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Reducing Emissions from
Deforestation and Degradation

REDD Case Studies in Bolivia and Cameroon

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Project Framework and Objectives

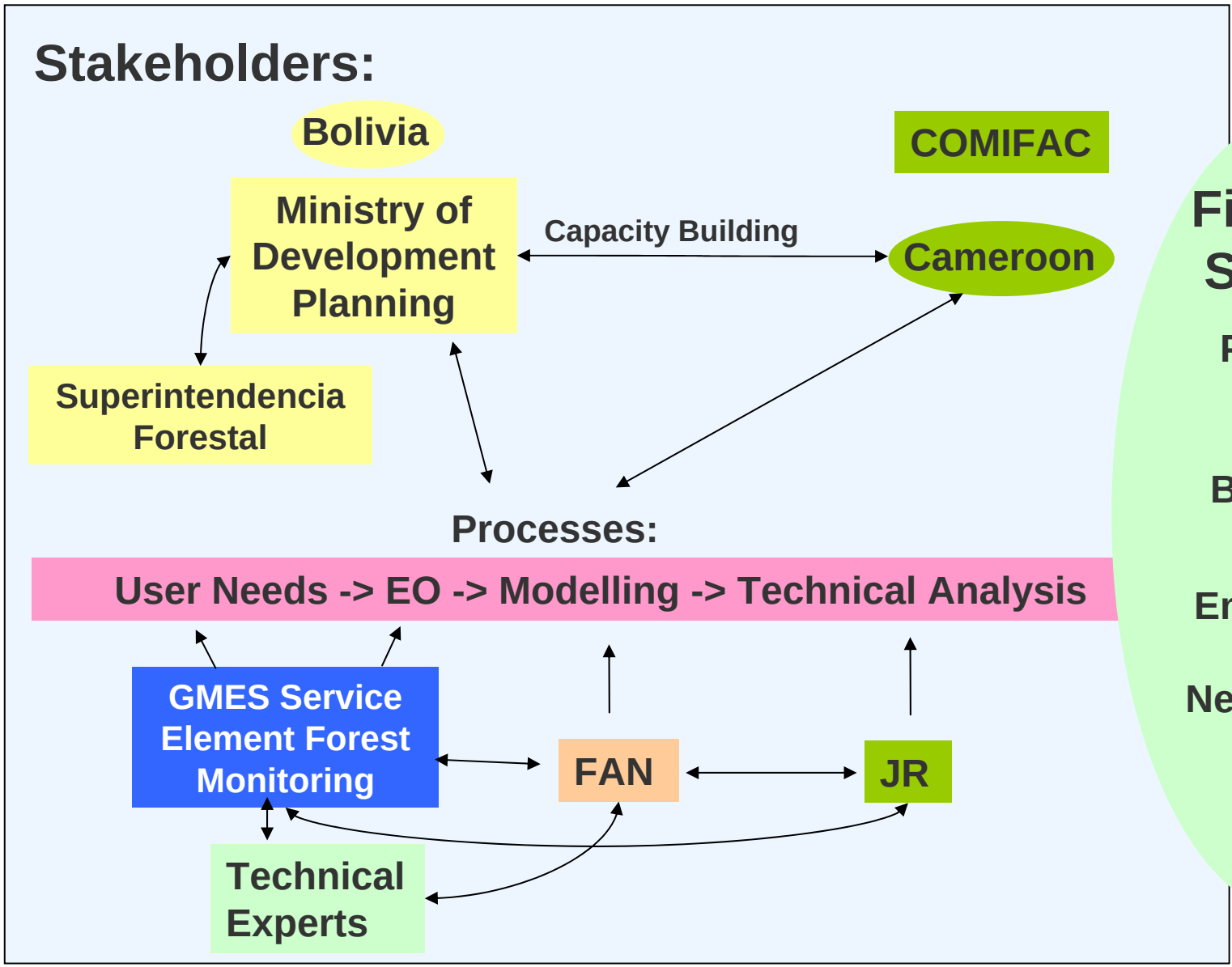
Objectives:

- Provide technical and scientific contributions to the REDD discussions and process.
- Involving the concerned Regions and Countries
- Opportunity for various Stakeholders to collaborate in technical activities to support the REDD process.
- Linking public and private sector,
- Provide reliable information for improved decision making.

