and co-ordinated disaster management for The Gambia which focuses on prevention, preparedness, response, mitigation and recovery in relation to disasters or emergency situations as well as the management of the effects from such events.

- **The Gambia Environmental action plan (GEAP I)**

GEAP I was developed in 1992 (GEAP I 1992-2001) to provide a policy framework for national environmental policy planning and natural resource management decision-making on a continuous basis in The Gambia.

- **The Gambia Environmental Action Plan (GEAP II)**
  GEAP II was developed in 2009 (GEAP II 2009-2018) and part of its focus was on strengthening of the environmental agencies.

- **Local Government Act 2002**
  It provides for a greater participation of the local authorities in the management of their environment and natural resources.

- **Forest Policy 2010 – 2019**
  Forestry law was revised to include important policy developments such as community forestry management.

- **Banjul Declaration**
  Outlined government's concern over the loss of The Gambia's wildlife heritage and associated habitats in a relatively short period of our history was pronounced in 1977.

- **Biodiversity Act, 2003**
  "The Wildlife Act of 1977 and the Biodiversity /Wildlife Act 2003 established the Department of Parks and Wildlife Management (DWPM), instituting the department as the chief agency responsible for the "conservation, management and development" of The Gambia's wildlife resources (GEF 2002). It is also the lead government institution responsible for implementing several international treaties and agreements including the Convention on Biological Diversity (CBD), the Ramsar Convention on Wetlands (Ramsar), the Convention for the Conservation of Migratory Species (Bonn Convention), the Convention on International Trade in Endangered Species (CITES), among others agreements."[5]

- **The National Biodiversity Strategy and Action Plan (NBSAP) 2015 - 2020**
  National Biodiversity Strategy and Action Plan seeks to strengthen institutional (administrative and legislative capacities), public education to create greater awareness, community conservation and research.

- **Fisheries Act, 2007**
  This Act makes provision with respect to the management and conservation of fisheries resources in The Gambia, regulates fishing by nationals of The Gambia on

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[5] http://www.thegambiawildlife.com/general-information/

the High Seas and prescribes rules relative to aquaculture, fish processing and import and export of fisheries products. The Fisheries Development Fund, established under this Act, shall be used for, among other things, fisheries monitoring, control and surveillance. The Act sets out general licence requirements and specific conditions for local fishing vessels and foreign fishing vessels.

- **National Climate Change Policy 2016**
  The National Climate Change Policy is grounded in the country's national development and poverty reduction frameworks, including the Government of The Gambia's Vision 2020 and the 2012-2015 Programme for Accelerated Growth and Employment (PAGE). It sets out comprehensive and crosscutting policy directions to implement national development strategies in a climate resilient manner, drawing on all sectors of the population in a spirit of partnership and collaboration.[6]

- **The macroeconomic development policy (Vision 2020 and PRSP I &II)**
  These policy documents recognise the importance of environment and natural resource management to sustainable development and poverty reduction. The main objectives of the PRSP I &II were: macroeconomic stability and effective public sector resource management; promotion of pro-poor growth and increased employment through private sector led development; and improved provision of basic social services. The Vision 2020 aims to transform The Gambia into a financial centre, a tourism paradise, a trading, export –oriented agriculture and manufacturing nation, thriving on free market policies and vibrant private sector, sustained by well – educated, trained, skilled, healthy, self –reliant and enterprising population and guaranteeing a well –balanced eco-system and a decent standard of living for one and all, under a system of government based on the consent of the citizenry.

- **Programme for Accelerated Growth and Employment (PAGE 2012-2015) and National Development Plan (NDP 2018-2021)**

  The Programme for Accelerated Growth and Employment (PAGE) was the Gambia's development strategy and investment programme for 2012 to 2015. It succeeds the Poverty Reduction Strategy Programme II (PRSP II). The main objective of PAGE was to accelerate growth and employment to achieve sustained economic growth.

  The NDP 2018-2021 provides a set of policy objectives and strategies to guide the preparation and implementation of medium-term and annual development plans and budgets at sector and district levels. The transformation required to attain the objectives of NDP 2018-2021 presupposes the availability of quality statistics from the NSS to measure and monitor indicators to inform national policy and planning

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[6] National Climate Change Policy, 2016

processes.

The challenge to these policies and legislations is the development of the strategies to translate them into actions, capacity of local government authorities, implementation, monitoring and evaluation mechanism, and increased urbanization that put more stress or damage to the environment.

### 2.1.3 Multilateral Environment Agreements (MEAs)

A multilateral environmental agreement (MEA) is a legally binding agreement among three or more countries relating to the environment which complement national legislation and bilateral or regional agreements. MEA covers areas such as climate change policies, freshwater policies, marine environment policies, nature conservation policies, biological diversity policies, hazardous waste policies, etc. and serve as global frameworks to protect the environment in these areas.

