

# Environment Statistics - 2012

## 1. Introduction

This issue of Economic and Social Indicators presents Statistics on Environment for year 2012 based on data gathered from various institutions.

The main environment indicators over the ten-year period, 2003 – 2012 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 (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.

### 2.2 Slight increase in forest area

Preservation of forests is vital for the protection of the ecosystem. Total forest area increased marginally by 3 hectares from 47,140 hectares in 2011 to 47,143 hectares in 2012. Some 47% (22,143 hectares) of the total forest area in 2012 was state-owned and the remaining 53% (25,000 hectares) was privately-owned (Table 3).

### 2.3 Drop in effective area under sugar cane and tobacco cultivation

From 2011 to 2012, the effective area under sugar cane cultivation decreased by 4.1% from 59,724 hectares to 57,300 hectares. During the same period, area under tobacco plantation dropped by 22.1% from 222 hectares to 173 hectares while that under tea cultivation increased by 2.8% from 651 to 669 hectares (Table 4).

### 2.4 Import of fertilisers and pesticides goes down

Intensive use of chemical based fertilisers and other agro-chemicals may contribute to the pollution of the environment through the leaching of nitrate to ground water. Between 2011 and 2012, imports of fertilisers fell by 3.0% from 54,356 to 52,739 tonnes. This trend was also observed for imports of pesticides which declined by 9.2 % (from 2,107 tonnes in 2011 to 1,913 tonnes in 2012) (Table 5).

### 3. Energy and Greenhouse gas (GHG)

Though vital for economic development and households, the production and consumption of energy release greenhouse gases. Carbon dioxide is the main component of the greenhouse gases.

#### 3.1 Increase in total energy supply

Between 2011 and 2012, 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 increased by 2.2% from 1,427 to 1,459 thousand tonnes of oil equivalent (ktoe).

Energy supply from locally available sources (hydro, wind, landfill gas, bagasse, fuel wood and photovoltaic) which are all renewable and less polluting declined from 231 to 222 ktoe (-3.9%) while that from imported fuels (petroleum products and coal) went up from 1,196 to 1,237 ktoe (+3.4%) (Table 6).

In 2012, some 15% (222 ktoe) of the total primary energy requirement was met from locally renewable energy sources while 85% (1,237) were obtained from imported petroleum products and coal.

#### 3.2 Net carbon dioxide emission rises

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 (CO<sub>2</sub>) remains the main contributor of greenhouse gas emissions;
- net CO<sub>2</sub> emissions, after accounting for the removal of CO<sub>2</sub> by forests, increased by 3.0% from 3,351 thousand tonnes in 2011 to 3,452 thousand tonnes in 2012; and
- the non-carbon dioxide emissions comprised mainly carbon monoxide and methane.

### 3.3 Carbon dioxide (CO<sub>2</sub>) emission from fuel combustion activities (energy sector)

In 2012, CO<sub>2</sub> emission from the energy sector stood at 3,743 thousand tonnes, up by 2.9% from 3,639 thousand tonnes in 2011. The energy industries (electricity generation) remained the largest source of CO<sub>2</sub> emissions and accounted for nearly 61% (2,281 thousand tonnes) of the total energy sector CO<sub>2</sub> emissions in 2012 (Table 9). This was followed by the transport sector which made up 25% (954 thousand tonnes) of the total emissions and the manufacturing industries making up another 9% (331 thousand tonnes).

#### 3.3.1 Energy industries

Carbon dioxide emission from the energy industries (electricity generation) stood at 2,281 thousand tonnes in 2012, compared to 2,206 thousand tonnes in 2011, representing an increase of 3.4%. This was mainly attributed to a rise in the amount of petroleum products and coal used to produce electricity. In fact electricity generated from petroleum products and coal increased by 1.8% from 2,179 GWh in 2011 to 2,218 GWh in 2012.

Table 10 shows the different type of fuel used for electricity generation and it indicates that:

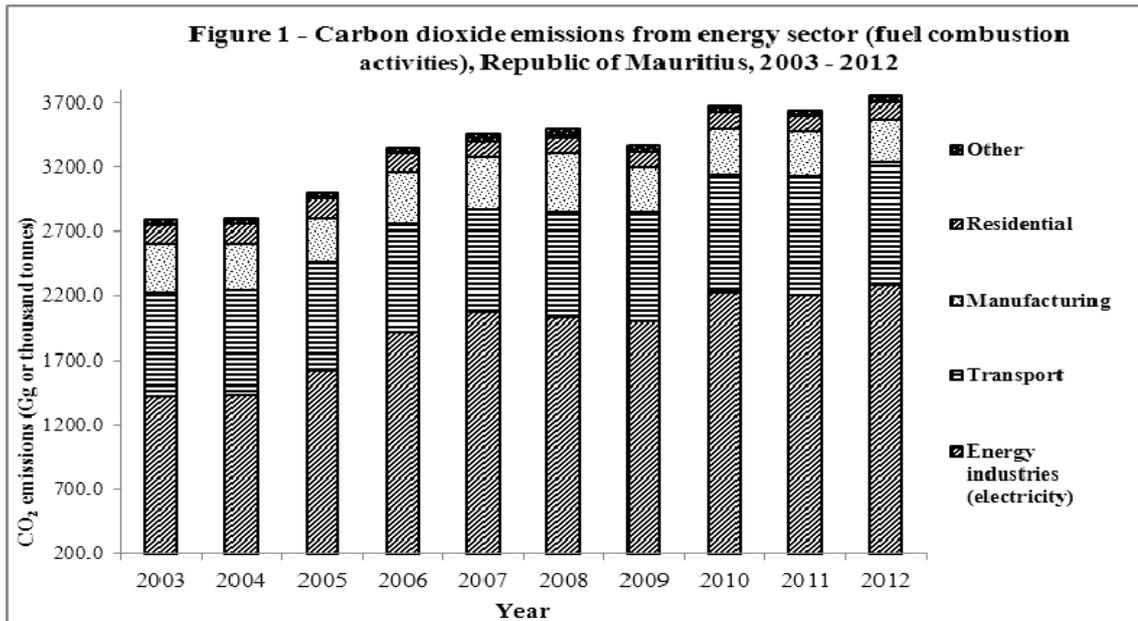
- Between 2011 and 2012, fuel input increased by 1.6% from 773 ktoe to 785 ktoe;
- In 2012, coal (51.3%) was the major fuel used to produce electricity followed by fuel oil (26.0%);
- Input of coal increased by 5.2% (from 382.7 ktoe in 2011 to 402.5 ktoe in 2012), while that of fuel oil decreased by 0.7% (from 205.9 ktoe in 2011 to 204.5 ktoe in 2012); and
- Some 172.5 ktoe of bagasse was used to produce electricity in 2012 as compared to 179.1 ktoe in 2011, down by 3.7%.

#### 3.3.2 Transport sector

In 2012, carbon dioxide emission from the transport sector stood at 954 thousand tonnes compared to 922 in 2011, up by 3.5% due to higher fuel consumption. It is to be noted that the number of registered motor vehicles went up by 5.2% from 400,919 in 2011 to 421,926 in 2012 (Table 12). Consequently the energy consumed by land transport increased from 293.2 ktoe to 304.2 ktoe (+3.8%) (Table13).

#### 3.3.3 Manufacturing sector

The manufacturing sector registered a decrease of 1.5% in CO<sub>2</sub> emissions (from 336 to 331 thousand tonnes). This could be explained by a fall in the amount of fuel consumed by the sector from 221.7 ktoe in 2011 to 215.4 ktoe in 2012 (Table 11).



#### 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 2012 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

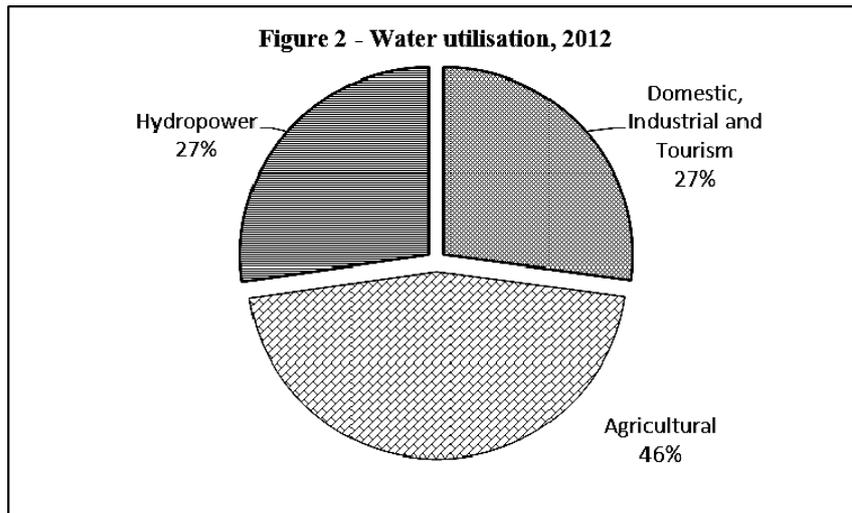
Water, being a basic support element for human life and ecosystems, is of vital environmental and biological importance.

In 2012, the Island of Mauritius received 3,001 million cubic metres (Mm<sup>3</sup>) of precipitation (rainfall), 17.3% lower than in 2011 when 3,627 Mm<sup>3</sup> of rainfall were obtained. 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 800 Mm<sup>3</sup> in 2012. The agricultural sector accounted for 46% (365 Mm<sup>3</sup>) of the water utilised, hydropower 27% (218 Mm<sup>3</sup>) while the remaining 27% (217 Mm<sup>3</sup>) was used by the domestic, industrial and tourism sectors (Table 16).