Approach:

- Test technical options for biomass and carbon accounting and emissions projections
- Combine EO and in-situ data for deriving timely and accurate land use/land cover information as inputs for modelling

Project Stakeholders and Financiers



Financial Support

PROFOR

ESA

BMZ-GTZ,

Embassy of The Netherlands, Bolivia

OTCA

InWent

Capacity Building

- Practical training in use of inventory and RS data for land management planning
- Training in technical analysis training and technical support
- Technical assistance tailored to the needs of in-country partners
- Potential for south-south co-operation between Bolivia and Cameroon in terms of technology transfer
- Joint presentation at COP/MOP3 side event

Selected Countries

Bolivia

- **Bolivia has existing REDD experience**
- **Sustainable Forest Management activities in Bolivia provide a basis for the reduction of emissions**
- **World leader in forest certification**

Cameroon.

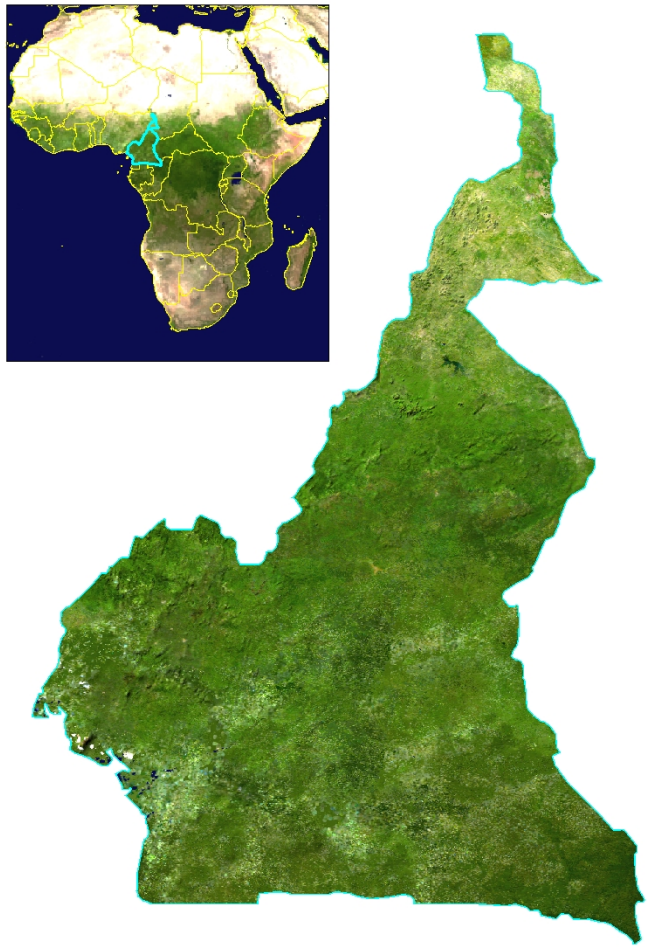
- **Member State of COMIFAC (Central African Forestry Commission)**
- **COMIFAC is mandated by a treaty to coordinate the implementation of all forestry programmes including international Conventions**
- **National forest programme under implementation since 2004 including a strong component of monitoring and evaluation**
- **4 main ecological zones in Africa ranging from dry savanna to rain forest**

Deforestation and Degradation in Cameroon

- 212,450 km^2 forest (45.6% of land cover)
- Annual deforestation rate 2000 – 2005: 0.15% (CBFP 2006)
- 20 % of remaining forests degraded or secondary forests
- Cameroon one of the world's top five log exporters

- **Conclusion:**
  Main issue is degradation rather then deforestation

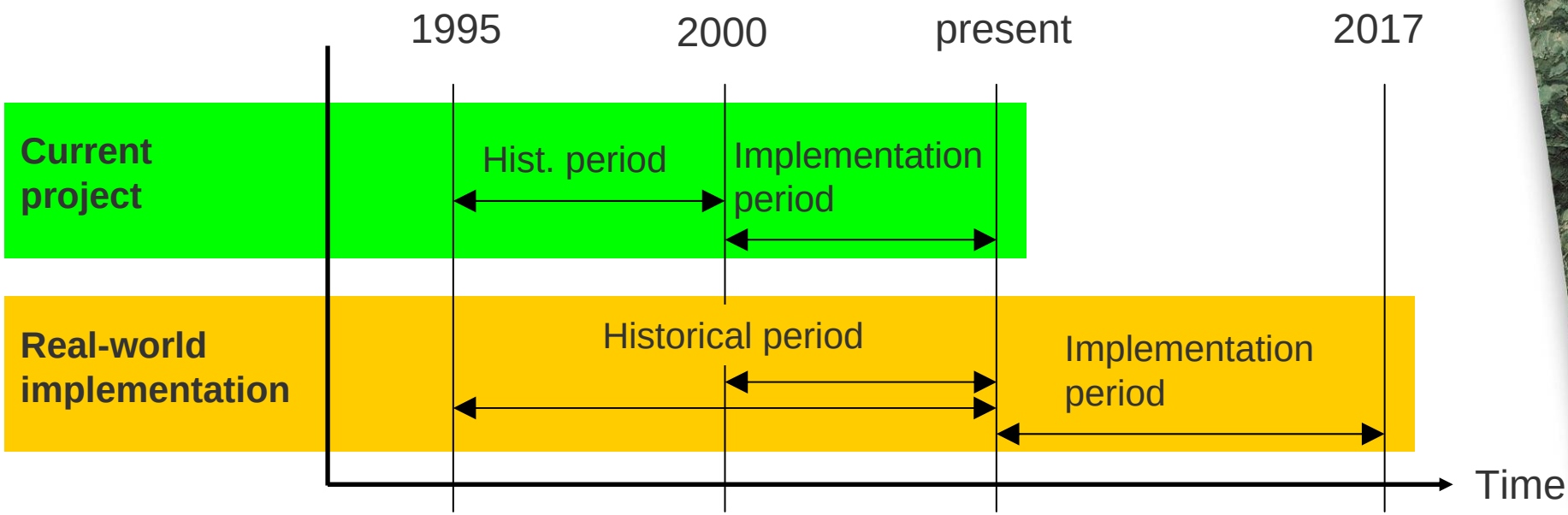
- **The Challenge for REDD:**
  Integrated approach focusing on deforestation and degradation