The following MEAs are identified by UN Environment as relevant to the Sustainable Development Goals. The Gambia has regularly reported on each agreement.

**Paris Agreement** (entered into force 4th November 2016) – aims to keep global temperature rise this century to well below 2 degrees Celsius above pre-industrial levels and as close as possible to 1.5 degrees. Ratified by The Gambia 7th November 2016 and entry into force 7th December 2016.  National Communications were submitted for the NC1 2003, NC2 2013 cycles and the NC3 cycle (current cycle) is in preparation. Data on The Gambia is available in the United Nations Framework Convention on Climate Change (UNFCCC) Green House Gas (GHG) Inventory database for 2000.[7]

The Gambia has submitted its National Adaptation Programme of Action on Climate Change in November 2017; and the Nationally Appropriate Mitigation Action on Rural Electrification with Renewable Energy focusing on renewable energy for electricity and increase in rural access to sustainable energy.

- **The United Nations Convention to Combat Desertification** (entered into force December 1996).  Ratified by The Gambia 1996. Reports[8] have been submitted for 1st round 1999, 2nd round 2002, 3rd round 2004, 2010, and 2014.  The 2017/18 is in process.
- **The Montreal Protocol** (entered into force January 1989) designed to protect the ozone layer by phasing out the production of numerous substances that are

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[7] UNFCCC Greenhouse Gas Inventory Data http://unfccc.int/ghg_data/items/3800.php (accessed 21 February 2018)

[8] http://www2.unccd.int/convention/2017-2018-unccd-reporting-process (accessed 21 February 2018)

responsible for ozone depletion.  Ratified by The Gambia 1990.  Data[9] is reported on ODS Consumption and Production, available from 1989 to 2016.

- **The Basel Convention** (entered into force May 1992) to protect human health and the environment against the adverse effects of hazardous wastes. Ratified by The Gambia in 1997.  National reporting status.[10]
- **Rotterdam Convention** (entered into force February 2004) to promote shared responsibility and cooperative efforts in the international trade of certain hazardous chemicals in order to protect human health and the environment from potential harm and to contribute to their environmentally sound use. Ratified by The Gambia in 2002. Regular submissions have been made.[11]
- **Stockholm Convention** (entered into force May 2004)– to protect human health and the environment from persistent organic pollutants by reducing or eliminating releases to the environment. Ratified by The Gambia in 1994.  National reports were submitted in 2007.[12]
- **Convention on Biological Diversity** (entered into force December 1993) conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising from commercial and other utilization of genetic resources. Ratified by The Gambia 1994.  National reports[13] were submitted for the 1st round 1998, 2nd 2003, 3rd 2006, 5th 2014
- **Convention on the Conservation of Migratory Species of Wild Animals** (entered into force July 1975). Ratified by The Gambia 2001.  National reports were submitted for COP 11 and 12 in 2014 and 2017.[14]
- **Convention on Wetlands** (Ramsar Convention entry into force 1975). Ratified by The Gambia 1997.  Over the last twenty years reports were submitted for Cop7 to 11 from 1999, 2002, 2005, 2008 and 2012.[15]

### 2.1.4   Collaboration and Institutional Structures

Under the Statistics Act 2005, The Gambia Bureau of Statistics (GBoS) is mandated to coordinate statistics in The Gambia. Most of the time the producers of the data do not work with GBoS. It is the nerve center for users and producers of national statistics.

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[9] Montreal Protocol data access centre http://ozone.unep.org/en/data-reporting/data-centre (accessed 21 February 2018)
[10] Basel convention national reports http://www.basel.int/Countries/NationalReporting/ReportingDatabase/tabid/1494/Default.aspx (accessed 21 February 2018)
[11] Rotterdam country profiles http://www.pic.int/Countries/CountryProfiles/tabid/1087/language/en-US/Default.aspx (accessed 21 February 2018)
[12] Stockholm Convention National Reports http://chm.pops.int/Countries/NationalReports/FirstRoundofPartyReports/tabid/254/Default.aspx (accessed 21 February 2018)
[13] CBD national reports https://www.cbd.int/reports/search/ (accessed 21 February 2018)
[14] CMS national reports http://www.cms.int/en/documents/national-reports (accessed 21 February 2018)
[15] Ramsar national reports http://archive.ramsar.org/cda/en/ramsar-documents-natl-rpts/main/ramsar/1-31-121_4000_0__ (accessed 21 February 2018)

Some statistics producer working groups exist in the country. The Agricultural and Natural Resources Working Group (composed of Ministry of Environment Climate Change & Natural Resources, Ministry of Agriculture, Department of Forestry, Planning Services Unit, Department of Fisheries, Department of Water Resources, Department of Physical Planning and Housing, National Agricultural Research Institute, National Disaster Management Agency) meet annually with the Secretariat under the National Environment Agency.