Compared to 2012, water utilisation increased by 6.4 % from 752 to 800 Mm<sup>3</sup> with increases noted in all sectors as follows:-

- domestic, industrial and tourism +0.9%,
- hydropower +20.4%, and
- agricultural +2.5%.



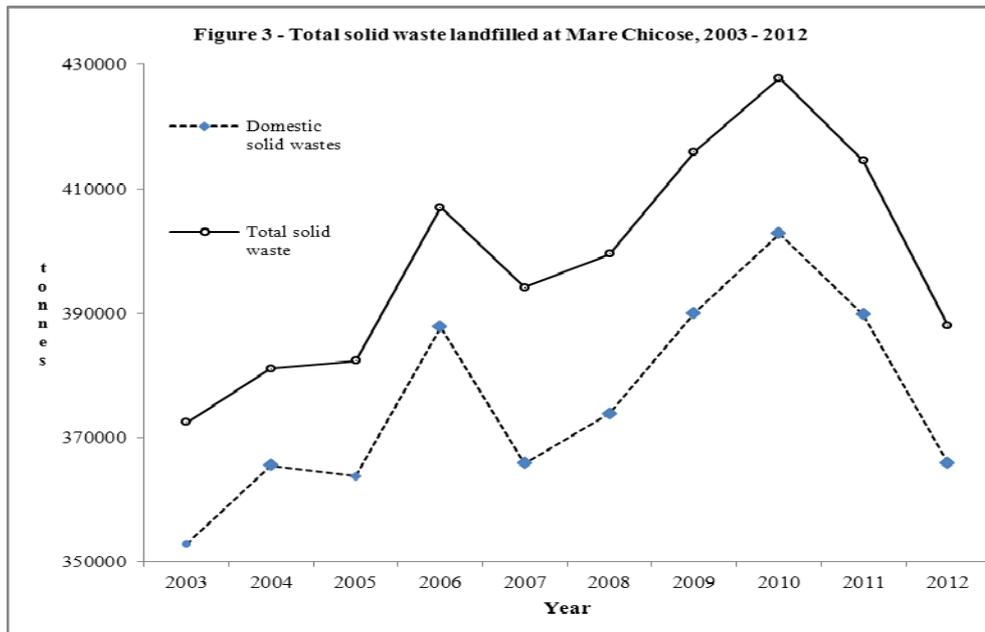
Around 85% of the total water utilisation was met by surface water and the remaining 15 % by ground water.

## 6. Waste

### 6.1 Drop in waste disposal at Mare Chicose Landfill

The total amount of solid waste landfilled at Mare Chicose decreased to 387,925 tonnes in 2012 from 414,543 tonnes in 2011, down by 6.4 % (Table 17). The drop in the amount of solid waste disposed at Mare Chicose landfill can be attributed to waste supplied for composting at La Chaumiere Compost Plant.

Domestic waste constituted 94% of the total solid waste landfilled in 2012. The trend of the amount of solid waste landfilled is as shown in figure 3.



## 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 Drop 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 2011 and 2012. The number of complaints received decreased by 9.4% from 731 in 2011 to 662 in 2012. The complaints were mainly: noise (20%), air pollution (16%), solid waste (15%), odour (12%) and waste water (11%).

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

### 8.1 EIA Licences and PER Approvals

In 2012, some 26 EIA licences were granted of which 10 were for coastal hotels and related works, 7 for land parcelling (morcellement) and 4 for development in port area.

During the same period, 34 PER approvals were issued of which 12 were for industrial development, 7 for poultry rearing and 4 for livestock rearing (Table 19).

**Statistics Mauritius**

**Ministry of Finance and Economic Development**

**Port Louis**

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**Table 1 - Main environment indicators, 2003 and 2012**

Indicator	Units	2003	2012 <sup>1</sup>
1. Forest area	ha	56,608	47,143
2. Total forest area as a % of total land area	%	28.7	23.9
3. Irrigated land	ha	21,619	19,459
4. Land Protected Areas	ha	13,973	14,879
5. Marine Protected Areas	ha	7,216	7,216
6. Threatened plant species (NPCS) <sup>2</sup>	%	...	88
7. Threatened animal species (NPCS) <sup>2</sup>	%	...	89
8. Total fish catch	tons	9,709	4,393
9. Mean catch per fisherman day	kg	4.3	5.9
10. Total carbon dioxide emission	Gg	2,783.5	3,745.1
11. Per capita carbon dioxide emission	tons	2.3	2.9
12. Mean annual rainfall	millimetres	1,973	1,621
13. Annual fresh water abstraction	Mm <sup>3</sup>	725	582
14. Daily per capita domestic water consumption	litres	166	160
15. Daily per capita solid waste disposed at landfill	Kg	0.86	0.85
16. Total electricity generated	GWh	2,082	2,796
17. Electricity generated from renewable sources	%	27.2	20.7

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