



EXPERT GROUP MEETING ON ENVIRONMENT STATISTICS. SURINAME'S EXPERIENCE



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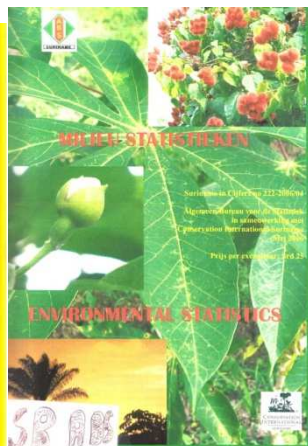
Outline of the presentation

- 1. ABS/GBS - Environment Statistics publications
- 2. Steps in collecting data
- 3. Challenges collecting data
- 4. Environment Statistics Frameworks used
- 5. CARICOM Core set/ FDES 2013
- 6. Chapters & Indicators of the most recent publication
- 7. Sustainable Development Goals (SDGs) indicators
- 8. Environment Indicators from the GBS publication linked to the environmentally-related SDGs
- 9. Challenges for collecting SDG data
- 10. Work in Progress/ Future activities
- 11. Conclusion



1. GBS-Environment Statistics Publication(s)

- The first was in 2002,
- 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.





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2. 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 at most two months.
- 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 normally held in the second quarter of the year. The workshop is funded by Conservation International Suriname (CIS) and, as of 2014 also by 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).



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3. Challenges collecting data

- 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 obtain the data the data providers need to be reminded constantly (calling, emailing and personal visits), which is very labour intensive.
- Sometimes the data is not 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.



4. Environment Statistics Frameworks used for collecting and compiling data

- The CARICOM Core Set. (This set contains most of the FDES statistics and also data on tourism).
- The Millennium Development Goals. After the 8th of March 2016 the Sustainable Development Goals Indicators came into force.
- *The Framework for the Development of Environment Statistics (FDES 2013)*



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5: 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)



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6. Chapters of the Most Recent publication

- **Chapter 1: Demographic and Socio-economic Background**
- **Chapter 2: Climate and Natural disaster**
- **Chapter 3: Tourism** (*CARICOM core set*)
- **Chapter 4 :Transport** (*added by Suriname to the FDES and CARICOM Core*)
- **Chapter 5:Environment and Health,**
- **Chapter 6:Water,**
- **Chapter 7:Energy and Minerals,**
- **Chapter 8:Forestry,**
- **Chapter 9:Coastal and Marine Resources,**
- **Chapter 10:Land Use and Agriculture,**
- **Chapter 11:Biodiversity,**
- **Chapter 12:Air**
- **Chapter 13:Waste.**



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Indicators of the Most Recent publication

1. DEMOGRAPHIC AND SOCIO- ECONOMIC BACKGROUND

Table 1.1: Population, Population Density and Population Growth By district, 2004 and 2012

Table 1.2: Population by Sex and Age Group, 2004 and 2012

Table 1.3a : Total Projected Population by Sex, 2012-2032

Table 1.3b : Projected Population by Domain and Sex, 2012-2032

Table 1.4: Households by Household Size, 2004 and 2012

Table 1.5: Dwelling by Type, 2004 and 2012

Table 1.6 : Households by Type of Dwelling per district, 2004 and 2012

Table 1.7: Dwellings by Main Material of the Roof and district, 2012

Table 1.8: Dwellings by Main Material of the Outerwalls and District, 2012

Table 1.9: Households by State of the Dwelling in Paramaribo and Wanica, 2009, 2011 and 2013

Table 1.10: Dwellings by Tenure and State of the Dwelling, 2012

Table 1.11: Dwellings per District and State of the Dwelling, 2012

Table 1.12: Households by Type of Tenure for the Districts Paramaribo and Wanica, 2009, 2011 and 2013

Table 1.13: Dwelling by Tenure, 2004 and 2012

Table 1.14: Dwellings by Tenure by District in 2004 and 2012

Table 1.15: Dwellings by Number of Rooms and Number of Bedrooms, 2004 and 2012

Table 1.16: Dwellings by Number of Rooms and Persons, 2004 and 2012

Table 1.17: Gross Value Added at Basic Prices (1000 SRD) by Industry in Current Prices and GDP at Market prices (1000 SRD) in current prices 2010-2013

2. CLIMATE AND NATURAL DISASTER

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

Table 2.2a: Average Monthly Temperature (°C), 2009-2013

Table 2.2b: Maximum and Minimum Monthly Temperature, (°C), 2009-2013

Table 2.3a: Average Annual Temperature of all Measuring Stations (°C), 2009-2013

Table 2.3b: Average Annual Temperature at the Measuring Stations Zanderij, Nickerie, Sipaliwini and Cultuurtuin in(°C), 2009-2013

