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ENVIRONMENT STATISTICS AND SOME INDICATORS RELEVANT TO CLIMATE CHANGE IN SURINAME



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Side Event on Empowering NSOs to Produce Environment Statistics for Monitoring
Climate Change and the SDGs
Statistical Commission, New York, 8 March 2016



Outline of the presentation

- 1. Background: ABS/GBS- Environment Statistics publications
- 2. Compilation of Environment Statistics
- 3. Environment Statistics Frameworks used
 - 3.1: CARICOM Core set
 - 3.2: Millennium Development Goals (MDGs)
 - 3.3: FDES 2013
- 4. Steps leading to the Environment Statistics Publication
- 5. Chapters of the Most Recent Environment Statistics Publication
- 6. Some Indicators relevant to Climate change
- 7. Advantages of our approach
- 8. Challenges
- 9. Work in Progress/ Future activities
- 10. Conclusion

1. GBS-Environment Statistics Publication(s)

So far Suriname published 6 Environment Statistics Publications:

- The First publication “Selected Environmental Statistics” was launched in November 2002 .
- This was one of the outputs of a CARICOM/UNSD project (later a CARICOM programme): *“Strengthening Capacities in the Compilation of Statistics and Indicators for Conference Follow-up in the CARICOM Region.”*
- Also the first Environment Statistics national workshop was organized on 5-6 November 2002, where UNSD, CARICOM and stakeholders were present. This workshop was funded by Conservation International Suriname, in particular Ms. Monique Pool, who is still a partner with GBS for all the other workshops. Since 2014 the UNDP also provides Funding.



1. GBS-Environment Statistics Publication(s)

So far Suriname published 6 Environment Statistics Publications:

- The Second in May 2006
- The Third in December 2008
- The Fourth in September 2010
- The Fifth in October 2012
- The Sixth in December 2014
- And the Seventh will be launched in the last quarter of 2016.



2. Compilation of Environment Statistics

- The publication is published every two years (in even years). We did not publish in 2004, because it was a Census year and we had to recuperate from arson to our premises in August 2003.
- Suriname has more than 13 years of experience with collecting and compiling Environment statistics.
- Publications from the 1st to the 5th were produced by Mr. Andreas Talea.
- The Sixth publication was done by Ms. Anjali Kisoensingh as will be the seventh.

2. Compilation of Environment Statistics

We received and still receive a lot of technical support from:

- UNSD through Ms. Reena Shah,
- CARICOM (the Statistics Programme),
- Conservation International Suriname (CIS),
- Green Heritage Fund Suriname (GHFS) (Ms. M. Pool),
- UNDP Suriname, since 2014
- Regional Public Goods Project (RPG) from the IDB.
- There is also a good relationship between the GBS and the stakeholders for sending data.

3. Environment Statistics

Frameworks used

- **The frameworks that were used for collection and compiling data are:**
- The CARICOM Core Set. (This set contains most of the FDES statistics and also data on tourism). (See slide 8)
- The Millennium Development Goals (see slide 9)
- *The Framework for the Development of Environment Statistics (FDES 2013)* - (see slides 10 and 11)



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3.1: The CARICOM core Indicators



- Sector 1: Population and Households (8)
- **Sector 2: Tourism (6)**
- Sector 3: Environment and Health (5)
- Sector 4: Natural Disaster (1)
- Sector 5: Energy and Minerals (7)
- Sector 6: Land use and Agriculture (3)
- Sector 7: Coastal and Marine Resources (4)
- Sector 8: Biodiversity (3)
- Sector 9: Forest (2)
- Sector 10: Air (8)
- Sector 11: Waste (6)
- Sector 12: Water (8)

Of the 61 CARICOM core indicators the last publication (2014) contained data for 49 indicators.

3.2: The Millennium Development Indicators (MDG)



- Indicator 7.1: *Proportion of land area covered by forest*
- Indicator 7.2: *Carbon dioxide (CO₂) emissions, total, per capita and per \$1 GDP (PPP)*
- Indicator 7.3: *Consumption of ozone-depleting substances*
- Indicator 7.4: *Proportion of fish stocks within safe biological limits*
- Indicator 7.5: *Proportion of total water resources used*
- Indicator 7.6: *Proportion of terrestrial and marine areas protected*
- Indicator 7.7: *Proportion of species threatened with extinction*
- Indicator 7.8: *Proportion of population using an improved drinking water source*
- Indicator 7.9: *Proportion of population using an improved sanitation facility*
- Indicator 7.10: *Proportion of urban population living in slums*



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3.3. FDES 2013 (1)



- **Component 1: Environmental Conditions and Quality (+/-182 indicators)**
 - Sub-component 1.1: Physical Conditions
 - Sub-component 1.2: Land Cover, Ecosystems and Biodiversity
 - Sub-component 1.3: Environmental Quality
- **Component 2: Environmental Resources and their Use (+/-134 indicators)**
 - Sub-component 2.1: Mineral Resources
 - Sub-component 2.2: Energy Resources
 - Sub-component 2.3: Land
 - Sub-component 2.4: Soil Resources
 - Sub-component 2.5: Biological Resources
 - Sub-component 2.6: Water Resources
- **Component 3: Residuals (+/-60)**
 - Sub-component 3.1: Emissions to Air
 - Sub-component 3.2: Generation and Management of Wastewater
 - Sub-component 3.3: Generation and Management of Waste

3.3 FDES 2013 (2)

- **Component 4: Extreme Events and Disasters (+/-33)**
 - Sub-component 4.1: Natural Extreme Events and Disasters
 - Sub-component 4.2: Technological Disasters
- **Component 5: Human Settlements and Environmental Health (+/-46)**
 - Sub-component 5.1: Human Settlements
 - Sub-component 5.2: Environmental Health
- **Component 6: Environmental Protection, Management and Engagement (+/-49)**
 - Sub-component 6.1: Environmental Protection and Resource Management Expenditure
 - Sub-component 6.2: Environmental Governance and Regulation
 - Sub-component 6.3: Extreme Event Preparedness and Disaster Management
 - Sub-component 6.4: Environmental Information and Awareness

4. Steps collecting data



- Send invitation letters to the stakeholders in the first quarter (January or February 2016). The stakeholders (40) are trusted to provide the GBS with the necessary data within a month.
- Data is accepted by all possible means, digital (email) or hardcopy by mail or fax. Sometimes we receive raw data and have to create our own tables etc.
- A workshop is held in the second quarter (May or June 2016) that is funded by Conservation International Suriname (CIS) and, as of 2014, the UNDP Suriname. The state of affairs “a zero” draft with all the remaining gaps is presented and stakeholders get an additional month to fill the gaps.
- Processing and analyzing of the received data.
- Launch the publication (last quarter of the year).



