Environment Statistics - 2011

1. Introduction

This issue of Economic and Social Indicators presents Statistics on Environment for year 2011 based on data gathered from various institutions.

The main environment indicators over the ten-year period, 2002 - 2011 are given in Table 1 while technical notes are given at Annex.

2. Land use, Forestry and Agriculture

2.1 Land use

Land use refers to the main activity taking place on an area of land, for example, farming, forestry or housing. Based on latest available data on land use (Figure 1 and Table 2) sugar cane plantations occupied 39% (72,000 hectares) of the total land area of the Island of Mauritius in 2005, forest, scrubs and grazing lands 25% (47,200 hectares) and built up areas another 25% (46,500 hectares).

During the period 1995 to 2005, the land occupied by sugarcane, tea plantations and forestry decreased mainly at the expense of built up areas.



Figure 1 - Land Use, Island of Mauritius, 2005

2.2 Decrease in forest area

Preservation of forests is vital for the protection of the ecosystem. However, the total forest area has been declining from 47,159 hectares in 2010 to 47,140 hectares in 2011. Some 47% of the total forest lane in 2011 was state owned and the remaining 53% was privately-owned (Table 3).

2.3 Drop in effective area under sugar cane and tea cultivation

From 2010 to 2011, the effective area under sugar cane and tea cultivation decreased by 3.8% (from 62,100 to 59,724 hectares) and 6.7% (from 698 to 651 hectares) respectively while that under tobacco cultivation increased by 4.2% from 213 to 222 hectares (Table 4).

2.3.1 Import of fertilisers rises but export of pesticides falls

Intensive use of chemical based fertilizers and other agro-chemicals may contribute to the pollution of the environment through the leaching of nitrate to ground water.

Between 2010 and 2011,

- import of fertilisers increased by 17.4% from 46,282 to 54,356 tonnes while
- import of pesticides dropped by 11.6% from 2,384 to 2,107 tonnes (Table 5).

3. Energy and Greenhouse gas (GHG)

Though vital for economic development and households, the production and consumption of energy cause air pollution, and alter the ambient temperature. They are by far the most important contributors of air pollutants through the emission of carbon dioxide (CO_2) and other greenhouse gases.

3.1 Decrease in energy supply

Between 2010 and 2011, the total primary energy requirement, (defined as the sum of imported and locally available fuels less re-exports and bunkering after adjusting for stock changes) which can be construed as the energy supply of the country decreased marginally by 0.3% from 1,431 to 1,427 thousand tonnes of oil equivalent (ktoe).

Energy from locally available sources (hydro, wind, landfill gas, bagasse and fuelwood) which are all renewable and less polluting declined from 242 to 231 ktoe while energy from imported fuels (petroleum products and coal) went up from 1,189 to 1,196 ktoe (Table 6).

3.2 Net Carbon Dioxide emission falls slightly

Total emissions and removals of greenhouse gases are given in Table 7 while the national inventory of greenhouse gas (GHG) emissions by source categories is given in Table 8. Both tables indicate that:

- carbon dioxide CO₂ remains the main contributor of greenhouse gas emissions;
- net CO_2 emissions, after accounting for the removal of CO_2 by forests, dropped slightly from to 3,375 thousand tonnes in 2010 to 3,351 thousand tonnes in 2011; and
- the non-carbon dioxide emissions consisted mainly of carbon monoxide and methane.

3.3 Carbon dioxide (CO2) emissions from fuel combustion activities

Fuel combustion by the energy industries remained the largest source of GHG emissions and accounted for 61% (2,206 thousand tonnes) of the total GHG emissions in 2011 (Table 9). Next came the transport sector which made up 25% (922 thousand tonnes) of total GHG emissions and the manufacturing industries making up another 9% (337 thousand tonnes).

Compared to 2010, CO_2 emissions from fuel combustion registered a slight decline from 3,664 to 3,639 thousand tonnes (-0.7%). A breakdown by sector indicates that:

- CO₂ emissions in the energy industries decreased slightly by 0.8% (from 2,224 to 2,206 thousand tonnes) mainly attributed to a decrease in the amount of fuel input (petroleum products and coal) to produce electricity (Table 10);
- the manufacturing sector registered a decrease of 4.3% in CO₂ emissions (from 352 to 337 thousand tonnes). This could be explained by a fall in the amount of fuel consumed by the sector (Table 11);
- CO_2 emissions by the transport sector went up by 1.1% (from 912 to 922 thousand tonnes) due to higher fuel consumption. In fact, the number of registered motor vehicles went up by 4.4% (from 384,115 to 400,919) (Table 12 and 13).



