Structure of the draft Global Set

Suriname's experience

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Context

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1.Experience with set of Climate Change (CC) statistics and indicators

- First Introduction with the draft set of CC statistics and indicators was at the 4th EGES in 2017. It was also part of one of the working group sessions from last two EGES meetings.
- Due to the length and the complexity of first draft it took about 5 days to fill out the first of many versions of the questionnaires where a lot of data gaps were found.
- After collaboration with UNSD, many revisions were made after understanding the some of the columns better.
- In early 2020 GBS completed the UNSD pilot Survey on CC statistics and Indicators.

2. Advantages of GBS regarding the CC set (1)

- There is good collaboration between the NSO and the Environment Stakeholders, which has only improved while discussing this Pilot Survey of CC Statistics and Indicators.

- In December 2020 the 9th Environment Statistics Publication will be published and data for 2015-2019 was already collected, therefore the data availability status on some of the CC framework indicators was available. Also for some of the CC -SDG indicators data was also already available.

- The FAO has ongoing projects with the Foundation for Forest Management and Production Control regarding forest data. Most of the SDG goal 15 indicators (Forest indicators) have data.

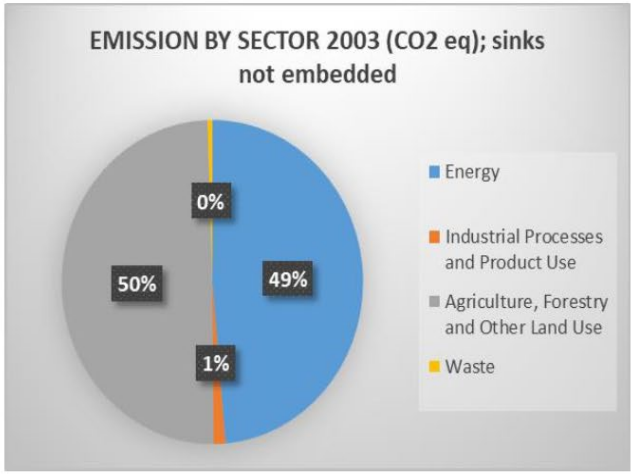
- The UNDP also has various projects that are Environment Related.

2. Advantages of GBS regarding the CC set (2)

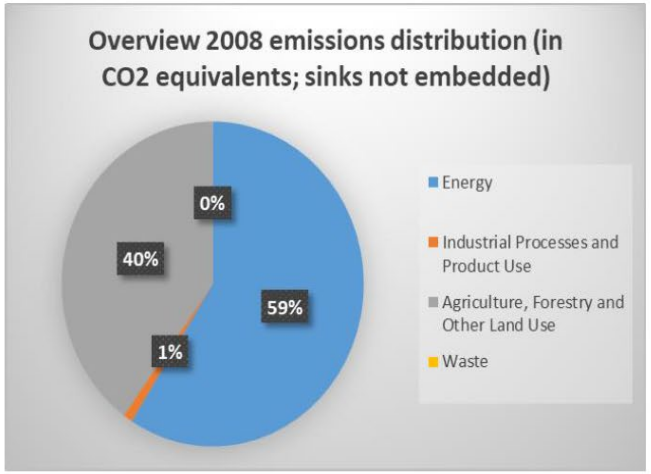
- Suriname did 2 GHG-Inventories (Suriname National Communication in 2003 and 2008). Suriname is now at the stage of preparing for the third GHG-Inventory using the IPCC guidelines. I was already contacted by 3 consultants from this project and also provided data in August and September 2020.