Table 2.4: Relative Humidity and Velocity at the Measuring Stations Zanderij (J.A.P Airport), Nickerie Airport (M.H.F. Airport) en Cultuurtuin, 2009-2013

Table 2.5: Areas and population affected by a Natural disaster, 2006 and 2013

Table 2.6: Areas and households affected by a Casualty, 2007 –July 2014

3. TOURISM

Table 3.1: Arrivals and Departures via the Johan Adolf Pengel Airport, 2010-2013

Table 3.2: Number of Tourist Arrivals by Port, 2010-2013

Table 3.3: Total Number and Percentage of Tourist Arrivals via all Ports by Accommodation, 2010-2013

Table 3.4: Number and Percentage of Tourist Arrivals via all Ports by Length of Stay, 2010-2013

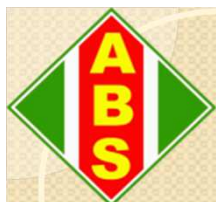
Table 3.5: Number and Percentages of Tourist Arrivals via all Ports by Country/Region of Residence, 2010-2013

Table 3.6: Number and Percentage of Tourist Arrivals via all Ports by Purpose of Visit, 2010-2013

Table 3.7: Number of visitors to selected Protected Areas, 2009-2013

Table 3.8: Number of Hotels and guesthouses in Suriname by district, 2013

Table 3.9: Registered Hotels and guesthouses by number of rooms and beds, 2013



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4. TRANSPORT

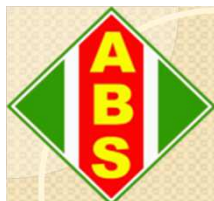
- Table 4.1: Number of Registered Motor-Vehicles by Series, 2009-2013
Table 4.2: Number of Insured Motor-Vehicles, 2009-2013
Table 4.3: Number of Road Traffic Fatalities by District, 2009-2013
Table 4.4: Number of Ships Moored by Port, 2009-2013
Table 4.5: Monthly Average Moored Ships, 2009-2013
Table 4.6: Imported and Exported Freight via International Navigation by Port ($\times 1,000$ ton), 2009-2013
Table 4.7: Imports of Tires and Batteries (number), 2009-2013
Table 4.8: Imports of Batteries (number), 2009-2013
Table 4.9: Number of Aircraft movements from the Zorg en Hoop Airport, 2006-2011

5. ENVIRONMENT AND HEALTH

- Table 5.1: Number of Reported Cases of Environmentally Related Diseases by Sex, 2011-2013
Table 5.2: Number and Percentage of Households by Sanitation Facility, 2004 and 2012
Table 5.3: Number of Households by Sanitation Facility per district, 2004 and 2012
Table 5.4: Proportion of population with access to improved sanitation, 2000-2012
Table 5.5: Population with Access to Improved Sanitation by Stratum, 2006 and 2010
Table 5.6: Environmental Advices with Regard to Licenses Issued by Districts Commissioners, Ministries and Private Companies, 2009-2013
Table 5.7: Environmental Complaints per year by Type of Complaint and District, 2010-2013
Table 5.8: Households with Environmental Problems, 2012
Table 5.9: Households with certain activities in their neighborhood, 2012
Table 5.10: Households with environmental problems by district 2012
Table 5.11: Households with certain activities in their neighborhood by district, 2012

6. FRESH WATER

- Table 6.1: Production Stations of SWM in m^3/u , 2012-2013
Table 6.2a: Water Consumption SWM total Service Area (in m^3), 2009-2013
Table 6.2b: Water Consumption SWM Service Area by Branch (in m^3), 2009-2013
Table 6.3: Water Production Operated by SWM (m^3), 2009-2013
Table 6.4a: Water Production (m^3 per day) by the Water Supply Service, 2012- 2013
Table 6.4b: Water Production capacity (m^3 per day) and number of Connections by the Water Supply Service by rea, 2012 – 2013
Table 6.5: Households by Access to Main Drinking Water source and Sex of the Head of the Household, 2012
Table 6.6a: Dwellings by Main Drinking Water source, 2004 and 2012
Table 6.6b: Number of Dwellings by Main Drinking Water Source per district, 2004 and 2012
Table 6.7a: Dwellings with Piped Water, 2004 and 2012
Table 6.7b: Dwellings with Piped Water by Water Supply Institute, 2004 and 2012
Table 6.7c: Dwellings with Piped Water by Water Supply Institute by District, 2004 and 2012
Table 6.8: Average Water Quality Testing on E-coli at the Water Distribution Network and Homes for the Elderly, 2009- 2013
Table 6.9: Average Water Quality Testing on E-coli at the Water Distribution Network in households in Paramaribo, 2008 and 2013
Table 6.10: Characteristics of Suriname's rivers (km^2), 2012
Table 6.11: Coastal Zone by Category, 2009-2013
Table 6.12: The water use from SWM and the rice sector, 2010-2013
Table 6.13: The Water Production Capacity of SWM and DWV(m^3), 2010-2013