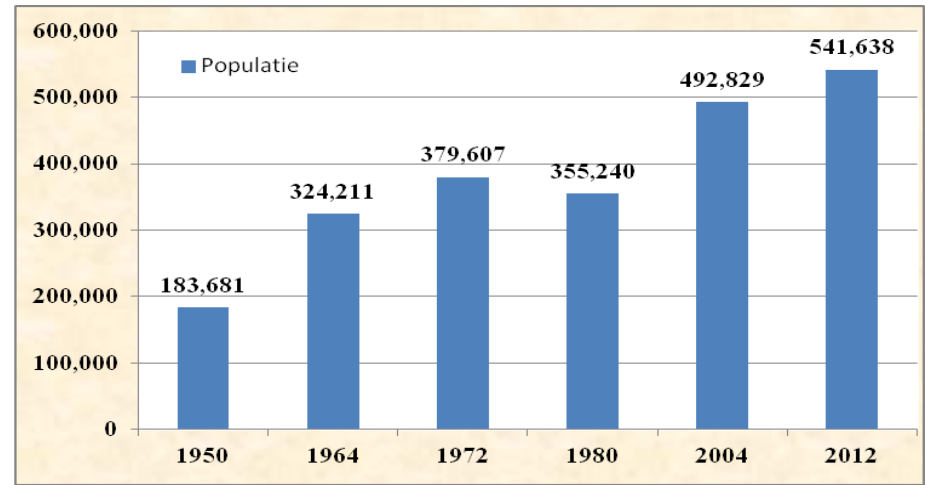
5. Chapters of the Most Recent publication

- Demographic and Socio-economic Background,
- Climate and Natural Disaster,
- **Tourism, (CARICOM Core set) - added to FDES 2013**
- **Transport (added by Suriname to the FDES and CARICOM Core Set)**
- Environment and Health,
- Water,
- Energy and Minerals,
- Forestry,
- Coastal and Marine Resources,
- Land Use and Agriculture,
- Biodiversity,
- Air
- Waste.



• Chapter 1: Demographic and Socio-economic Background

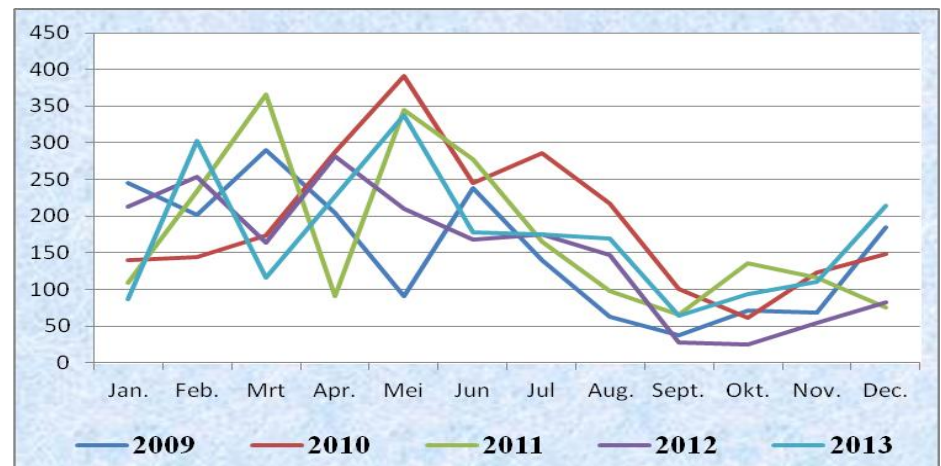
- **Source:**
- *Census, Labor force Survey,*
- *Household Budget Survey and*
- *Demographic data*



• Chapter 2: Climate and Natural Disaster

- **Source:**
- *Meteorology Service Suriname*
- *National Coordination Center For Disaster Relief*

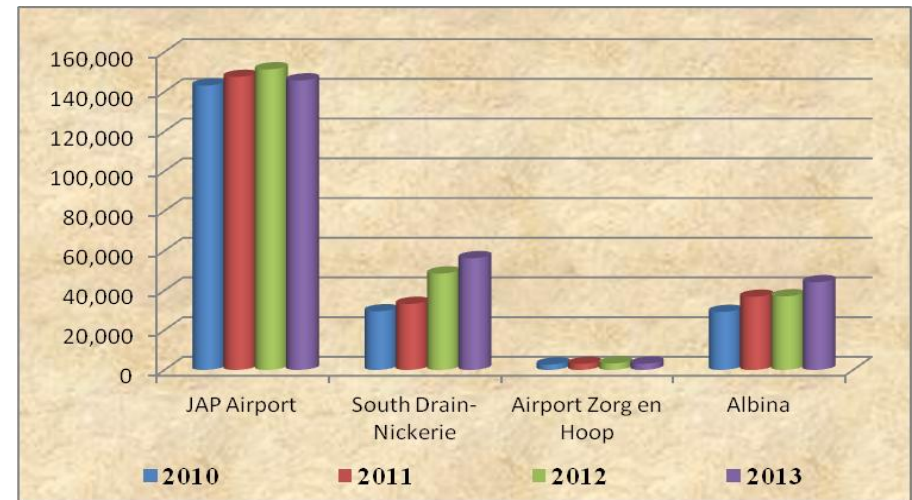
Graph 2.1 : Monthly Average Precipitation Totals (mm) in Suriname, 2009-2013