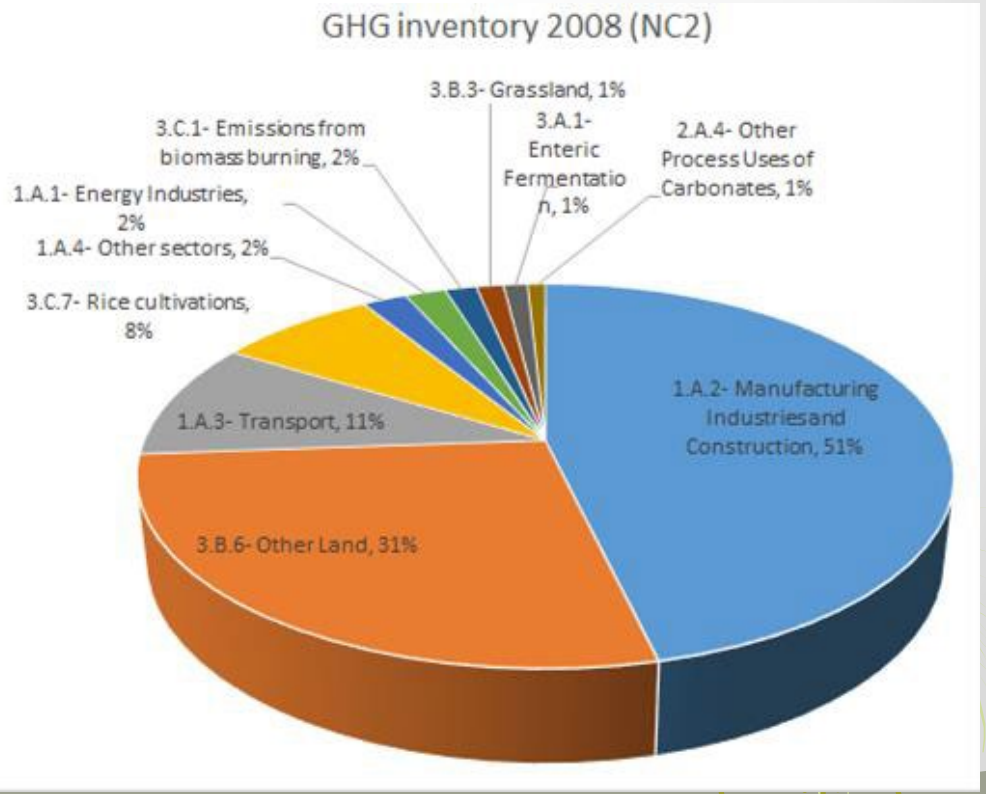
GHG-Inventory in Suriname's National Communications (NCs)

2005 submitted NC1 (GHG-inventory for 2003)



2016 submitted NC2 (GHG inventory for 2005-2008





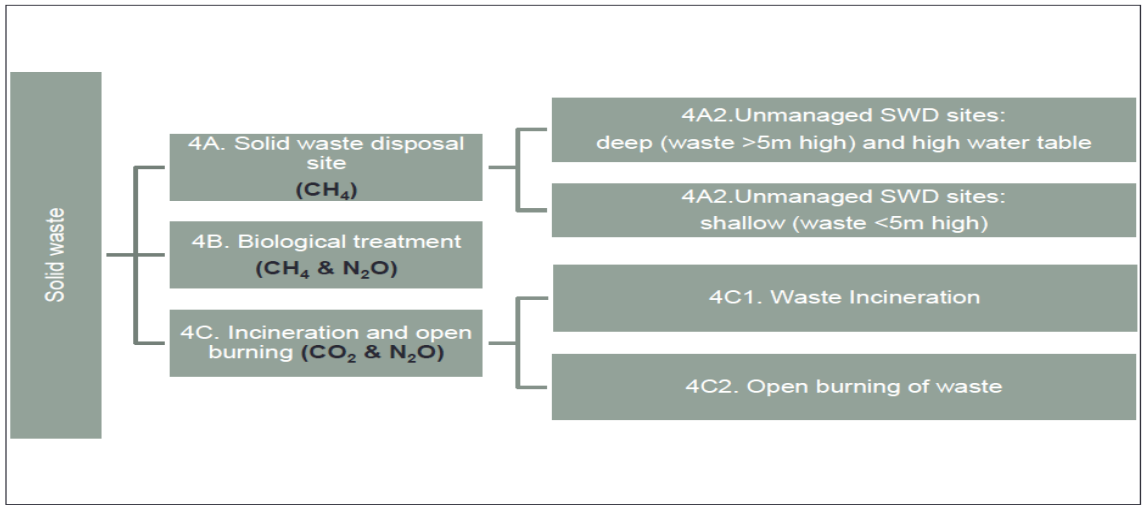
3.Suriname's Greenhouse Gas Inventory (AFOLU, Energy Sector & Waste SECTOR)

Data period: 2000-2017.
Methodology: Emission= Activity Data (AD) x Emission Factor (EF)

-The AFOLU en Waste sector: on the GHG gases: CO2, CH4, N2O

Key categories Suriname

Solid waste and expected emissions



Required Data Energy Sector:
Stationary Combustion,
Mobile Combustion & Fugitive Emissions

Key Categories:

- Energy industries
- Civil Aviation
- Road Transportation
- Manufacturing Industries and Construction
  - Wood and Wood Products
  - Non-Ferrous Metals
  - Mining and Quarrying
- Other sectors
  - Residential
  - Commercial/Institutional
  - Agriculture/Forestry/Fishing/Fish Farms

4.Challenges from Pilot Survey

- It was sometimes difficult to know what the indicator actually measured or what statistics were needed to compile the indicator.