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7. ENERGY AND MINERALS

- Table 7.1: Total Electricity Production, Installed Capacity (kWh) and Number of Connections, 2009-2013
Table 7.2: Number of EBS Connections by district, 2009-2013
Table 7.3: Electricity Sales per District (kWh), 2009-2013
Table 7.4: Total Cooking Gas distribution (kg), 2009-2013
Table 7.5a: Households by Kind of Fuel for Cooking, 2004 and 2012
Table 7.5b: Households by kind of Fuel for Cooking per District, 2004 and 2012
Table 7.6a: Number of Dwellings by Type of Electricity Supply, 2004 and 2012
Table 7.6b: Number of Dwellings by Type of Electricity Supply by District, 2004 and 2012
Table 7.7: Selected Energy data of Suriname, 2007-2012
Table 7.8: The Generation of Energy by the Bauxite sector, (x1000 kWh), 2009-2013
Table 7.9: The Distribution of Energy Produced by the Bauxite Sector (x1000 kWh), 2009-2013
Table 7.10: The Electricity Generation by State Oil Company Suriname (kWh), 2009-2013
Table 7.11: The Generation of Energy by the Mining sector (Kwh), 2009-2013
Table 7.12: The Use of Energy by Rosabul Goldmines, 2009-2013
Table 7.13: Monthly Gold Export from Local Gold Exporters in Suriname, in gram, 2009-2013
Table 7.14: Production and Export Figures of the Bauxite Sector, 2009 – 2013 (x 1000mt)
Table 7.15: The Production of Crude Oil and Natural Gas, 2009-2013
Table 7.16: The Registered Production of Building Materials (m³), 2009-2013
Table 7.17: Permits/Rights for mining Building Materials and other Minerals by district, 2010-2013 (in ha.)
Table 7.18: Type of Gold Mining Rights and other Minerals by district, 2010-2013 (in ha.)

8. FORESTRY

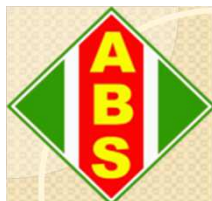
- Table 8.1: Total Land Area and Forest Area, 2000-2013
Table 8.2: Type of Land cover/land use Categories (ha), 2000-2008
Table 8.3: Existing Forest types in ha, 2010
Table 8.4: Protected Areas in Suriname (ha), 2010
Table 8.5: Protected Area as a % of the Total Land Area, 2000-2013
Table 8.6: Total Round wood production by District (in m³), 2009-2013
Table 8.7: Industrial Round wood Production by Major Species in m³, 2009-2013
Table 8.8: Overview of Timber Export by Assortment in m³, 2009-2013
Table 8.9: The Number of Registered Saw Mills per District, 2009-2013
Table 8.10 a: Timber cutting licenses, 2009-2013
Table 8.10b: Total area for Timber Cutting licenses, 2009-2013
Table 8.11: Total Land Disturbance by Rosabul Goldmines (in ha), 2008-2013
Table 8.12: Mined-out and Rehabilitated Bauxite Area in Coertibo (in ha), 2007-2013

9. COASTAL AND MARINE RESOURCES

- Table 9.1: Fish Catches by Type of Fishery, 2009-2012 (in metric ton)
Table 9.2: Number of Boats by Type of Fishery, 2009-2013
Table 9.3: Average number of Days at Sea by Type of Fishery, 2011-2013
Table 9.4: Number of License Holders by Boat Type, 2009-2013
Table 9.5: Fish that are being fished sustainably, 2001 – 2010
Table 9.6: Proportion of Terrestrial and Marine Areas 2009-2013
Table 9.7: Commercial Freshwater Fish and Invertebrate species species in Suriname, 2011
Table 9.8: Commercial fish Species in Suriname, 2011

10. LAND USE AND AGRICULTURE

- Table 10.1: Planted Area and Land Use per district (in ha.), 2009-2013
Table 10.2: Area of Cultivated Land (in ha) by Type of Crop, 2008-2013
Table 10.3: Annual Output (x 1000 kg) in Agricultural by Type of Crop, 2008-2013
Table 10.4: Grass Land for Cattle Stocks (in a.), 2008-2013
Table 10.5: Annual Number of Bred livestock by Type, 2008-2013
Table 10.6a: Number of Cattle data by District, 2009-2013
Table 10.6b: Number Poultry data by District, 2009-2013
Table 10.7: Fertilizer Imports, 2009-2013 (in kg)
Table 10.8: Imports of Pesticides, 2005 - 2013 (in kg/liter)
Table 10.9: Country Area (km²), 2009-2013
Table 10.10: Ecology Types in Suriname, 2011
Table 10.11: Length along the coast, 2011