Chapter 3: Tourism

- **Source:**
- *GBS, Traffic and Transport Statistics*
- *Foundation for Nature Conservation in Suriname (STINASU)*
- *Suriname Tourism Board*
- *Airport Authority Suriname*
- *Suriname Hotel Association*
- *Chamber of Commerce and Industry*

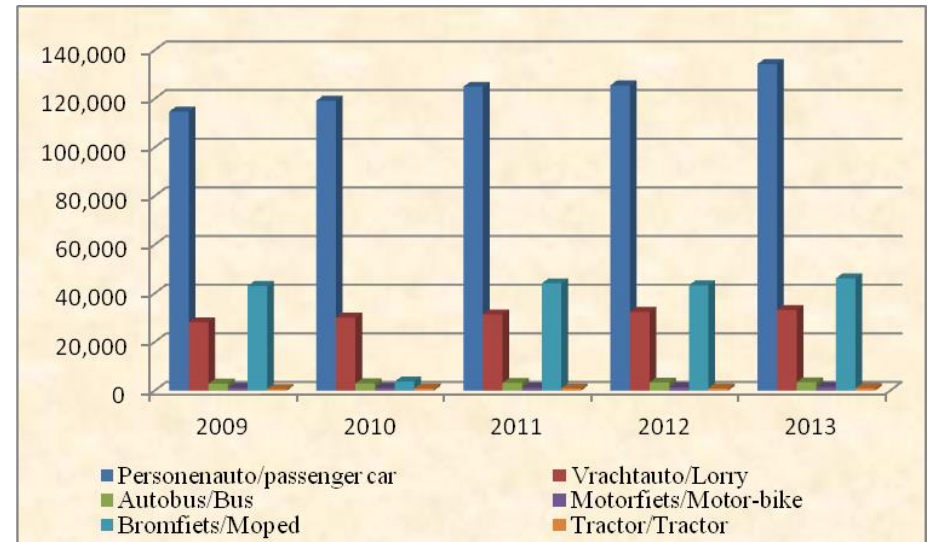
Graph 3.1: Number of Tourist Arrivals by Port, 2010-2013



Chapter 4: Transport

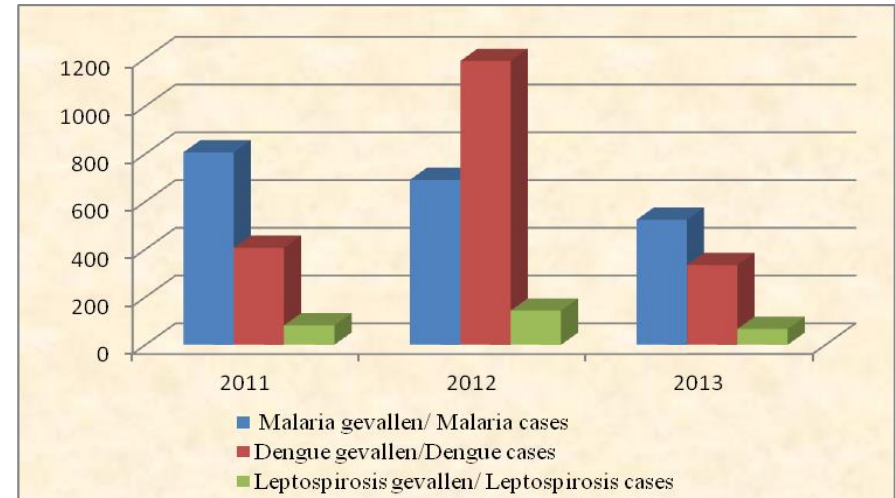
- **Source:**
- *GBS, Traffic and Transport Statistics*
- *Maritime Authority Suriname (MAS)*
- *GBS: Trade Statistics*
- *Civil Aviation, Area Control Centre (ACC)*
- *Police Force*

Graph 4.1 : Number of Insured Motor-Vehicles, 2009-2013



Chapter 5: Environment and Health

Number of Reported Cases of Environmentally Related Diseases by Sex , 2011-2013

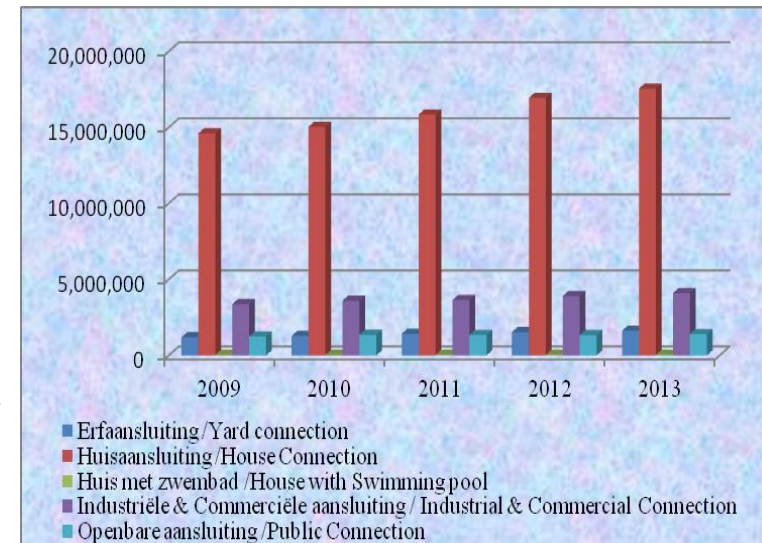


- **Source:**
- *Bureau for Public Health*
- *National Institute for Environment and Development in Suriname (NIMOS)*