Figure 2 - Sectoral Carbon dioxide emissions from fuel combustion activities, Republic of Mauritius, 2010 - 2011

4. Ambient Air Quality

The ambient air quality, as monitored by mobile stations of the Ministry of Environment and Sustainable Development, was assessed in terms of the amount of pollutants present in the air. The main pollutants under investigation in 2011 were dust, Sulphur Dioxide, Nitrogen Dioxide and Carbon Monoxide.

The results of the monitoring exercise (Table 14) indicate that the air quality was at an acceptable level when compared to the existing national standards.

5. Water

Water, being a basic support element for human life and ecosystems, is of vital environmental and biological importance.

In 2011, the Island of Mauritius received 3,627 million cubic metres (Mm³) of precipitation (rainfall), compared to 3,368 Mm³ obtained in 2010 (+7.7%). Only 10 % of the precipitation went as ground water recharge, while evapotranspiration and surface runoff accounted for 30% and 60% respectively (Table 15).

Total water utilisation was estimated at 752 Mm^3 in 2011. The agricultural sector accounted for 47% of the water utilised (356 Mm^3). Hydropower accounted for 24% (181 Mm^3). Water utilised by the domestic, industrial and tourism sector represented the remaining 29% (215 Mm^3) (Table 16).

Compared to 2010, water utilisation dropped by 19.6 %, from 935 to 752 Mm³ with falls in each sector as follows:-

- domestic, industrial and tourism: -7.7%,
- hydropower -39.3%, and:
- agricultural -11.9%.



Figure 3 - Water utilisation, 2011

Around 84% of the total water utilisation was met by surface water and the remaining 16 % by ground water.

6. Waste

6.1 Drop in waste disposal at Mare Chicose

The total amount of solid waste landfilled went down by 3.1 % from 427,802 tonnes in 2010 to 414,543 tonnes in 2011 (Table 17). The drop in the amount of solid waste disposed at the Mare Chicose sanitary landfill was because some of the solid waste has been composted.

Domestic waste constituted 94% of the total solid waste landfilled in 2011. The trend of the amount of solid wastes landfilled is as shown in figure 4.



Figure 4 - Total solid waste landfilled at Mare Chicose, 2002 - 2011

7. Complaints

Effective environmental management needs appropriate coordination and monitoring of environmental problems. The Ministry of Environment and Sustainable Development is entrusted to address environmental complaints received from the general public.

7.1 Rise in the number of complaints received

Table 18 lists the number of complaints by category received by the Pollution Prevention and Control Division of the Ministry of Environment and Sustainable Development for 2010 and 2011. The number of complaints received increased from 622 in 2010 to 731 in 2011 (+17.5%). These were mainly due to noise (23%), solid waste (17%), air pollution (13%), waste water (12%) and odour (11%).

8. Environmental Impacts Assessment (EIA) Licences and Preliminary Environmental Report (PER) Approvals

8.1 EIA Licences and PER Approvals

In 2011, some 30 EIA licences were granted of which 10 were issued to coastal hotels and related works, 5 to land parcelling and 4 to development in port area.

During the same period, 24 PER approvals were granted, out of which 10 were for poultry rearing and 9 were for industrial development (Table 19).

Statistics Mauritius

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Indicator	Units	2002	2011 ¹
1. Total land area ²	000 ha	196.9	196.9
2. Irrigated land	ha	21,222	19,885
3. Total forest area (as a % of total land area)	%	30.4	25.5
4. Land Protected Areas	ha	13,973	14,879
5. Marine Protected Areas	ha	7,190	7,216
6. Threatened plant species (NPCS) ³	%		88
7. Threatened animal species $(NPCS)^3$	%		89
8. Total fish catch	tons	9,318	5,270
9. Mean catch per fisherman day	kg	4.3	6.9
10. Total Carbon dioxide emission	000 tons	2,973.0	3,640.8
11. Per capita carbon dioxide emission	tons	2.2	2.8
12. Mean annual rainfall	millimetres	2,082	1,945
13. Annual fresh water abstraction	Mm ³	726	
14. Daily per capita domestic water consumption	litres	157	162
15. Daily per capita solid waste generated	Kg	0.8	0.9
16. Total electricity generated	GWh	1,949	2,730

Table 1 -Main environment indicators, 2002 and 2011

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