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11. BIODIVERSITY

- Table 11.1: Protected Area (including Proposed Protected Areas) as a % of the Total Land Area, 2009-2013
Table 11.2: Species (groups) of plants /animals found in Suriname, 2009
Table 11.3a: Number of vertebrate taxa at different ranks in the Guyana's, 2005
Table 11.3b: Number of vertebrate species by country, 2005
Table 11.4a: Threatened Species in Suriname by Category, 2006 and 2013
Table 11.4b: Threatened Species in Suriname by Taxonomic group, 2006 and 2013
Table 11.5: Species found in the Interior of Suriname, 2010 and 2012
Table 11.6: Issued Hunting Permits in Paramaribo and Nickerie, 2009-2013
Table 11.7: Exports of Wild Animals (in US\$) Dollars, 2009-2013
Table 11.8: Class Mammals by Order and Family, 2006
Table 11.9: Mammals under complete protection in Suriname, 2009
Table 11.10: Zoogdieren die niet mogen worden geëxporteerd zonder een CITES vergunning, 2009
Table 11.11: Class Birds by Order and family, 2006
Table 11.12: Birds under complete protection in Suriname, 2013
Table 11.13: Birds for which export is only allowed with a CITES permit, 2009
Table 11.14: Class Reptiles by Order and family, 2006
Table 11.15: Reptiles under complete protection in Suriname, 2009
Table 11.16: Reptiles for which export is only allowed with a CITES permit, 2009
Table 11.17: Class Amphibians by Order and family, 2006
Table 11.18: Amphibians for which export is only allowed with a CITES permit, 2013
Table 11.19: Class Bonefish by Order and family, 2006
Table 11.20: Demersal fishes of the coastal waters of Suriname (5-40m depth) in Suriname, 2013
Table 11.21: Protected Sharks in Suriname, 2013
Table 11.22: Data on moss, fern and seed plant Flora in Suriname, 2013
Table 11.23: Timber species that are protected against logging within the production forest, 2013
Table 11.24: Exports of Selected Plants and Fruits in US Dollars, 2010-2013

12. AIR

- Table 12.1: Global warming potentials for greenhouse gases, 1994-2013
Table 12.2: Total emissions CO₂ eq (Gg) per Capita Emission in Suriname, 2008-2025
Table 12.3: Overview of CO₂ sinks, 2008
Table 12.4: Emissions distribution (in CO₂ equivalents; sinks not embedded), 2008
Table 12.5: Emissions in Suriname in Gigagrams (Gg), 2011
Table 12.6: CO₂ Emissions in Suriname per capita, 2005-2008
Table 12.7: Selected Emissions estimates of Suriname, 2005-2010
Table 12.8: Selected Emission data of the Energy sector of Suriname, 2006-2012
Table 12.9: Consumption of ozone depleting substances (ODS) in metric tons, 2005-2010
Table 12.10: GHG contributions from various Energy subsectors in Gg CO₂ equivalents, 2008
Table 12.11: GHG gases from the Energy Sector, 2006-2007
Table 12.12: Emissions from Agriculture, Forestry and Other land Uses (Gg), 2002-2009
Table 12.13: Emissions of the Bauxite Sector, 2009-2013
Table 12.14: Data for Sustainable Development, Rosebel Gold Mines N.V, 2008-2013
Table 12.15: Greenhouse gas emission, Rosebel Gold Mines N.V, 2008-2013

13. WASTE

- Table 13.1: Amount of Waste Disposed in m³, 2009-2013
Table 13.2: Lorries Used for Waste Collection, Status and Capacity per Category, 2009-2013
Table 13.3 a: Households by way of Garbage dumping, 2004 and 2012
Table 13.3 b: Households by way of Garbage dumping by district, 2004 and 2012
Table 13.5: Overview of Scrap export (ton), 2009-2013
Table 13.6: Amount of landfill waste of Suralco (private landfill) (in tones), 2008-2013
Table 13.7: Recycled Steel and Waste Oil from Rosebel Gold Mines N.V, 2008-2013



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7. Sustainable Development Goals (SDGs) indicators related to the Environment

SDGs 2015 – 2030

Goal 1	End poverty in all its forms everywhere
Goal 2	End hunger, achieve food security and improved nutrition and promote sustainable agriculture
Goal 3	Ensure healthy lives and promote well-being for all at all ages
Goal 4	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
Goal 5	Achieve gender equality and empower all women and girls
Goal 6	Ensure availability and sustainable management of water and sanitation for all
Goal 7	Ensure access to affordable, reliable, sustainable and modern energy for all
Goal 8	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
Goal 9	Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
Goal 10	Reduce inequality within and among countries

green (Goals 6 and 7) - entire goal is environmental

orange (Goals 2, 3, 8 and 9) - selected targets are environmental



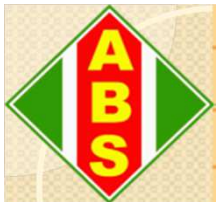
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7. Sustainable Development Goals (SDGs) indicators related to the Environment

SDGs 2015 – 2030 (cont.)