Chapter 6: Water

- **Source:**
- *Suriname Water Company (SWM)*
- *Water Supply Service*
- *Bureau for Public Health*
- *Suriname's Second National Communication to the United Nations Framework Convention on Climate Change*
- *Ministry of Physical, Planning, Land and Forest Management*
- *University of Suriname: Study Infrastructure*

Graph 6.1: Water Consumption SWM total Service Area (in m³), 2009-2013

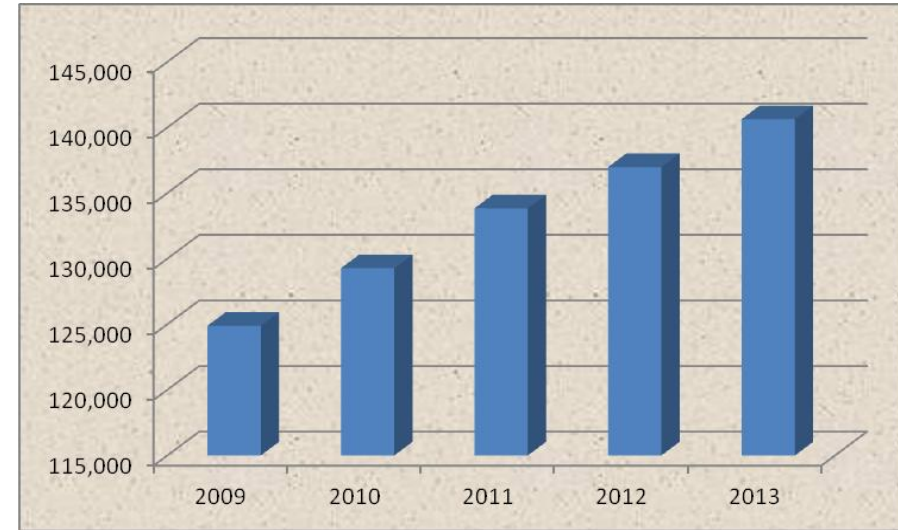




Chapter 7: Energy and Minerals

- **Source:**
- *Suriname Energy Company*
- *Rosebel Goldmines*
- *U.S. Energy Information Administration (EIA)*
- *Bauxite Institute Suriname*
- *Staatsolie Power Company Suriname (SPCS).*
- *Central Bank of Suriname*
- *Ministry of Natural Resources, Geological Mining Services*

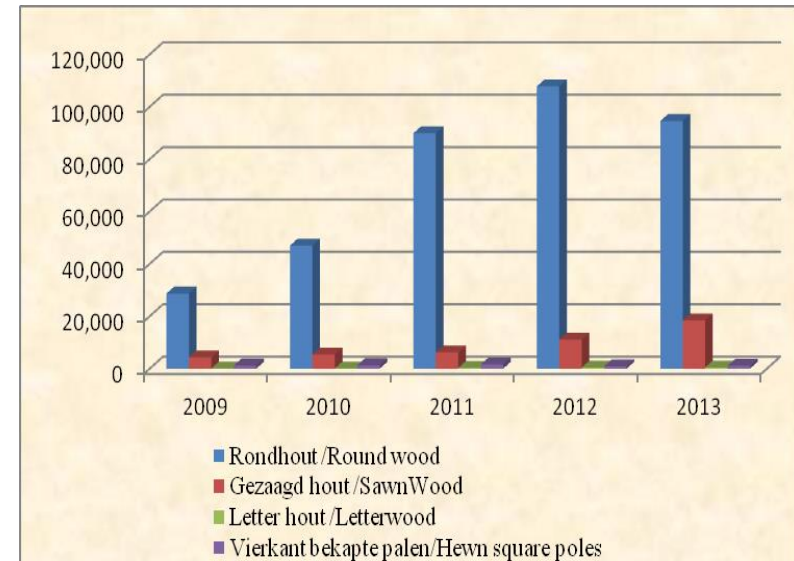
Grafiek 7.2: Totale elektriciteit aansluitingen via EBS, 2009 – 2013



Chapter 8: Forestry

- **Source:**
- *Foundation of Forest Management and Production Control*
- *Centre for Agricultural Research in Suriname, NARENA*
- *Ministry of Physical Planning, Land and Forest Management*
- *Ministry of Natural Resources*
- *Bauxite Institute Suriname & Rosebel Gold Mines N.V*

Overview of Timber Export by Assortment in m³, 2009-2013

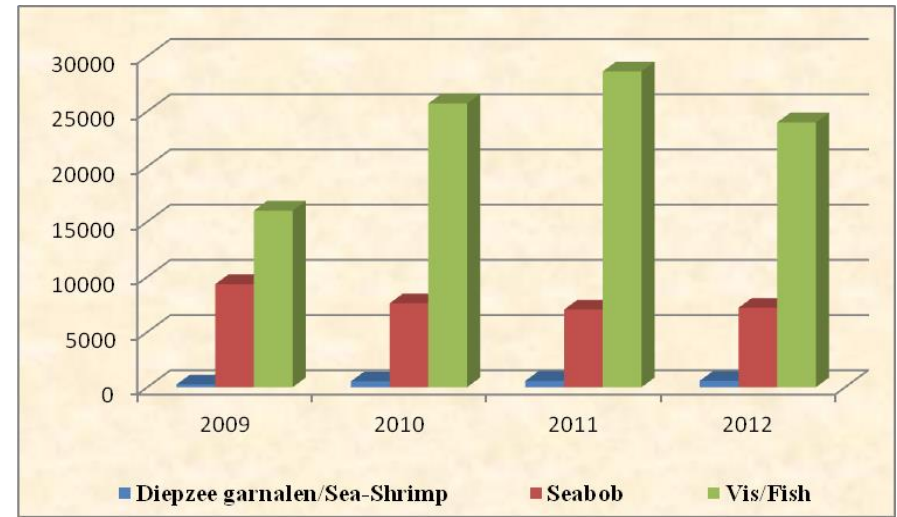


Chapter 9: Coastal and Marine Resources



- **Source:**
- *Suriname Fisheries Services*
- *Ministry of Physical Planning, Land and Forest*