- There was data available on several statistics, but not a lot on the indicators from the CC Pilot Survey. For example: for the indicators, Freshwater resources & Freshwater abstraction, supply and use (data only available on some statistics needed to calculate the indicator: Average Annual and Monthly Precipitation & Drinking Water production). This is the case for many of the CC indicators.

- There is lack of data on the Quality topics such as: Water quality, Air quality and -Soil quality Indicators.

- From the 117 indicators there was no data available for 46 of the CC indicators/statistics at the NSO (circa 40% are data gaps).

Note: Some indicators are not relevant for Suriname (*e.g., Reduction in snow cover and snowpack, Reduction of glaciers extent and mass, Reduction of sea ice cover, Reduction of lake and river ice cover, Area affected by coral bleaching, Dependency on imported energy in total energy consumption, Islands vulnerable to climate change* (7 ind.))

5a.Data gaps : Drivers

- Data needs to be updated. The latest data available is from 2008 from the second UNFCCC.

- **Most data gaps are in the following areas:**

- Energy consumption *(Energy intensity measured in terms of primary energy and GDP).*
- Emissions of GHGs by sector *(Emissions of GHGs from waste).* Data on wastewater treatment is very hard to collect in Suriname.
- Fossil fuels *(Fossil fuels extraction Fossil fuels imports Fossil fuels exports Share of fossil fuels in total primary energy supply).*

5b.Data gaps : Impacts

- **Most data gaps are in the following areas: (data gaps 13)**

- Areas impacted by climate change *(Reduction of water bodies surface).*
- Water quality *(Water turbidity, Water pH, Average marine acidity (pH) measured at agreed suite of representative sampling stations, BOD of water resources & COD of water resources).*
- Hazardous events and disasters *(Migrant and displaced persons by climate change associated disasters).*
- Soil condition *(Reduction of carbon stock in soil Area affected by soil erosion)*
- Distribution and status of species *(Climate change impacts on species abundance, Number of species affected by climate change).*
- Climate change impacts on transport and tourism *(Impacts of climate change on transport Impacts of climate change on tourism).*

5c.Data gaps : Vulnerability

- **Most data gaps are in the following areas: (8 data gaps)**

- Food security *(Prevalence of undernourishment Vulnerability of food resources to climate change).*
- Buildings and infrastructure vulnerable to climate change *(Proportion of infrastructure vulnerable to climate change Proportion of buildings (settlements) vulnerable to climate change).*
- Vulnerable population *(Proportion of population living in other (than coastal) hazard-prone areas Proportion of urban population living in slums, informal settlements or inadequate housing Proportion of population with disability).*
- Vulnerable area of country to climate change *(Water bodies vulnerable to climate change impacts).*

5d.Data gaps : Mitigation

- **Most data gaps are in the following areas: (7 data gaps)**

- Food security *(Prevalence of undernourishment Vulnerability of food resources to climate change).*
- Buildings and infrastructure vulnerable to climate change *(Proportion of infrastructure vulnerable to climate change Proportion of buildings (settlements) vulnerable to climate change).*
- Vulnerable population *(Proportion of population living in other (than coastal) hazard-prone areas Proportion of urban population living in slums, informal settlements or inadequate housing Proportion of population with disability*).
- Vulnerable area of country to climate change *(Water bodies vulnerable to climate change impacts)*
- Climate change mitigation policies, strategies and plans *(Low carbon development strategies and plans Climate change mitigation expenditures Share of energy and transport related taxes as percentage of total taxes and social contributions External funding for climate change mitigation Average trading carbon price).*
- Climate change mitigation technology and practice *(Climate change mitigation technology GHG intensity of economic activities (including transport) &Progress towards GHG emissions reduction target).*

