

STATUS OF ENVIRONMENT AND NATURAL RESOURCES STATISTICS IN KENYA

1.0 OVERVIEW

Kenya covers an area of approximately 591,958 square kilometers of which 580,726 square kilometers is land surface while the rest is inland waters covering 11,230 square kilometers. About 461,360 square kilometers of the land surface is Arid and Semi-arid (ASAL). The remaining portion of the total land area, inland water areas excluded is high and medium potential. The Indian Ocean territorial waters cover 14,300 square kilometers and an Exclusive Economic Zone covering an area of 143,100 square kilometers. The Exclusive Economic Zone is the area where Kenya has exclusive economic rights with respect to the exploration, exploitation, conservation and management of the marine natural resources.

2.0 KENYA NATIONAL BUREAU OF STATISTICS

The Kenya National Bureau of Statistics (KNBS) is a Semi-Autonomous Government Agency (SAGA) within the Ministry of Planning and National Development created by the New Statistical Act 2006. It was first founded as Economics and Statistics Division of the Treasury in 1961 and was established under the Statistics Act Cap. 112 of the Laws of Kenya. The Act empowers the department to collect, compile analyze and disseminate statistical information and other technical services. The agency works in partnership with other government departments/ministries to provide the Government and the wider community with statistical information, analysis and advice needed to stimulate research and informed decision making.

2.1 Functions of the Bureau are to:

- Collect economic and social statistics using administrative data where possible, and by means of censuses and surveys, including periodic censuses of population.
- Assemble from various sources a database of key statistics and to store and make statistical information accessible.
- Analyze and interpret statistical information and disseminate the results.
- Compile the national economic accounts.
- Give advice on statistics produced by the department and the statistical methods underlying them to users and potential users of official statistics.
- Develop statistical standards, definitions and classifications and promote high quality statistical output through systematic evaluation and research.
- Contribute to the development and use of international standards, procedures, practices and promote regional and international data exchange.

2.2 Organizational structure of the department:

The agency is divided into 6 divisions:-

Agriculture, Food Monitoring, Environment & Natural Resources: The division is incharge of all agriculture, nutrition, environment and natural resources statistics.

Macroeconomics division: Covers National accounts, Trade and Balance of Payments, Public finance, Transport and Tourism statistics.

NASSEP and Field Administration: The division maintains the National Master Frame for household surveys. The division updates and provides cartographic maps, which assists in household survey execution.

Population and Demography: Conducts population and housing censuses, demographic and health surveys. Health, Education and other social statistics are also covered.

Research and Data processing: This division is mainly charged with data capture and analysis.

Labour and Industry: The division covers employment, building and construction, manufacturing and energy statistics. It is in the division that the Labour Enumeration Master Frame for establishment based surveys is maintained.

2.3 Agriculture, Food and Nutrition Statistics Division

The Division is charged with the responsibility of collecting, analyzing and disseminating agricultural statistics. The division is further divided into four main units:

Food Monitoring and Nutrition Unit: responsible for nutrition data, large surveys, commodity statistics, welfare and poverty monitoring, rural retail prices and other early warning information. Commodity statistics cover maize, wheat, beans, rice and other food crops.

Agriculture Production Unit: covers calculation of agricultural Gross Domestic Product and other National Accounts indicators. The section is also responsible for agricultural censuses and surveys, collects data on agricultural inputs and outputs of industrial crops such as coffee, tea, sugarcane, cotton, pyrethrum and horticulture.

Livestock Statistics Unit: responsible for livestock data whether from censuses or surveys. Livestock data includes dairy production, animals slaughtered, hides and skins, wool, pigs, eggs and poultry production

Environment and Co-operative Statistics Unit: collects data on water, fisheries, forestry, mining, land use and other environment and natural resource data. Units mandate also includes building and maintaining databases on environment indicators and co-operative statistics.

The above units are also charged with reporting and updating of the annual economic survey, statistical abstract and the monthly leading economic indicators publications. The respective sections also liaise with relevant organizations and government departments for collection and supply of information in their domain. Where a section is to undertake a large-scale survey, members from the sections and indeed the entire department are involved in the survey execution.