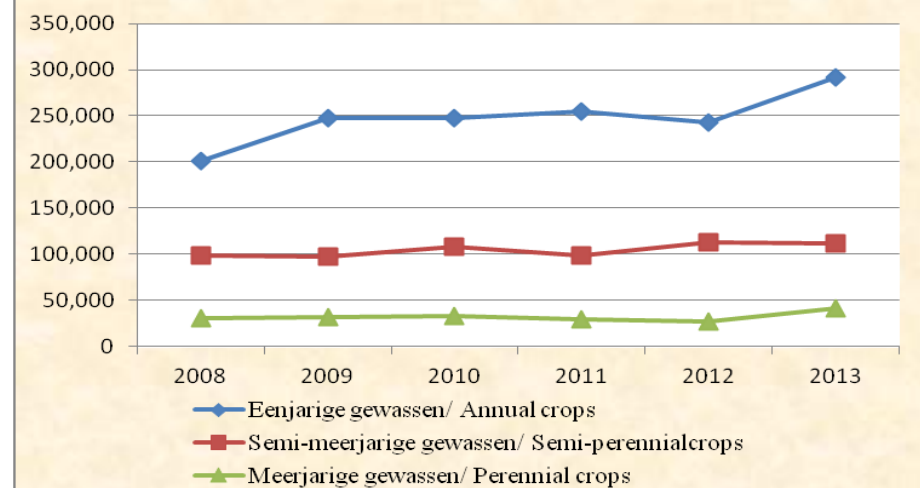
Graph 9.1: Fish Catches by Type of Fishery, 2009-2012 (in metric ton)



Chapter 10: Land Use and Agriculture

- **Source:**
- *Ministry of Agriculture, Animal Husbandry and Fisheries, section Agricultural statistics*
- *GBS_ Trade Statistics*
- *Suriname's Second National Communication to the United Nations Framework Convention on Climate Change*

Annual Output (x 1000 kg) in Agricultural by Type of Crop, 2008-2013

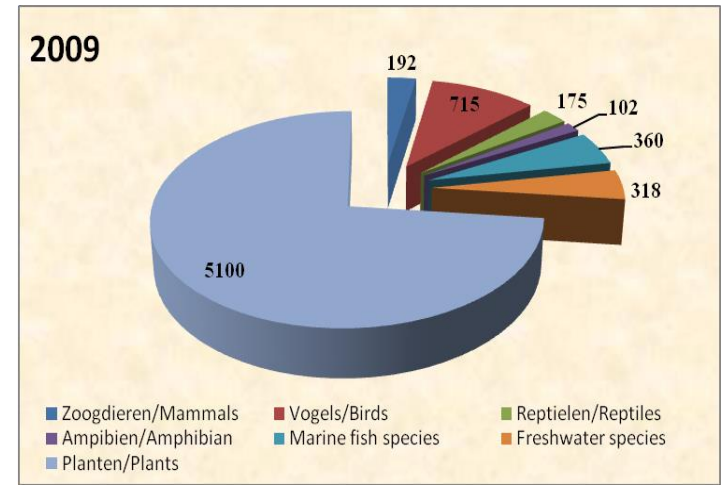


Chapter 11: Biodiversity



- **Source:**
- *Checklist of terrestrial vertebrates of the Guyana Shield, December 2005*
- *IUCN Redlist, July 2014*
- *Rapid Biodiversity Assessments (RAP)*
- *Suriname Forest Service, February 2014*
- *GBS_ Trade Statistics Section*
- *Fauna of the Guyanashield: Suriname_2006*
- *WWF: Wildlife of Guianas, November 2009*
- *National Herbarium of Suriname*

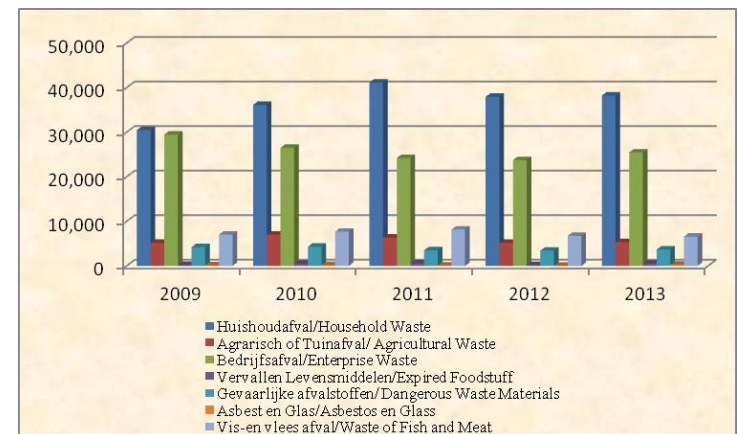
Species (groups) of plants /animals found in Suriname, 2009



Chapter 13: Waste

- *Ministry of Public Works, Division Garbage and Processing*
- *Bauxite Institute Suriname*
- *Ministry of Natural Resources and Bauxite Institute Suriname*