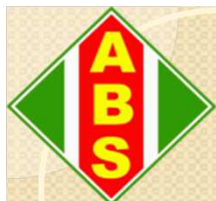
Goal 11	Make cities and human settlements inclusive, safe, resilient and sustainable
Goal 12	Ensure sustainable consumption and production patterns
Goal 13	Take urgent action to combat climate change and its impacts
Goal 14	Conserve and sustainably use the oceans, seas and marine resources for sustainable development
Goal 15	Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss
Goal 16	Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels
Goal 17	Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development

green (Goals 11, 12, 13, 14 and 15) - entire goal is environmental



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Target 2.4	By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase
Indicator 2.4.1	Proportion of agricultural area under productive and sustainable agriculture
Indicator 2.4.2	Percentage of agricultural households using irrigation systems compared to all agricultural households
Indicator 2.4.3	Percentage of agricultural households using eco-friendly fertilizers compared to all agricultural households.
Goal 3: Ensure healthy lives and promote well-being for all at all ages	
Target 3.9	By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution
Indicator 3.9.1	Mortality rate attributed to household and ambient air pollution
Indicator 3.9.2	Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (exposure to unsafe WASH services)
Indicator 3.9.3	Mortality rate attributed to unintentional poisoning
Goal 6: Ensure availability and sustainable management of water and sanitation for all	
Target 6.1	By 2030, achieve universal and equitable access to safe and affordable drinking water for all.
Indicator 6.1	Percentage of population using safely managed drinking water services
Target 6.2	By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special
Indicator 6.2.1	Percentage of population using safely managed sanitation services, including a hand- washing facility with soap and
Target 6.3	By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals
Indicator 6.3.1	Proportion of wastewater safely treated
Indicator 6.3.2	Percentage of water bodies with good ambient water quality
Target 6.4	By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity.
Indicator 6.4.1	Percentage change in water use efficiency over time.
Indicator 6.4.2	Level of water stress: freshwater withdrawal as a proportion of available freshwater resources
Target 6.5	By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate
Indicator 6.5.1	Degree of integrated water resources management (IWRM) implementation (0-100).
Indicator 6.5.2	Proportion of transboundary basin area with an operational arrangement for water cooperation



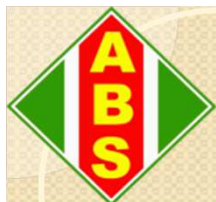
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Target 6.5	By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate
Indicator 6.5.1	Degree of integrated water resources management (IWRM) implementation (0-100).
Indicator 6.5.2	Proportion of transboundary basin area with an operational arrangement for water cooperation
Target 6.6	By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes.
Indicator 6.6.1	Percentage of change in water-related ecosystems extent over time
Target 6.a	By 2030, expand international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies
Indicator 6.a.1	Amount of water and sanitation related Official Development Assistance that is part of a government coordinated spending plan
Target 6.b	Support and strengthen the participation of local communities in improving water and sanitation management.
Indicator 6.b.1	6.b.1 Proportion of local administrative units with established and operational policies and procedures for participation of local communities in water and sanitation management.
Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all	
Target 7.1	By 2030, ensure universal access to affordable, reliable and modern energy services
Indicator 7.1.1	Proportion of population with access to electricity
Indicator 7.1.2	Proportion of population with primary reliance on clean fuels and technology
Target 7.2	By 2030, increase substantially the share of renewable energy in the global energy mix
Indicator 7.2.1	Renewable energy share in the total final energy consumption
Target 7.3	By 2030, double the global rate of improvement in energy efficiency
Indicator 7.3.1	Energy Intensity measured in terms of primary energy and GDP
Target 7.a	By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy,
Indicator 7.a.1	Mobilised amount of US \$ per year starting in 2020 accountable towards US\$ 100 billion commitment
Target 7.b	By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries and small island developing States
Indicator 7.b.1	Investments in energy efficiency as a percentage of GDP and the amount of foreign direct investment in financial transfer for infrastructure
Goal 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	
Target 8.4	Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation, in accordance with the 10-year framework of programmes on sustainable consumption and production, with developed countries taking the lead
Indicator 8.4.1	Material footprint (MF) and MF per capita, per GDP
Indicator 8.4.2	Domestic material consumption (DMC) and DMC per capita, per GDP (new)
Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation	
Target 9.4	By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater
Indicator 9.4.1	CO ² emission per unit of value added.