3.0 ENVIRONMENT AND NATURAL RESOURCES STATISTICS

3.1 Background

The Kenyan economy relies heavily on the country's natural resources both in terms of people's livelihoods and as a contribution to national income. The exploitation and competition for the country's limited natural resources continues to jeopardize the state of our environment, mainly due to unsustainable and unplanned exploitation. Kenya National Bureau of Statistics, the Government agency mandated to be the official custodian of Government statistics has been collecting, compiling, analyzing and disseminating data on Environment and Natural Resources to inform policy formulation and planning.

The Environment data collected by the Bureau and other agencies can be grouped into two broad categories namely:

- Environment data
- Monitoring indicators

Environment data is regarded as raw data and comprise environmental parameters such as vegetation cover, livestock numbers, human settlements etc. The other category is an in-depth analysis of the first and it involves advanced survey techniques. In Kenya, the principal elements covered under environment statistics encompass the following:

- Water supplies
- Forestry
- Fisheries
- Mining
- Land and Soil
- Flora and Fauna

Much of the information is collected through statistical enquiries and monitoring activities undertaken by Ministries or Departments and other Governmental and Non-Governmental institutions.

3.2 Trends in Environment and Natural Resources Gross Value Added

In Kenya, through System of National Accounts (SNA 1993) the Gross Value Added of several activities under Environment sector are computed and analysis of shares of each of the activities. Table 1 shows Gross Value Added for forestry and logging, fishing, mining and quarrying, and electricity and water supplies activities in Kenya. The percentage contribution of all the activities has been about 5 per cent from 2002 to 2006 with electricity and water supplies accounting for the highest percentage followed by forestry and logging.

Table 1: Trends in Environment and Natural Resources GVA

Industry	Ksh. Million				
	2002	2003	2004	2005	2006
Forestry and logging	10,703	10,889	10,943	11,234	11,115
Fishing	5,119	4,765	5,246	5,751	6,269
Mining and quarrying	5,036	5,213	5,195	5,334	5,554
Electricity and water supply	23,749	27,074	27,877	27,898	27,635
Electricity supply	17,257	20,454	20,954	20,462	19,869
Water supply	6,492	6,620	6,923	7,436	7,766
Total	44,608	47,941	49,261	50,218	50,572
GDP at market prices	1,025,584	1,055,658	1,109,338	1,172,784	1,244,445
Resources GVA as % of GDP	4	5	4	4	4

3.3. Water Supplies

The Ministry of Water and Irrigation in conjunction with the local authorities, administers the development, management and maintenance of water resources including sewerage disposal and water pollution control. The Government through the Ministry of water has over the years committed substantial resources in the development and maintenance of water supply systems and the provision of portable water for both domestic and industrial use. Total expenditure on Water Development and Conservation accounted for more than 50 per cent from 2002 to 2006 as shown in Table 2.

Table 2: Development Expenditure on Water Supplies and Related Services, 2002/03 - 2006/2007

Item	KShs 000				
	2002/2003	2003/2004	2004/2005	2005/2006	2006/2007
Water Development . . .	661,698	960,475	760,642	1,895,835	3,367,953
Training of Water Development Staff	23,084	32,515	23,250	50,000	39,000
Rural Water Supplies. . .	261,515	534,919	373,233	789,750	814,000
County Council and Urban Water Supplies	325,500	713,100	1,247,245	1,293,296	300,200
Miscellaneous and Special Water Programmes	224,870	1,446,640	342,414	236,500	141,500
Water Conservation and Pipeline Corporation	822,461	481,641	463,424	1,974,300	2,031,500
Irrigation Development	12,778	1,704	4,985	112,408	442,641
National Irrigation Board	60,460	60,460	101,930	246,533	455,300
TOTAL . . .	2,319,128	4,169,290	3,210,208	6,598,622	7,592,094

Sources: Ministry of Water and Irrigation
Water Conservation and Pipeline Corporation

3.4 Fisheries

The Management and Development strategy of Fisheries' Department in Ministry of Livestock and Fisheries Development emphasizes maximization of returns and utilization of inland and marine resources. It also includes increased production and supply of fish to provide cheap source of proteins and income to the rural communities engaged in the fishing industry. The department initiated fish nurseries and fishing vessels with longer fishing range and higher capturing capacity and efficiency.