Graph 13.1: Amount of Waste Disposed in m³, 2009-2013



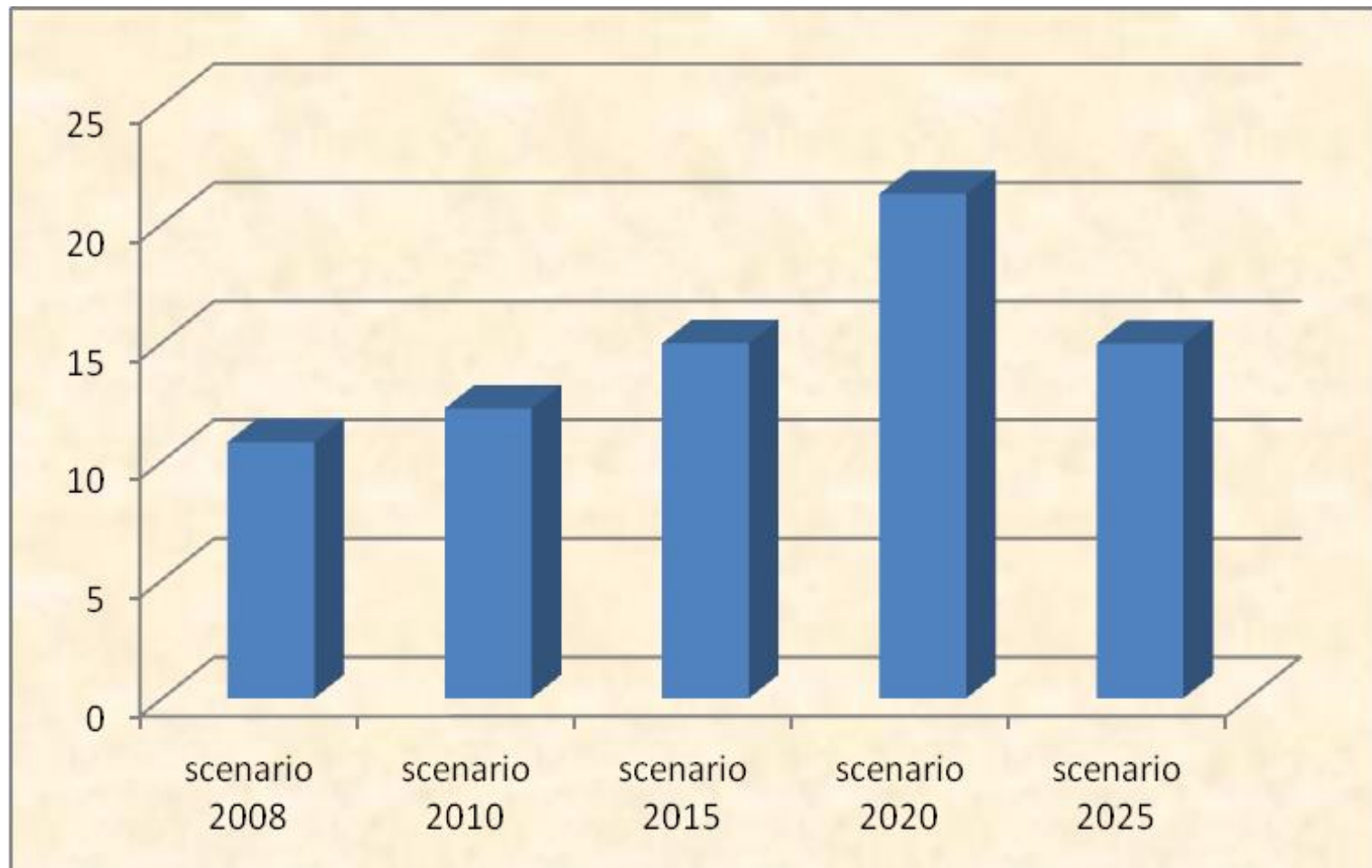
6. Some Indicators, relevant to Climate Change: CHAPTER 12: “Air”

We get data from the following Stakeholders:

- Rosebel Goldmines NV
- The Bauxite Institute. (as of November 2015, the Bauxite Company SURALCO is closed. So only data for 2015 will be collected).
- *Suriname’s Second National Communication to the United Nations Framework Convention on Climate Change, Feb 2013.*
 - There needs to be a third survey to update the data that is available. At this moment there is only data available for 2008. The UNDP in Suriname is working on it.
- *National Institute for Environment and Development in Suriname (NIMOS)*

Graph 12.1: Total emissions CO₂ eq. (Gg) per Capita Emission in Suriname, 2008-2025

- **Source:** *Suriname's Second National Communication to the United Nations Framework Convention on Climate change, Feb 2013.*



Graph 12.2: Overview of 2008 GHG emissions in CO₂ eq. (carbon sinks not embedded) in 2008