Further work is needed to increase and strengthen collaboration among the institutions and stakeholders. Key challenges to collaboration are data sharing, the need to increase human capacity in the Statistics Offices, and need to improve information technology infrastructure.

### 2.1.5   Other related initiatives

### 2.1.5.1       National Strategy for the Development of Statistics (NSDS)

The Gambia developed a national strategy for the development of Statistics (NSDS) to improve the statistical system and enhance statistical capacity in the country. The first national strategy (NSDS I) covered 2007-2011 and the second national strategy (NSDS II) covered 2018 - 2022.

### 2.5.1.2       System of integrated Environmental and Economic Accounting (SEEA)

The UNSD in collaboration with AU and ECOWAS has assisted countries in Africa so that they can have regular data for the "Green Accounts" or more precise data for the System of integrated Environmental and Economic Accounting. Green Climate Fund or Green Environment Fund is helping The Gambia build resilient communities and sustainable livelihoods and adapt to climate change.

The growing pressure on environmental issues and increased environmental awareness have generated a need for quality and reliable information on the environment for evidence-based decision making on environment related matters and an integrated environmental assessment and reporting tools that are cross sectoral, participatory and consultative in nature.

# 3. Environmental Statistics in The Gambia

The Gambia was one of the first countries in sub-Saharan Africa to adopt a national environmental action plan (NEAP) in the early 1990s, sponsored by the World Bank and other donor agencies, and enacted environmental impact assessment (EIA) legislation.

The population of The Gambia has been increasing and this has had a negative effect on the environment. It affected migration trends, land availability and productivity, power supply, water and sanitation, pollution, drainage and waste disposal systems.

**NSDS II highlighted 3 producers and users of statistics:**

**Producers:** These are data production agencies in the public sector: It includes GBoS, the statistics units in the MDAs and other public institutions. There are also producers of statistics in the private sector that include The Gambia Chamber of Commerce and Industry (GCCI), NGOs and Training and Research Institutions

**Users:** Included among these are policy formulation and/or decision-making institutions across government, parastatals and other public institutions, private sector companies (e.g. Commercial Banks), NGOs, Civil Society Organizations, Researchers, Development Partners, Regional and International Organizations, Sub-Regional Organizations, the media and society at large.

**Suppliers/Providers**: These include Establishments/Institutions in the public sector, business establishments in the private sector including informal sector establishments, NGOs, households, persons/individuals within the society.

# 4.  Objective of the national action plan

The demand for environment statistics is increasing in conjunction with continuing environmental degradation and the challenges associated with improved environmental management. The recognition that human well-being depends on the environment has led to a growing list of environmental issues on which decisions must be taken, such as climate change, biodiversity loss and natural resource management.  The importance of the environment for human social and economic well-being has been recognized by the 2030 Sustainable Development Agenda and its Sustainable Development Goals.  Almost half of the SDG targets require environment statistics and more than 100 SDG indicators are related to the environment statistics domain.

Development of capacity in environment statistics is being guided by the Framework for Development of Environment Statistics (FDES 2013).  The Statistical Commission, at its forty-seventh session, in March 2016, recommended that countries use the Framework for Development of Environment Statistics (FDES 2013) to guide the development of climate change statistics and indicators, given the close interrelationship between environment statistics and climate change statistics. The FDES provides a comprehensive framework setting out the scope of environmental statistics and serves as a structure to guide the data collection and compilation of environment statistics at national level.

The National Action Plan sets out the progress needed and relevant actions to strengthen environment statistics provides, to provide high quality data to aid decision makers in developing national environmental policies and environmental management strategies.  It also contributes to monitoring the Sustainable Development Goals by allowing absorption of the new data demands to define and monitor national targets and indicators.  It thus supports the monitoring of Sustainable Development Goals and Targets 17.18 and 17.19 of the Sustainable Development Goals which aim to enhance capacity-building support to increase the availability of high-quality, timely and reliable data on the environment; and to build on existing initiatives to develop measurements of progress on sustainable development.

High quality statistics and integrated information are important inputs into evidence-based policy and decision-making. They are also key to monitoring the internationally agreed goals, sustainable development, and the 2030 development agenda. Given the critical role of high quality environment statistics, and their integration with socio-economic statistics, it is imperative to strengthen national capacities of developing countries for the sustained and regular production of a set of priority environment statistics and indicators, in order to measure progress towards sustainable development. The objectives of the national action plan are:

1.  develop a national action plan to support environment statistics and
2.  develop a compendia of environment statistics
3.  develop or improve existing strategies for environment statistics and EIA
4.  to make data on a new environment related-SDG area available.

5. Prepare a first draft of the Action Plan, taking into account the results of the ESSAT, including budget and workplan.
6. Compile priority environment statistics in support of the Compendia of Environment Statistics.