5e.Data gaps : Adaptation

- **Most data gaps are in the following areas: (18 data gaps)**

- Climate change adaptation policies, strategies and plans *(Existence of National Adaptation Plans Share of government adaptation expenditure in relation to GDP).*
- Risk management, disaster forecasting and early warning systems *(Resources for risk management and response, Existence and number of early warning systems, Insurance costs related to climate change).*
- Climate change public awareness and education *(Existence and number of information systems on climate change, Climate change-related education and training programmes).*
- Climate change adaptation management and practice *(Area covered by storm surge defense infrastructure, Proportion of buildings adapted to climate change, Share of green urban areas in the total area of cities, Number of climate change related personnel, Number of institutions involved in climate change adaptation, Number of scientific papers and reports on climate change, Proportion of degraded area of ecosystems which has been restored, National ICZM in place).*
- Climate change monitoring *(Air quality monitoring systems & Water monitoring systems).*
- Waste management *(Proportion of municipal waste treated)*
- Water management and treatment *(Proportion of wastewater treated).*

6a.Contribution to revised structure of draft Global Set of CC Statistics and Indicators

- In 2020 (Feb-Sept.) GBS was invited to contribute to the revision of the Pilot Survey based on its experience and worked closely with UNSD and other countries in preparation for this EGES and the Global Consultation.

- The small group reviewed all indicators and one main advancement was to decide to separate the indicators and statistics into two columns to provide:
  - More distinction between an indicator (proportion, change, ratio etc.) and a statistic.
  - Clarity and transparency on what are the underlying statistics needed to produce an indicator as sometimes indicators disguise what is actually needed for their compilation.
  - An opportunity for all countries to at least identify and assess the statistics needed for an indicator, in the event that they can't compile the indicator itself due to lack of data.

6b. Structure of the draft Global Set

Topic	Indicators	Statistics (FDES Statistic)	Potential aggregations and scales	Category of Measurement	Paris Agreement Articles	Katowice package	Sendai Framework	Tier (UNSD)
DRIVERS								
Total greenhouse gas (GHG) emissions					13.7a	Decision 18/CMA.1, chapter II		
	Change of GHG from base to latest reported year according to territorial principle (IPCC reporting tables)							
	Total greenhouse gas emissions per year (SDG 13.2.2, suggested by Suriname)							2
		Total emissions of direct greenhouse gases (GHGs, excluding LULUCF) (FDES 3	By types of gas (CO_2, CH_4, N_2O, HFC, SF_6, PFC, NF_3	Mass	13.7a	Decision 18/CMA.1, chapter II, para. 47-49		1
		Total emissions of indirect greenhouse gases (GHGs) (FDES 3.1.1.b.)	By types of gas (NO_x, SO_x, NM-VOCs, CO)	Mass	13.7a	Decision 18/CMA.1, chapter II, para. 47-49		1
		Total emissions from LULUCF						
		Emissions of GHG from International Bunker (Aviation and Waterborn navigation) (Suriname)						1
	Total greenhouse gas emissions from the national economy (UN-ECE 09a, excluding indirect GHGs)		By ISIC economic activity and households					
		Direct GHG emissions according to residence principle (Hungary)	By types of gas	Mass				1
		Indirect GHG emissions according to residence principle (Hungary)	By types of gas	Mass				1
Atmospheric concentration of greenhouse gases								
	[to be determined]	Global concentration of greenhouse gases [should it be in drivers or impacts?	Global, by types of gas (CO_2, CH_4, N_2O)	Concentration				1
Energy production and supply					4.8; 4.13; 13.7b	Decision 18/CMA.1, chapter III; Decision 4/CMA.1		
	Primary energy production from fossil fuels per capita							
		Total primary energy production from fossil fuels	By components of production (solid, liquid and g	Energy unit	4.8; 4.13; 13.7b	Decision 18/CMA.1, chapter III; Decision 4/CMA		1
		Population						
	Energy supply from fossil fuels per capita							
		Total energy supply from fossil fuels	By components of total energy supply	Energy unit	4.8; 4.13; 13.7b	Decision 18/CMA.1, chapter III; Decision 4/CMA		1
		Population						
Energy consumption					4.8; 4.13; 13.7b	Decision 18/CMA.1, chapter III; Decision 4/CMA.1		
	[to be determined]							
		Final energy consumption (FDES 2.2.2.c)	By components of final consumption, according t	Energy unit	4.8; 4.13; 13.7b	Decision 18/CMA.1, chapter III; Decision 4/CMA		1

7.Way forward for Suriname

- Try to collect more data on CC for the 10th Environment Statistics publication, planned for 2022.
- Provide as much data that is available at the NSO for the consultants responsible for Suriname's 3rd National Communication.
- Collaborate more with the national climate change focal point to promote linking climate change monitoring, statistics and policy.
- Preferably next year, but latest 2022 publish a climate Change Statistics Report for Suriname.
- Participate in the UNSD Global Consultation on Climate Change Statistics and Indicators.

THE END