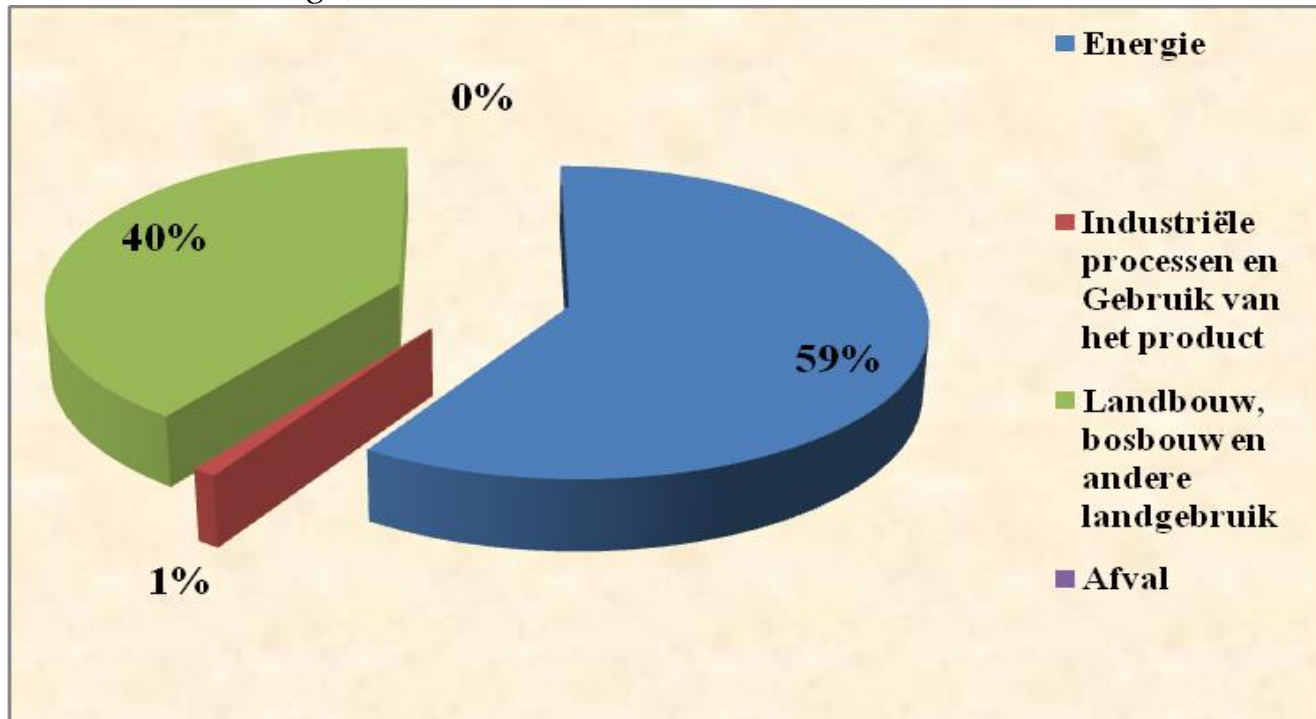
Blue= Energy

Red= Industrial processes and use of the product

Green= Agriculture, Forestry and other Land use

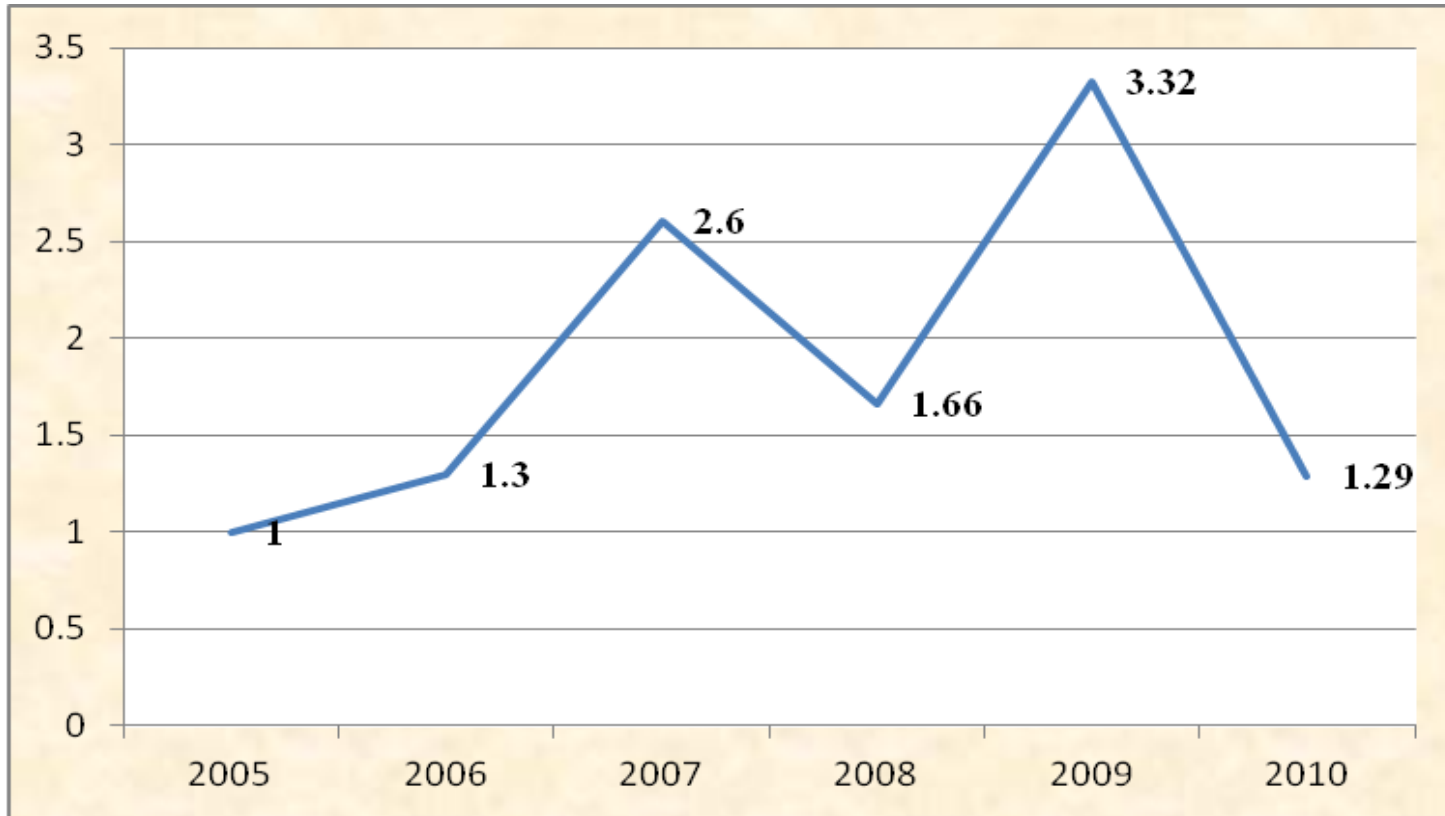
Purple= Waste

Source: *Suriname's Second National Communication to the United Nations Framework Convention on Climate change, Feb 2013.*





Graph 12.4: Consumption of ozone depleting substances (HCFC) in metric tons, 2005-2010