# 5.  Stakeholders

## 5.1  Key Environment Stakeholders

Environmental management involves many stakeholders including Government agencies (at national and sub-national levels), local communities, academia, non-governmental organizations and the international community. It is desired that a unified understanding of a country's situation as pertains to environment statistics be realised by all relevant stakeholders to work with the ESSAT.  It is therefore recommended that a country establishes or convenes a committee, inter-institutional working group or task force to bring together all the stakeholders to discuss and agree on a common set of responses representing the situation in the country, and that this process is carried out collaboratively in a clear and transparent manner.

Environmental statistics stakeholders in the country faced challenges in terms of the amount of data collected and the level of data analysis and management. The key Government stakeholders involved in the collection of environmental statistics and level of environment statistics available and their ability to contribute data to environmental statistics is provided below:

**Table 1: Level of data collection by stakeholders**

|  | Enough Data | Less Data | Few data |
|---|---|---|---|
| Ministry of Environment Climate Change and Natural Resources |  |  |  |
| National Environment Agency (NEA) | ✓ |  |  |
| Ministry of Agriculture | ✓ |  |  |
| Ministry of Fisheries and Water Resources |  | ✓ |  |
| Ministry for Local Government and lands and Religious Affairs |  |  | ✓ |
| Gambia Bureau of Statistics (GBoS) | ✓ |  |  |

| | | | |
|---|---|---|---|
| National Disaster Management Agency (NDMA) | | | ✓ |
| National Water and Electricity Company Ltd (NAWEC) | | | ✓ |
| Ministry of Trade, Industry and Regional Integration | ✓ | | |
| Banjul Municipal Council | | | ✓ |
| Kanifing Municipal Council | | | ✓ |
| Gambia Agency for the Management of Public Works (GAMWORKS) | | | ✓ |
| National Agricultural Research Institute (NARI) | | ✓ | |
| Ministry of Petroleum and Energy | | ✓ | |
| Geological Department | | ✓ | |
| Ministry of Transport, Works and Infrastructure | | ✓ | |
| Ministry of Health and Social Welfare | | | ✓ |
| NGOs and community-based organisations | | | ✓ |

At the international level the major partners in environment and development are the UN System (UNSD, UNDP, UNEP, FAO, World Bank, GEF etc.) and other bilateral and multilateral donors such as the European Union, the African Development Fund, BADEA, Islamic Development Fund, Kuwait and Saudi Fund.

# 6. Environment Statistics Assessment (ESSAT) Summary

Most of the institutions in the country face challenges in collecting environmental statistics due to lack of IT infrastructure, need to improve financial and human capacity and the need to encourage greater awareness about the importance of environmental statistics. The section provides a summary of the Environment Statistics Assessment for the country.

## *6.1 Institutional needs*

The legal framework does not cover the needs of environmental statistics. Most of the institutions have statistics units but there is little focus on environmental statistics. The Coordination structures around environmental statistics are weak, and institutions do not work together in producing environmental statistics. This is partly due to its being a relatively new statistical area in The Gambia and greater awareness raising is required.

Institutions need capacity development in terms of both short term and long-term trainings in areas of statistics and environmental data collection and management related to their institutions. Upgrading of the statistics units in terms of infrastructure are needed in order to better collect and manage environment al statistics in the country.

## *6.2 Organisational needs*

All the institutions require strengthening of human and physical resources Further capacity Development/Training are needed in most statistics units in the institutions. Moreover, the physical infrastructure is mostly unavailable.

# 7.   Action Plan for Development of Environmental Statistics

## 7.1   *Impact*

To contribute to monitoring of Sustainable Development Goals (SDGs) related to the environment, thus strengthening environmental policy and environmental management at national level; in support of the objectives of the SDGs: to end poverty and hunger everywhere; to combat inequalities within and among countries; to build peaceful, just and inclusive societies; to protect human rights and promote gender equality and the empowerment of women and girls; and to ensure the lasting protection of the planet and its natural resources. To create conditions for sustainable, inclusive and sustained economic growth, shared prosperity and decent work for all, taking into account different levels of national development and capacities.

## 7.2   *Outcome*

The main objective the National Action Plan is to build on and strengthen country capacity to provide reliable, high quality environment statistics, through strengthened coordination, production, validation, dissemination and analysis of environment statistics taking into account available and potential resources.

## 7.3    Outputs and activities

The objectives, output, activities and timelines for the National Environmental Action Plan for The Gambia have been done in consideration of FDES 2013 and the NSDS 2018-2022. The objectives of the action plan are:

**Objective 1:   Inter-institutional collaboration to create an efficient and well-coordinated NSS**

The aim is to improve collaboration among key environmental statistics stakeholders by establishing a National Consultative Committee (NCC), a User-Producer Committee, a Representative statistics-providers forum and National Steering Committee and setting up of statistical units in the MDAs and regions among others.

