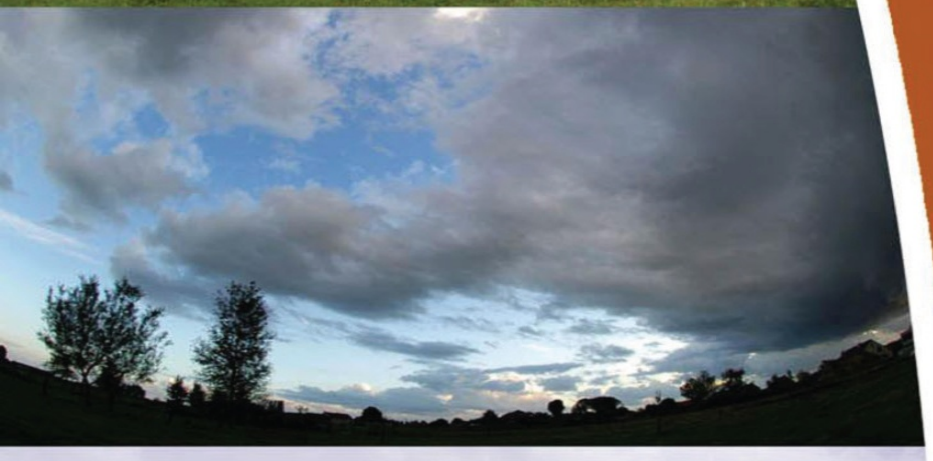

Republic of Namibia
Ministry of Environment & Tourism

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# BUR1 to the UNFCCC

# Outline

- Methodology
- Approaches to data collection
- Emission factors
- QC/QA
- Uncertainty analysis
- Key Category Analysis
- Archiving
- Challenges

# Methodology

- BUR reporting guidelines
- IPCC GHG 1996, 2006 Guidelines
- IPCC GHG 2006 software
- Emission factor database
- Working Groups established
- AD data collection from stakeholders
- Desktop studies
- AD computed into software to generate emissions

# Approaches to data collection

- WG members provided basic AD
- Country-specific AD available from public & private institution, which are archived by the NSA
- Missing data sourced directly from both public & private sectors by WG members
- Data gaps were filled through contacts, surveys, scientific studies & statistical modelling
- Expert knowledge used as last resort
- International data sources FAO, IEA
- FOLU sector remote sensing technology used whereby maps were produced from LandSat satellite imagery for years 2000 and 2010
- However not all AD required was available

# Emission Factors

- IPCC Emission Factor Database used
- Country emission factors were derived for the tier 2 estimation for GHG for some livestock classes
- Country emission factors were used under FOLU sector where stock factors were derived

# QC/QA

- QC was implemented through:
  - Routine & consistent checks to ensure data integrity, reliability & completeness
  - Routine & consistent checks to id. errors & omissions
  - Accuracy checks on data acquisition & calculations
  - The use of approved standardized procedures for emissions calculations
  - Technical & scientific reviews ofd ata used

# QA

- Undertaken by external reviewer not involved in the inventory process in order to:
  - Confirm data quality and reliability
  - Review the AD & EFs adopted within each source category
  - Review and check the calculation steps in the software

# Uncertainty Analysis

- Uncertainty analysis performed using the tool available within the IPCC 2006 software for the national inventory with & without FOLU
- Uncertainty without FOLU was 7.1%
- When FOLU included it rose to 72.5%

# Key Category Analysis

| Key Category Analysis - Approach 1 Level Assessment | | | | | | |
|---|---|---|---|---|---|---|
| A | B | C | D | E | F | G |
| IPCC Category code | IPCC Category | Greenhouse gas | 2010 | \|Ex,t\| (Gg $CO_2$ Eq) | Lx,t | Cumulative Total of Column F |
| 3.B.1.a | Forest land Remaining Forest land | CARBON DIOXIDE ($CO_2$) | -57963.35 | 57963.35 | 0.4259 | 0.4259 |
| 3.B.3.b | Land Converted to Grassland | CARBON DIOXIDE ($CO_2$) | 48614.07 | 48614.07 | 0.3572 | 0.7831 |
| 3.B.1.b | Land Converted to Forest land | CARBON DIOXIDE ($CO_2$) | -17962.94 | 17962.94 | 0.1320 | 0.9151 |
| 3.A.1 | Enteric Fermentation | METHANE ($CH_4$) | 3805.24 | 3805.24 | 0.0280 | 0.9431 |
| 1.A.3.b | Road Transportation | CARBON DIOXIDE ($CO_2$) | 1629.94 | 1629.937 | 0.0120 | 0.9551 |

# Archiving

- Raw data stored in a database & 2006 IPCC Software database after being processed & formatted
- All documentation on data processing & formatting kept in soft copies in excel sheets with summaries reported in the BUR1
- Soft copies managed in three copies, two in MET & a third copy at NSA

# Challenges

- It was very difficult to develop & implement successfully the IA
- WG did not work as envisaged in pro doc
- CC viewed as MET issue, hence lack of commitment from line ministries
- AD not in the required format for feeding into the software
- There were frequent inconsistencies when data were collected from different sources
- Lack of country specific Efs
- Lack of AD for some sectors like IPPU
- Generally lack of capacity & knowledge on GHG inventories

# THANK YOU!

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