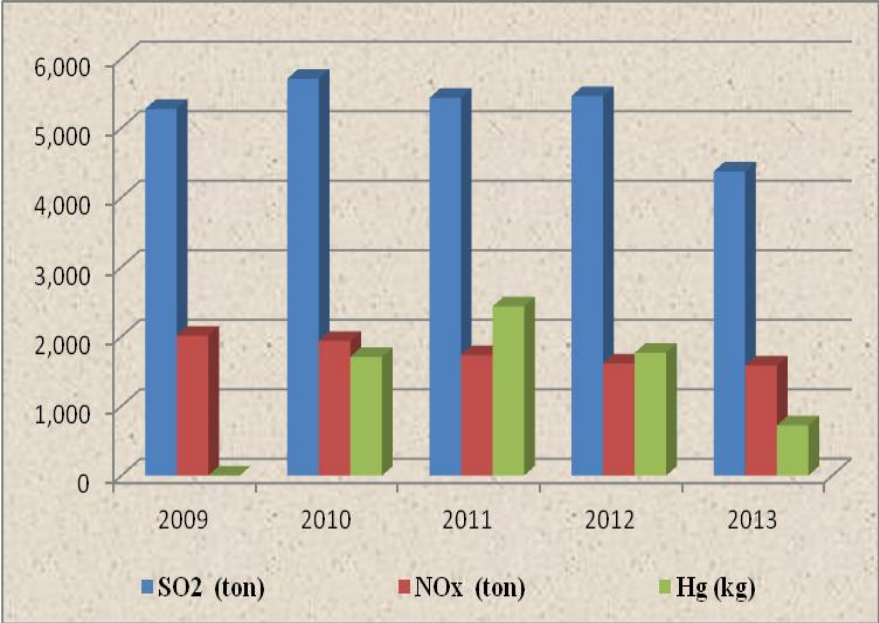


This data is collected by the National Institute for Environment and Development In Suriname (NIMOS). When data were collected in 2014, there were no updates available, but in the next publication data will be available for more recent years.

Emissions from the mining Sector

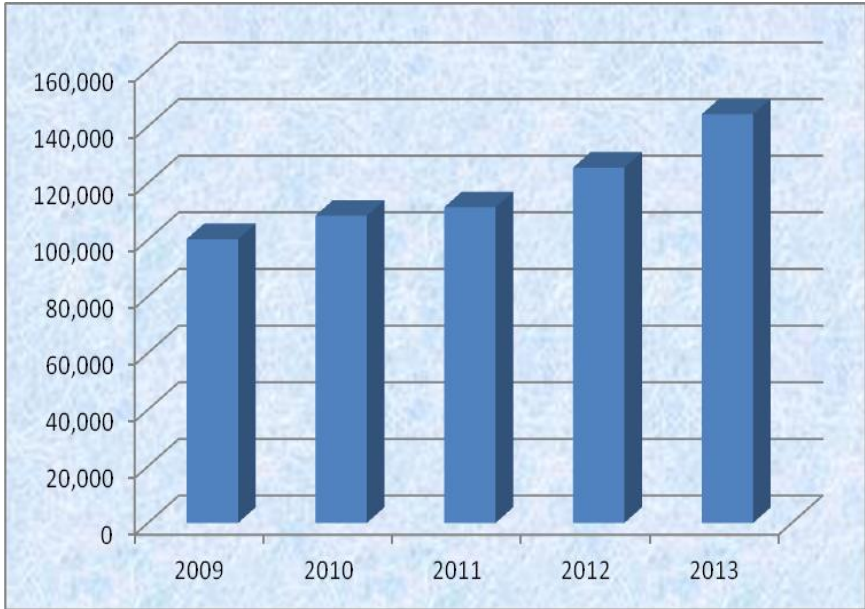
Graph 12.5: Emissions of the Bauxite Sector, 2009-2013

Source: The Bauxite Institute



Graph 12.6: Greenhouse gas emissions (Tons CO₂ eq.), Rosebel Gold Mines N.V, 2008-2013

Source: Rosebel Goldmines



7. Advantages of our approach



- Most of the stakeholders provide the data within a month. Although some stakeholders need more time to provide data, with the help of certain tactics we have received their data before the workshop.
- For some indicators Survey data is used, e.g., Multiple Indicator Cluster Survey (MICS) and the Suriname's Second National Communication to the United Nations Framework Convention on Climate Change (UNFCCC), Household Budget Surveys (HBS) etc. Census data is also used.
- The Workshops for the zero draft publication and the Launch of the Publication are fully funded by Conservation International Suriname and UNDP Suriname as of 2014.
- The publication is produced by the GBS (lay-out and printing).

8. Challenges



- For some of the Environment Indicators there is no data available.
- The data from Surveys like MICS (latest 2010) and data from the Census (latest 2012) are only available for certain years. (MICS every 5 years) and Census every 10 years).
- To get the data the institutes need to be reminded constantly. (calling, emailing and personal visits).
- The data is not often collected or processed in the format that GBS wants. We get “raw data”, and have to make some modifications.
- Need to also collect the metadata of the indicators from the data providers.

9. Work in Progress/ Future activities

- **National:**

- Launched the EnvironmentInfo database in October 2015 (as an activity of WSD)

<http://www.devinformo.org/surinameenvironmentinfo/libraries.aspx/Home.aspx>)

- The Sustainable Development Goals (after March 2016) since almost half of the targets will require environment statistics.

- **Regional:**

- The Regional Public Goods Project: (IDB, UNSD, ECLAC, 11 participating countries from the Caribbean and Latin America): *“Development and Strengthening of Official Environmental Statistics through a Regional Framework in Latin America and the Caribbean*
- Continued work on the CARICOM Core Indicators.

- **International:**

- Participate in the UNSD-led Expert Group on Environment Statistics.
- Contribute to global work on climate change statistics and indicators.

10. Conclusion

- **The first publication (2002) contained**
- **13 chapters / 61 Tables/ 0 Graphs /60 pages and No basic descriptions per chapter and table.**
- **The most recent publication (2014)**
- **13 chapters / 163 Tables/ 58 Graphs /198 pages and Basic descriptions per chapter and per table.**
- **But there is still room to expand and improve especially in light of new data demands that will emanate from the SDG targets and climate change discussions.**



- Thank you
- Gracias
- Bedankt