**Objective 2: Methodological development and dissemination of know-how to assure quality data**

The objective is to develop and improve methodologies for cost-effective environmental data. Also, recruit consultants for the preparation of National  Data Quality Assessment Framework (NDQAF) and working with Big data for environmental statistics/GIS data for environment statistics. Develop Data Dissemination Policy and sensitize data producers on NDQAF and Big data.

**Objective 3.0: Capacity building and technical assistance to improved data production and dissemination**

The objective is to build capacity and develop national expertise in environment statistics. Also conduct needs assessment, surveys and census to get more data on environmental statistics. Produce and disseminate quarterly and annual Bulletins of Environmental Statistics for The Gambia.

**Objective 4: Investing in physical infrastructure to enhance physical, ICT and statistical infrastructure**

The objective is to develop infrastructure of environment statistics system and incorporate environment statistics into Management information Systems within the NSS and GBoS. Also procure licensed software packages and GPS, enhance the MDAs Web for statistics dissemination and updates of environment statistics and develop a modern library at GBoS.

**Objective 5: Human resource development and management**

The objective is to strengthen environment statistics human resource, recruit a consultant to prepare a curriculum for the national statistical training centre and incorporate environment statistics, recruit additional staff at GBoS in environment statistics, conduct short and long courses for GBoS and NSS statistical staff on environment statistics, and conduct statistical literacy training for users of environment statistics.

**Objective 6: Networking, Resource Mobilization and Advocacy**

The objective is to establish local networks and partnerships and to identify global, regional and national networks identified to support the development of environment statistics in the country. The financing strategy to mobilise funds and the advocacy plan are developed.

The environmental action plan highlighting the objectives, output, activities and timelines are provided in the table below:

**Table 2: Environmental Action Plan for The Gambia**

| Objectives | Output | Activities/Actions | Timelines/period | Observation |
|---|---|---|---|---|
| | | | | |

| Objectives | Output | Activities/Actions | Timelines/period | Observation |
|---|---|---|---|---|
| **Objective 1: Inter-institutional collaboration (An efficient and well-coordinated NSS)** | **Output 1:**<br><br>Collaboration and coordination of key players improved | 1. Establish and operationalize a National Consultative Committee (NCC) to meet every quarter with clear terms of reference | 2018-2022 | |
| | | 2. Establish and operationalize a User – Producer committee to meet twice yearly with clear terms of reference | 2018-2022 | |
| | | 3. Establish and Operationalise a representative statistics-providers forum with clear terms of reference to meet once a year | 2018-2022 | |
| | | 4. Operationalize the National Steering Committee of the NSS | 2018-2022 | |
| | | 5. Establish technical working committees on specific areas to meet quarterly | 2018-2022 | |
| | | 6. Conduct regular consultative meetings with stakeholders every quarter | 2018-2022 | |
| | | 7. Establish and operationalise a Development Partner Coordination Committee to meet twice per year with | 2018-2019 | |

| Objectives | Output | Activities/Actions | Timelines/period | Observation |
|---|---|---|---|---|
| | | clear terms of reference | | |
| | **Output 2:**<br><br>Environment Statistics units strengthened | 8. Set up and operationalise NSS coordination committees and strengthen their capacity | 2018-2022 | |
| | | 9. Coordinate setting up of statistical units in the MDAs and regions | 2018-2022 | |
| **Objective 2: Methodological development and dissemination of know-how ( Assured quality of data)** | **Output 1:**<br><br>Methodology for cost-effective environmental data developed and improved | 1. Recruit consultant for the preparation of National Data Quality Assessment Framework (NDQAF) for the NSS ( Harmonise concepts, definitions and classifications used across agencies; develop reporting mechanisms from local government to central level; review methodological resources, including the FDES and the Basic Set of Environment Statistics, etc) | 2018-2019 | |
| | | 2. Recruit consultant on Big data/GIS data for environment statistics | 2018-2019 | |
| | **Output 2:**<br><br>Develop policies | 1. Develop Data Dissemination Policy incorporating aspects of Big Data in environmental statistics including | 2018-2019 | |

| Objectives | Output | Activities/Actions | Timelines/period | Observation |
|---|---|---|---|---|
| | governing statistical operations across the NSS and the wider statistical community | release of micro data | | |
| | **Output 3:**<br><br>The collection of data on environment statistics is spread across a vast range of ministries and institutions. | 1. Sensitizing data producers on NDQAF (Applying the Environment Statistics Self Assessment Tool (ESSAT) based on the Basic Set of Environment Statistics to identify possible data gaps that are important to the country) | 2018-2019 | |
| | | 2. Sensitizing data producers on Big data ( Apply the Environment Statistics Self Assessment Tool (ESSAT) every two years to monitor progress) | 2018-2019 | |
| **Objective 3.0: Capacity building and technical assistance (Improved data production and dissemination)** | **Output 1:**<br><br>National expertise developed in environment statistics | 1. Conduct environmental statistics user needs assessment | 2018-2022 | |
| | | 2. Implement Survey/Census Programme of environmental statistics | 2018-2022 | |
| | | 3. Development, strengthening and updating of administrative statistics as | 2018-2022 | |