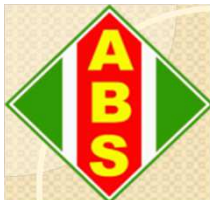
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Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable	
Target 11.1	By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums
Indicator 11.1	Proportion of urban population living in slums, informal settlement or inadequate housing .
Target 11.2	By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons
Indicator 11.2.1	Proportion of the population that has convenient access to public transport, by age, sex and persons with disabilities.
Target 11.3	By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries
Indicator 11.3.1	Ratio of land consumption rate to population growth rate
Indicator 11.3.2	Percentage of cities with direct participation structure of civil society in urban planning and management, which operate regularly and democratically.
Target 11.4	Strengthen efforts to protect and safeguard the world's cultural and natural heritage
Indicator 11.4.1	11.4.1 Total expenditure (public and private) per capita spent on the preservation, protection and conservation of all cultural and natural heritage, by type of heritage (cultural , natural, mixed, World Heritage Centre designation), level of government (national, regional, and local/ municipal), type of expenditure (operating expenditure/investment) and type of private funding (donations in kind, private non-profit sector sponsorship)
Target 11.5	By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations
Indicator 11.5.2	11.5.2 Direct disaster economic loss in relation to global GDP, including disaster damage to critical infrastructure and disruption of basic services ^d
Target 11.6:	By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management
Indicator 11.6.1	Percentage of urban solid waste regularly collected and with adequate final discharge with regards to the total waste generated by the city
Indicator 11.6.2	Annual mean levels of fine particulate matter (e.g. PM2.5 and PM 10) in cities population weighted
Target 11.7	By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities
Indicator 11.7.1	The average share of the built-up areas of cities that is open space for public use for all, by age, sex and persons with disabilities
Indicator 11.7.2	Proportion of persons, victim of physical or sexual harassment, by sex, age, disability status and place of occurrence, in the previous 12 months
Target 11.a	Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning
Indicator 11.a.1	Proportion of? Cities with more than 100,000 inhabitants that implement urban and regional development plans integrating population projections and resource needs
Target 11.b	By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015-2030 ^d
Indicator 11.b.1	11.b.1 Proportion of local governments that adopt and implement local disaster risk reduction strategies in line with the Sendai Framework for Disaster Risk Reduction 2015-2030 ^d
Indicator 11.b.2	11.b.2: Number of countries with national and local disaster risk reduction strategies ^d
Target 11.c	Support least developed countries, including through financial and technical assistance, in building sustainable and resilient buildings utilizing local materials
Indicator 11.c.1	Proportion of financial support to the least developed countries that it allocated to the construction and retrofitting of sustainable, resilient and resource-efficient buildings utilising local materials.



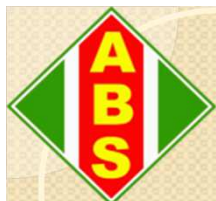
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Goal 12: Ensure sustainable consumption and production patterns	
Target 12.1	Implement the 10-year framework of programmes on sustainable consumption and production, all countries taking action, with developed countries taking the lead, taking into account the development and capabilities of developing countries
Indicator 12.1.1	Number of countries with sustainable consumption and production (SCP) national action plans or SCP mainstreamed as a priority or target into national policies
Target 12.2	By 2030, achieve the sustainable management and efficient use of natural resources
Indicator 12.2.1	* Material footprint (MF) and MF/capita
Indicator 12.2.2	Domestic material consumption (DMC) and DMC per capita, per GDP
Target 12.3	By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses
Indicator 12.3.1	Global Food Loss Index (GFLI)
Target 12.4	By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment
Indicator 12.4.1	Number of Parties to international multilateral environmental agreements on hazardous and other chemicals and waste that meet their commitments and obligations in transmitting information as required by each relevant agreement
Indicator 12.4.2	Hazardous waste generated per capita, proportion of hazardous waste treated and by type of treatment
Target 12.5	By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse
Indicator 12.5.1	National recycling rate, tonnes of material recycled
Target 12.6	Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle
Indicator 12.6.1	Number of companies publishing sustainability reports
Target 12.7	Promote public procurement practices that are sustainable, in accordance with national policies and priorities
Indicator 12.7.1	Number of countries implementing Sustainable Public Procurement policies and action plans
Target 12.8	By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature
Indicator 12.8.1	12.8.1 Extent to which (i) global citizenship education and (ii) education for sustainable development (including climate change education) are mainstreamed in (a) national education policies (b) curricula (c) teacher education and (d) student assessment
Target 12.a	Support developing countries to strengthen their scientific and technological capacity to move towards more sustainable patterns of consumption and production
Indicator 12.a.1	Amount of support to developing countries on R&D for sustainable consumption and production (SCP) and environmental sound technologies
Target 12.b	Develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs and promotes local culture and products
Indicator 12.b.1	Number of sustainable tourism strategies or policies and implemented action plans, with agreed monitoring and evaluation tools
Target 12.c	Rationalize inefficient fossil-fuel subsidies that encourage wasteful consumption by removing market distortions, in accordance with national circumstances, including by restructuring taxation and phasing out those harmful subsidies, where they exist, to reflect their environmental impacts, taking fully into account the specific needs and conditions of developing countries and minimizing the possible adverse impacts on their development in a manner that protects the poor and the affected communities
Indicator 12.c.1	Amount of fossil fuel subsidies, per unit of GDP (production and consumption), and as proportion of total national expenditure on fossil fuels