Overall, the quantity and value of fresh and marine-fish landed has been around 130 thousand tonnes and Ksh. 7 billion as shown in Table 3. Fresh water fish has dominated the Kenyan fish-landed accounting for over 95 percent over the years mainly because of landings from Lake Victoria.

Table 3: Trends in Quantity and Value of Fish Landed, 2002 - 2006

	2002	2003	2004	2005	2006*
Quantities - Tonnes:					
Fresh water fish					
Lake Victoria. . .	114,812	105,866	115,747	133,526	145,112
Lake Turkana . . .	4,004	4,047	4,180	2,493	3,097
Lake Naivasha	95	39	62	108	120
Lake Baringo	0	0	63	43	39
Lake Jipe	78	73	40	74	75
Tana River Dams	569	474	839	950	984
Fish Farming	962	1,012	1,035	1,047	1,099
Other areas . . .	846	1,176	843	785	861
TOTAL . . .	121,366	112,687	122,809	139,026	151,387
Marine fish . . .	5,570	5,819	6,192	5,862	5,966
Crustaceans	939	756	1,206	441	675
Other marine products.	352	393	407	520	442
GRAND TOTAL .	128,227	119,655	130,614	145,849	158,470
Value - KSh' 000					
Freshwater fish .	7,159,158	6,468,618	7,182,213	7,207,619	7,599,136
Marine fish . . .	265,805	286,116	327,592	305,871	312,398
Crustaceans . . .	213,443	176,347	221,106	99,278	150,865
Other marine products	26,091	24,963	29,895	39,098	33,452
TOTAL .	7,664,497	6,956,045	7,539,525	7,651,866	8,095,851

* Provisional.

Source : Fisheries
Department

3.5 Forestry

Kenya recognizes the vital role of afforestation. As forests are cleared, soil erosion and siltation increase, and coastal habitats degenerate, severely affecting local fish population. Much of the deforested land to a large extent becomes marginalized and where such land is cultivated, a lasting damage to the local environment results. In view of these considerations, the Government has continued to take a serious view of the indiscriminate felling of trees especially for charcoal and fuel wood and has lately emphasized forest conservation measures as a priority objective in line with MDG Goal 7.

Total Forest area is as shown in Table 4. The forest plantation area under indigenous trees has fairly remained constant at 12.3 thousand hectares while that of exotic trees has marginally changed. Table 5 shows the recorded sales of forest products.

Table 4: Trends in Forest Plantation Area, 2002- 2006

Type of Forest	'000 Hectares				
	2002	2003	2004	2005	2006*
Indigenous Trees.	12.3	12.3	12.3	12.3	12.3
Exotic Trees... ..	89.4	92.5	98.7	98.7	98.7
Total	101.7	104.8	111.0	111.0	111.0
Fuel Wood and Poles					
Exotic Trees... ..	19.3	20.3	21.3	21.3	21.3
TOTAL AREA. . .	121.0	125.1	132.3	132.3	132.3

*Provisional.

Source : Ministry of Environment and Natural Resources

Table 5: Trends in Recorded Sales of Forest Products, 2002- 2006

Forest Product	2002	2003	2004	2005	2006*
Timber - '000 true cu. metres-					
Soft wood.	162.0	233.3	213.0	994.0	448.2
Hardwood	0.0	9.9	0.0	0.0	0.0
TOTAL	162.0	243.2	213.0	994.0	448.2
'000 stacked cu. metres-					
Fuel wood /Charcoal	67.0	14.6	18.1	47.2	44.0
Power & Telegraph Poles	0.0	2.0	9.6	6.3	9.5

* Provisional.

Source: Ministry of Environment and Natural Resources.

3.6 Mineral Production

The Government recognizes the crucial role played by mineral exploration and extraction. It has therefore continued to review the Mining Act and Mineral and Mining policy. The value of mineral production has risen over the years with soda ash accounting for about 50 per cent of the overall output as shown in Table 6.