CONCEPT

The Concept: Ex-post Case Study Analysis

- **Ex-post analysis, assuming that example countries decided to engage in RED(D) at a time in the past.**
- **two monitoring periods:**
  - **(t-2) to (t-1):** historical period at the time when REDD activity is implemented
  - **(t-1) to present:** time period following activity implementation
- A third period:
  - **Present to (t+1):** extrapolations, to aid future implementation

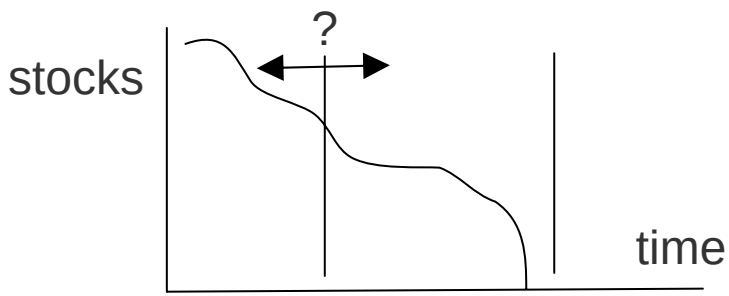


The Concept: Ex-post Case Study Analysis

- **Scope**

  Establish scientifically valid national level projections of net quantified emission reductions resulting from RED(D) measures in two pilot countries.

- **Possible outcomes of UNFCCC RED(D) process may differ regarding:**
  - Definition of key terms (degradation: IPCC special report)
  - Method of establishing projected emissions
  - Carbon accounting rules*, especially how to deal with interannual variability and permanence; non-CO2 emissions
  - Methods for distinguishing deforestation / harvest
  - Degree of flexibility (timing, definitions, D or DD; size of events; hot spot focus etc)



The Concept: Ex-post Case Study Analysis

- Examples of negotiation outcomes could include the following ways of dealing with REDD:
  - **"Inclusive"**: broad coverage of DD sources
  - **"Key sources"**: e.g., only large-scale deforestation, and/or only focusing on hot spots; only key pools?
  - **"Flexible"**: bottom-up methodologies which reflect specific country situation, only broad principles at international level
  - **"Dynamic"**: Future emissions projected as a function of independent, and to be monitored, parameters
  - **"Target corridor"**: to enhance robustness in light of uncertain predictions, while still maintaining incentives for country

- **Project will analyse impacts of possible outcomes on:**
  - Net quantified emission reductions
  - Sensitivity (robustness) regarding changes in DD rate; emission factors etc.
  - Costs of implementation

ACTIVITIES

Activity 1 – Country Specific Requirement Analysis

- **Assessment of user (relevant Ministry or public sector agency) requirements in a country:**
  - **Reporting requirements**
  - **Working practices**
  - **Technical specifications of required products/information**
- **Clarification on relevant institutional arrangements for operational systems**
- **Evaluate availability of additional in-situ data, modelling capabilities**