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Goal 13: Take urgent action to combat climate change and its impacts (Acknowledging that the United Nations Framework Convention on Climate Change is the primary international, intergovernmental forum for negotiating the global response to climate change.)	
Target 13.1	Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries
Indicator 13.1.1	13.1.1: Number of countries with national and local disaster risk reduction strategies ⁴
Target 13.2	Integrate climate change measures into national policies, strategies and planning
Indicator 13.2.1	Number of countries that have formally communicated the establishment of integrated low-carbon, climate-resilient, disaster risk reduction development strategies (e.g. a national adaptation plan process, national policies and measures to promote the transition to environmentally-friendly substances and technologies). (Not an indicator in the strict sense.)
Target 13.3	Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning
Indicator 13.3.2	Number of countries that have communicated the strengthening of institutional, systemic and individual capacity building to implement adaptation, mitigation and technology transfer, and development actions
Target 13.a	Implement the commitment undertaken by developed-country parties to the United Nations Framework Convention on Climate Change to a goal of mobilizing jointly \$100 billion annually by 2020 from all sources to address the needs of developing countries in the context of meaningful mitigation
Indicator 13.a.1	Mobilized amount of USD per year starting in 2020 accountable towards the USD 100 billion commitment. (Not an indicator in the strict sense).
Target 13.b	Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries, including focusing on women, youth and local and marginalized communities
Indicator 13.a.1	13.b.1 Number of LDCs, SIDs that are receiving specialized support for mechanisms for raising capacities for effective climate change related planning and management, including focusing on women, youth, local and marginalized communities
Goal 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development	
Target 14.1	By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution
Indicator 14.1.1	Index of Coastal Eutrophication (ICEP) and Floating Plastic debris Density
Target 14.2	By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans
Indicator 14.2.1	Proportion of national Exclusive Economic Zones managed using ecosystem-based approaches
Target 14.3	Minimize and address the impacts of ocean acidification, including through enhanced scientific cooperation at all levels
Indicator 14.3.1	14.3.1 Average marine acidity (pH) measured at agreed suite of representative sampling stations
Target 14.4	By 2020, effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices and implement science-based management plans, in order to restore fish stocks in the shortest time feasible, at least to levels that can produce maximum sustainable yield
Indicator 14.4.1	Proportion of fish stocks within biologically sustainable levels
Target 14.5	By 2020, conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on the best available scientific information
Indicator 14.5.1	14.5.1 Coverage of protected areas in relation to marine areas
Target 14.6	By 2020, prohibit certain forms of fisheries subsidies which contribute to overcapacity and overfishing, eliminate subsidies that contribute to illegal, unreported and unregulated fishing and refrain from introducing new such subsidies, recognizing that appropriate and effective special and differential treatment for developing and least developed countries should be an integral part of the World Trade Organization fisheries subsidies negotiation ²
Indicator 14.6.1	Progress by countries in the degree of implementation of international instruments aiming to combat illegal, unreported and unregulated fishing
Target 14.7	By 2030, increase the economic benefits to small island developing States and least developed countries from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism
Indicator 14.7.1	Sustainable fisheries as a percentage of GDP in small island developing States, least developed countries and all countries
Target 14.a	Increase scientific knowledge, develop research capacity and transfer marine technology, taking into account the Intergovernmental Oceanographic Commission Criteria and Guidelines on the Transfer of Marine Technology, in order to improve ocean health and to enhance the contribution of marine
Indicator 14.a.1	Proportion of total research budget allocated to research in the field of marine technology
Target 14.b	Provide access for small-scale artisanal fishers to marine resources and markets
Indicator 14.b.1	Progress by countries in the degree of application of a legal/regulatory/policy/institutional framework which recognizes and protects access rights for small-scale fisheries
Target 14.c	Enhance the conservation and sustainable use of oceans and their resources by implementing law as reflected in UNCLOS, which provides the legal framework for the conservation and sustainable use of oceans and their resources, as recalled in paragraph 158 of The Future We Want.
Indicator 14.c.1	Number of countries implementing either legally or programmatically the provisions set out in regional seas protocols and ratification and implementation of the ILO Maritime and Fisheries Conventions. (Not an indicator in the strict sense)