| Objectives | Output | Activities/Actions | Timelines/period | Observation |
|---|---|---|---|---|
| | | a management information system (MIS) for production of environment statistics | | |
| | | 4. Establish and strengthen a functional network with key sectors to regularly collect information in the agriculture, fisheries and tourism sectors and other areas of environment statistics. | 2018, 2020, 2022 | |
| | | 5. Produce and disseminate quarterly and annual Bulletins ( product and publish the 1<sup>st</sup> Edition of Yearbook of Environmental Statistics) | 2018-2022 | |
| | | 6. Develop new innovation techniques for data presentation and dissemination | 2018-2022 | |
| | | 7. Implement/disseminate the FDES training with other stakeholders using the UNSD/UNECA e-learning; to utilize the Manual Basic Set of Environmental Statistics; NSO can provide training on CAPI or Basic Statistics to other stakeholders | | |

| Objectives | Output | Activities/Actions | Timelines/period | Observation |
|---|---|---|---|---|
| **Objective 4: Investing in physical infrastructure** | **Output 1:**<br><br>Infrastructure of environment statistics system developed | 1. Incorporate environment statistics into the development and maintenance databases/Management information Systems within the NSS and link them to GBoS | 2018-2022 | |
| | | 2. Improve and modernize GBoS website to include environment statistics | 2018, 2021 | |
| | | 3. Procure updated licensed software packages ( SPSS, GIS, PDF, Microsoft Office and others) | 2018, 2021 | |
| | | 4. Review data management tools in terms of environment statistics | 2018, 2020, 2022 | |
| | | 5. Enhance the MDAs Web for statistics dissemination and updates of environment statistics | 2018-2022 | |
| | | 6. Customize to country context international classifications, nomenclatures, manuals and other international standards | 2018-2020 | |
| | | 7. Develop adequate and modern | 2018 | |

| Objectives | Output | Activities/Actions | Timelines/period | Observation |
|---|---|---|---|---|
| | | library in GBoS to include manuals on environment statistics | | |
| | | 8. Develop compendium of concepts, definitions, standards and methodologies adapted from international guidance | 2018, 2019, 2022 | |
| | | 9. Purchase GPS equipment and maps access for imagery based environmental data collection and situation assessment | 2018-2022 | |
| **Objective 5: Human resource development and management (Quality and sustainable human resources across the NSS)** | **Output 1:**<br><br>NSO/MOE environment statistics human resource strengthened | 1. Undertake staff audit of GBoS and NSS on capacity in environment statistics | 2019, 2021 | |
| | | 2. Recruit consultant to prepare a curriculum for the national statistical training centre to incorporate environment statistics | 2018 | |
| | | 3. Undertake recruitment of additional staff at GBoS in line with the environment statistics human resource needs | 2018-2022 | |
| | | 4. Conduct short courses for GBoS staff | 2018-2022 | |

| Objectives | Output | Activities/Actions | Timelines/period | Observation |
|---|---|---|---|---|
| | | (all cadres) and NSS statistical staff in-country on environment statistics | | |
| | | 5. GBoS staff (all cadres) & NSS statistical staff long courses within and abroad on environment statistics | 2018-2022 | |
| | | 6. Conduct statistical literacy training for users twice yearly on use of environment statistics | 2018-2022 | |
| **Objective 6: Networking, Resource Mobilization and Advocacy** | **Output 1:**<br><br>Global, regional and national networks identified to support the development of environment statistics in the country | 1. Establish local networks and partnerships and participate in regional and international statistical networks and conferences | 2018-2022 | |
| | **Output 2:**<br><br>Financing strategy to mobilise funds | 2. Hold donors conference towards mobilisation of funds on environmental statistics | 2018 | |

| Objectives | Output | Activities/Actions | Timelines/period | Observation |
|---|---|---|---|---|
| | developed | 3. Participate in regional and international environmental statistical networks and conferences | 2018-2022 | |
| | **Output 3:**<br><br>The importance and coordination of environment statistics based on the FDES to be advocated | 4. Develop and implement an advocacy plan to create political will and commitment for environment statistics and increase national budget for environment statistics. | | |

## 8. Overall Budget - 2018-2022 (Us$)

The budget required for implementing the activities of the national Action plan on Environmental Statistics broken down into the objectives is provided below. The budget is further summarized in terms of funding from government or from donors.