Table 6: Trends in Quantity and Value of Mineral Production, 2002 - 2006

Mineral	2002	2003	2004	2005	2006*
Quantities - Tonnes:					
Minerals-					
Soda					
Ash	304,110	352,560	353,835	360,161	374,210
Fluorspar.	85,015	80,201	117,986	109,594	132,030
Salt	18,848	21,199	31,139	26,595	35,024
Crushed Soda.	474,014	576,146	605,948	640,291	662,939
Other	7,000	4,971	6,315	8,972	9,549
TOTAL	887,655	1,035,077	1,115,223	1,145,613	1,213,752
Value - KSh'000:					
Soda Ash**	2,729,113	3,100,169	3,462,707	3,782,249	4,532,391
Fluorspar**	632,829	503,630	999,129	1,061,908	1,155,794
Salt	61,388	61,105	124,450	110,382	164,438

Crushed Refined Soda.	38,252	46,494	51,473	47,796	44,551
Other	1,275,643	1,355,256	667,854	1,806,754	752,376
TOTAL	4,737,225	5,066,654	5,305,613	5,830,410	6,649,550

Source: Department of Mines and Geology

*Provisional

**Including Export Value.

3.7 Wildlife

Kenya's tourism industry is largely dependent on wildlife. The government and development partners have continued to support the operations of Kenya wildlife Services with the overall objective of increasing the efficiency in wildlife management and conservation. Overall, the wildlife population has been fairly stable as shown in Table 7.

Table 7: Wildlife Population in the Kenya Rangelands, 2002- 2006

SPECIES	'000 Number				
	2002	2003	2004	2005	2006*
Elephant	18.7	18.8	18.8	16.8	16.1
Buffalo	24	24.6	25.1	22.3	22.1
Giraffe	32.1	33.2	34.2	34.4	31.7
Burchell's Zebra	108.6	110.3	112	123.1	110.4
Grevy's Zebra	5.4	5.3	5.1	4.4	4.0
Topi	30.7	31.2	31.6	31	27.3
Kongoni	11.4	11.5	11.6	10	9.1
Wildebeest	288	294.1	300.2	300.3	290.3
Oryx	20.3	20.5	20.6	21.5	21.2
Eland	10.6	10.2	9.8	8.2	8.0
H. Hartbeest	1.3	1.2	1.1	1	0.9
Waterbuck	4.9	4.9	4.8	4.1	4.1
Kudus	13.7	13.6	13.4	13.6	12.1
Gerenuk	27.6	27.5	27.3	27	26.5
Impala	73.5	71.9	70.2	68.7	60.5
Grant's Gazelle	114.6	116	117.3	116	113
Thompson's Gazelle	58.2	55	51.7	48.1	45.1

Warthog	15.1	15	14.8	14.5	13.8
Ostrich	23.3	23.9	24.4	26	25.4

Source : Department of Resource Survey and Remote Sensing (DRSRS)

* Provisional

4 Challenges and plans for Environment Statistics

Some of the areas with serious environmental data gaps are air and water pollution specifically in urban centres, environmental health specifically total incidence of water and air borne diseases, soil and natural disasters specifically soil erosion and control, wildlife conservation, recurrent droughts and corresponding famines. Other areas which are not adequately covered include deforestation, population of endangered species and desertification among others.

The Government through the Ministry of Planning and National Development having realized the importance of statistics to inform policy and planning is currently building capacity of various statistical units in the country. There are also workshops planned for producers and users of Environment Statistics where they are supposed to critically look at the available data and chart the way forward. In addition, there is a planned National Committee on Agriculture, Nutrition and Environment statistics that will be meeting on quarterly basis to discuss progress being made in achieving accurate, timely and relevant data.

The Bureau also intends to develop an environment statistics database capturing all the key indicators required locally and internationally.

5 Collaboration between Data collectors and disseminators

In general, there is a cordial working relationship between data producers and disseminators this is exemplified by the fact that the Bureau disseminates information from several producers. The Bureau also spearheads the process of capacity building in terms of data collection, analysis and dissemination. In 2006, the Ministry of Planning and National Development provided several computers and training to line ministries with a view to improving the quality of data that they provide.