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Goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss	
Target 15.1	By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and dry lands, in line with obligations under international agreements
Indicator 15.1.1	*Forest area as a percentage of total land area
Indicator 15.1.2	15.1.2: Proportion of important sites for terrestrial and freshwater biodiversity that are covered by protected areas, by ecosystem type
Target 15.2	By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and increase afforestation and reforestation globally
Indicator 15.2.1	Progress towards sustainable forest management
Indicator 15.2.2	15.2.2 Net permanent forest loss
Target 15.3	By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land-degradation-neutral world
Indicator 15.3.1	15.3.1 Proportion of land that is degraded over total land area
Target 15.4	By 2030, ensure the conservation of mountain ecosystems, including their biodiversity, in order to enhance their capacity to provide benefits that are essential for sustainable development
Indicator 15.4.1	15.4.1 Coverage by protected areas of important sites for mountain biodiversity
Indicator 15.4.2	15.4.2 Mountain Green Cover Index
Target 15.5	Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity, and, by 2020, protect and prevent the extinction of threatened species
Indicator 15.5.1	15.5.1 Red List Index
Target 15.6	Ensure fair and equitable sharing of the benefits arising from the utilization of genetic resources and promote appropriate access to such resources
Indicator 15.6.1	Number of permits or their equivalents made available to the Access and Benefit-sharing Clearinghouse established under the Nagoya Protocol and number of Standard Material Transfer Agreements, as communicated to the Governing Body of the International Treaty
Target 15.7	Take urgent action to end poaching and trafficking of protected species of flora and fauna and address both demand and supply of illegal wildlife products
Indicator 15.7.1	15.7.1 Proportion of traded wildlife that was poached or illicitly trafficked
Indicator 15.7.2	Proportion of detected trade in wildlife and wildlife products that is illegal
Target 15.8	By 2020, introduce measures to prevent the introduction and significantly reduce the impact of invasive alien species on land and water ecosystems and
Indicator 15.8.1	15.8.1 Proportion of countries adopting relevant national legislation and adequately resourcing the prevention or control of invasive alien species
Target 15.9	By 2020, integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts
Indicator 15.9.1	Progress towards national targets established in accordance with Aichi Biodiversity Target 2 of the Strategic Plan for Biodiversity 2011-2020
Target 15.b	Mobilize significant resources from all sources and at all levels to finance sustainable forest management and provide adequate incentives to developing
Indicator 15.b.1	15.b.1 Official development assistance and public expenditure on conservation and sustainable use of biodiversity and ecosystems



8. Link between the SDGs and GBS Environment Statistics

Goal 2: Data available. **Chapter 10**

Goal 3: Data available from the WASH project funded by the UNICEF for selected areas in the interior and from MICS 2010. Update needed from the MICS2016.- **Chapter 5.**

Goal 6: Ind. 6.1 = data available from the Surinamese Water Company

Ind. 6.2.1 = data for 2010 MICS survey. Update needed.

Ind. 6.3.1 = no data available. Suriname does not treat wastewater (yet)

Ind. 6.3.2/ Ind. 6.4.1/ Ind. 6.4.2/ 6.5.1/ 6.5.2 = no data available

For target 6.4 and 6.5 the University of Suriname and the Surinamese Water might have some data.- **CHAPTER 6**

Goal 7: only data available for ind. 7.1.1. from the Surinamese Energy Company. (EBS). For the other indicators contact must be made with EBS and other stakeholders in the energy sector. **CHAPTER 7**



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Goal 8: No data available. A survey is needed,

Goal 9: No recent data available. Data available for 2008 from the Suriname's Second National Communication to the United Nations Framework Convention on Climate Change. There needs to a third UNFCCC for Suriname

Goal 11: no data available. Survey needed.

Goal 12: no data is available, survey needed.

Goal 13: data only available for dates of the casualties and damages from dwellings. **Chapter 2**

Goal 14: data available for some indicators. **Chapter 9**

Goal 15: data available for almost all of the indicators-
chapters 8 & 11



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9. Challenges for collecting SDG data

- For some of the SDGs there is no data available. There has to be a Survey to collect this data.
- Lack of financial and human resources makes it hard to have specialized surveys.
- Training is needed for the stakeholders (government and private sector) and the statistical office for the SDGS especially the new indicators.
- The metadata has to be available and there must also be training in how to collect or compile the data.
- MICS 2016 is a very important survey for establishing the SDG baseline
- Need to also collect the metadata of the indicators from the data providers.



10. Work in Progress/ Future activities

- **National:**
- Launched the EnvironmentInfo database in October 2015 (as an activity of WSD)(<http://www.devinfo.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.



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11. 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