| Objectives | Activities | Total | Funding Available | Total |
|---|---|---|---|---|

|  |  |  | Government | Donors | Implementer |
|---|---|---|---|---|---|
| **Objective 1: Inter-institutional collaboration (An efficient and well-coordinated NSS)** |  |  |  |  |  |
|  | 1. Establish and operationalize a National Consultative Committee (NCC) to meet every quarter with clear terms of reference | 100000 |  |  | **GBoS** |
|  | 2. Establish and operationalize a User – producer committee to meet twice yearly with clear terms of reference | 102000 |  |  | **GBoS** |
|  | 3. Establish and Operationalise a representative statistics-providers forum with clear terms of reference to meet once a year | 50000 |  |  | **GBoS** |
|  | 4 Operationalize the National Steering Committee of the NSS | 25000 |  |  | **GBoS** |
|  | 5. Establish technical working committees on specific areas to meet quarterly | 50000 |  |  | **GBoS** |
|  | 6. Conduct regular consultative meetings with stakeholders every | 100000 |  |  | **GBoS** |

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| | quarter | | | | |
| | 7. Establish and operationalise a Development Partner Coordination Committee to meet twice per year with clear terms of reference | 50,000 | | | **GBoS** |
| | 8. Set up and operationalise NSS coordination committees and strengthen their capacity | 50,000 | | | **GBoS** |
| | 9. Coordinate setting up of statistical units in the MDAs and regions | 100,000 | | | **GBoS/MDAs** |
| **OBJECTIVE 1 PROPOSED BUDGET** | | **627,000** | | | |
| **Objective 2: Methodological development and dissemination of know-how (Assured quality of data)** | | | | | |
| | 1. Recruit consultant for the preparation of National Data Quality Assessment Framework (NDQAF) for the NSS ( Harmonise concepts, definitions and classifications used across | 70,000 | | | GBoS |

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| | agencies; develop reporting mechanisms from local government to central level; review methodological resources, including the FDES and the Basic Set of Environment Statistics, etc) | | | | |
| | 2. Recruit consultant on Big data | 75,000 | | | GBoS |
| | 1. Develop Data Dissemination Policy incorporating aspects of Big Data including release of micro data | 15,000 | | | GBoS |
| | 1. Sensitizing data producers on NDQAF (Applying the Environment Statistics Self Assessment Tool (ESSAT) based on the Basic Set of Environment Statistics to identify possible data gaps that are important to the country) | 15,000 | | | GBoS |

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|---|---|---|---|---|---|
| | 2. Sensitizing data producers on Big data ( Apply the Environment Statistics Self Assessment Tool (ESSAT) every two years to monitor progress) | 30,000 | | | GBoS |
| **OBJECTIVE 2 PROPOSED BUDGET** | **205,000** | | | | |
| **Objective 3: Capacity building and technical assistance ( Improved data production and dissemination)** | | | | | |
| | 1. Conduct environmental statistics user needs assessment | 15,000 | | | GBoS |
| | 2. Implement Survey/Census Programme of environmental statistics | 2,160,000 | | | GBoS |
| | 3. Development, strengthening and updating of administrative statistics as a management information system (MIS) for production of environment statistics | 50,000 | | | GBoS/MDAs |
| | 4. Establish and strengthen a functional network with key sectors to regularly collect | 30,000 | | | GBoS |

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|---|---|---|---|---|---|
| | information in the agriculture, fisheries and tourism sectors and other areas of environment statistics. | | | | |
| | 5. Produce and disseminate quarterly and annual Bulletins ( product and publish the 1st Edition of Yearbook of Environmental Statistics) | 10,000 | | | GBoS |
| | 6. Develop new innovation techniques for data presentation and dissemination | 100,000 | | | GBoS/MDAs |
| | 7. Implement/disseminate the FDES training with other stakeholders using the UNFDES e-learning; to utilize the Manual Basic Set of Environmental Statistics; NSO can provide training on CAPI or Basic Statistics to other stakeholders | | | | |
| **OBJECTIVE 3 PROPOSED BUDGET** | | **2,365,000** | | | |
| **Objective 4: Investing in physical infrastructure - Enhanced physical, ICT and statistical infrastructure** | | | | | |

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| | 1. Incorporate environment statistics into the development and maintenance databases/ Management information Systems within the NSS and link them to GBoS | 330,000 | | | GBoS / MDAs |
| | 2. Improve and modernize GBoS website to include environment statistics | 50,000 | | | GBoS |
| | 3. Procure updated licensed software packages ( SPSS, GIS, PDF, Microsoft Office and others) | 100,000 | | | GBoS |
| | 4. Review data management tools in terms of environment statistics | 3,000 | | | MoI/GBoS |
| | 5. Enhance the MDAs Web for statistics dissemination and updates of environment statistics | 38,000 | | | MoI/GBoS |
| | 6. Customize to country context international classifications, nomenclatures, manuals and other international standards | 45,000 | | | GBoS |
| | 7. Develop adequate and modern library in GBoS to include manuals on environment statistics | 50,000 | | | GBoS |
| | 8. Develop compendium of concepts, definitions, standards and methodologies adapted from | 40,000 | | | GBoS |

| | international guidance | | | | | |
|---|---|---|---|---|---|---|
| | 9. Purchase GPS equipment and maps access for imagery based environmental data collection and situation assessment | 100,000 | | | | MoA |
| **OBJECTIVE 4 PROPOSED BUDGET** | | **756,000** | | | | |
| **Objective 5: Human resource development and management - Quality and sustainable human resources across the NSS** | | | | | | |
| | 1. Undertake staff audit of GBoS and NSS on capacity in environment statistics | 20,000 | | | | **GBoS** |
| | 2. Recruit consultant to prepare a curriculum for the national statistical training centre to incorporate environment statistics | 20,000 | | | | **GBoS** |
| | 3. Undertake recruitment of additional staff at GBoS in line with the environment statistics human resource needs | 12,000 | | | | **GBoS** |
| | 4. Conduct short courses for GBoS staff (all cadres) and NSS statistical staff in-country on | 250,000 | | | | **GBoS** |

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|---|---|---|---|---|---|
| | environment statistics | | | | |
| | 5. GBoS staff (all cadres) & NSS statistical staff  long courses within and abroad on environment statistics | 500,000 | | | **GBoS** |
| | 6. Conduct statistical literacy training for users twice yearly on use of environment statistics | 20,000 | | | **GBoS** |
| **OBJECTIVE 5 PROPOSED BUDGET** | | **822,000** | | | |
| **Objective 6: Networking, Resource Mobilization and Advocacy** | | | | | |
| | 1. Establish local networks and partnerships and participate in regional and international statistical networks and conferences | 15,000 | | | GBoS |
| | 2. Hold donors conference towards mobilisation of funds on environmental statistics | 10,000 | | | MoFEA/GBoS |
| | 3. Participate in regional and international environmental statistical networks and conferences | 10,000 | | | GBoS |

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|---|---|---|---|---|---|
| | 4. Develop and implement an advocacy plan to create political will and commitment for environment statistics and increase national budget for environment statistics. | 20,000 | | | |
| **OBJECTIVE 6 PROPOSED BUDGET** | | **55,000** | | | |

## 9.   Next Steps

### 9.1    The Way Forward in Environmental Statistics

From the information obtained during the assessment (by the Technical Working Group), the following activities were identified as priorities for improving environment statistics and as feasible for the National Action Plan:

- Several stakeholders are engaged in data collection and would benefit from short-term trainings from GBoS on areas such as questionnaire design, data collection, analysis, graphics and visualization.
- There is a need to sensitize the Heads of Units of the stakeholders on the role of data in decision making and planning.  In addition, many departments are conducting data collection in the field and would benefit from use of modern technologies such as data collection using CAPI (Computer- Assisted Personal Interviewing).  Sensitization on the benefits of CAPI would be beneficial.
- GBS can provide assistance with sampling and survey preparation for ad hoc surveys conducted by stakeholders.  There is a need to advise stakeholders of the assistance that can be provided by GBoS, and to develop a coordination mechanism to relay information between GBoS and stakeholders when statistical surveys are to be conducted.  Assistance can also be provided to communicate the statistics produced to users.
- Statisticians from stakeholders dealing with environmental statistics to be given short term training or attached to GBoS.
- Training is needed for GBoS statisticians on environmental issues in general and more detailed training on key environment statistics for The Gambia.
- In order to strengthen networking arrangements GBoS environmental statistician is encouraged to attend the International Statistical Institute World Statistics Conference in 2019, including preparation of a paper on the activities to strengthen environment statistics in The Gambia.
- The National Environment Agency would benefit from having a statistical unit or data manager to coordinate the numerous statistics produced within the agency.  Short-term trainings, supporting statistical literacy and evidence-based policy, are also required to embed demand for environment statistics within the agency.
- The establishment of a functioning environment statistics unit within GBoS should be investigated.

- There is a need to enhance data harmonization in the area of land use/land cover statistics. Several stakeholders hold land use/land cover maps, including GBoS, National Environment Agency, Department of Lands and Surveys, and Department of Forestry. Land use/land cover data is also of interest to the National Disaster Management Agency. A Working Group to discuss the harmonization of the land use/land cover mapping could be established.
- GBoS to work towards building capacity in the area of Big Data management in order to harness the big volume of data being produced and to harness data from non-conventional sources such as GIS/remote sensing.

## 10. References

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# 10. Annex 1: Environment Statistics Assessment (ESSAT)

**Environment Statistics Self-Assessment Tool (ESSAT)**