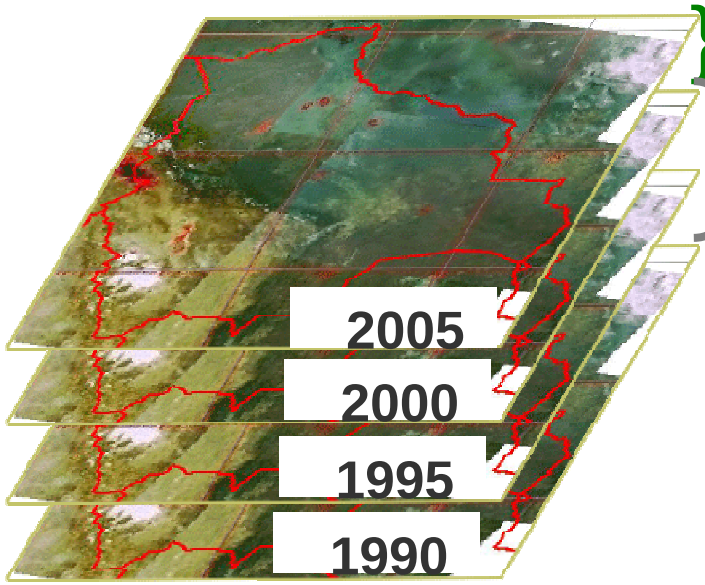
Activity 2: Two Tier Earth Observation Analysis

Deforestation – Wall to Wall Mapping

Multi-temporal EO Data from various sources:

MERIS, AWIFS, Landsat-TM, …

Bolivia



Current deforestation rates and patterns

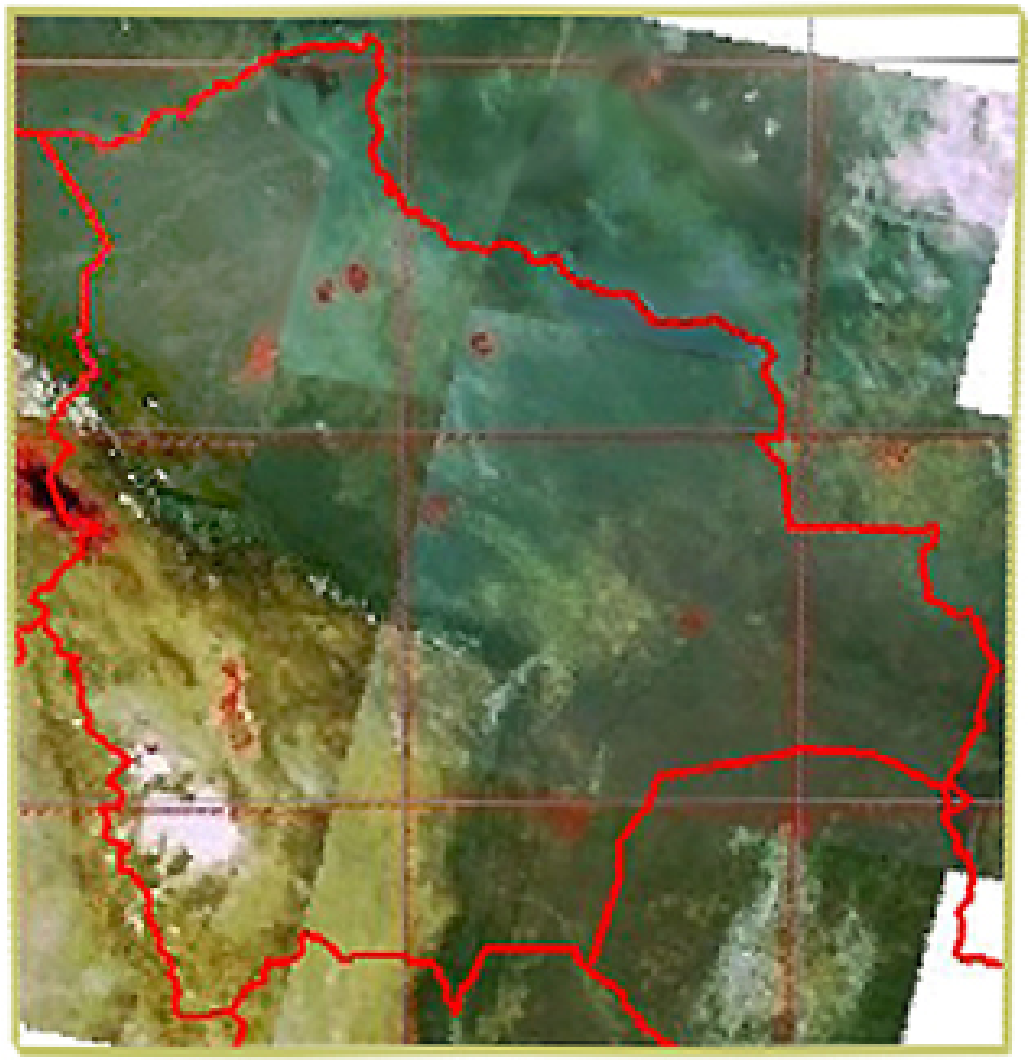
Historic deforestation rates and patterns

Mapping of Landuse and Forest Changes

Input for biomass accounting and emmissions projection

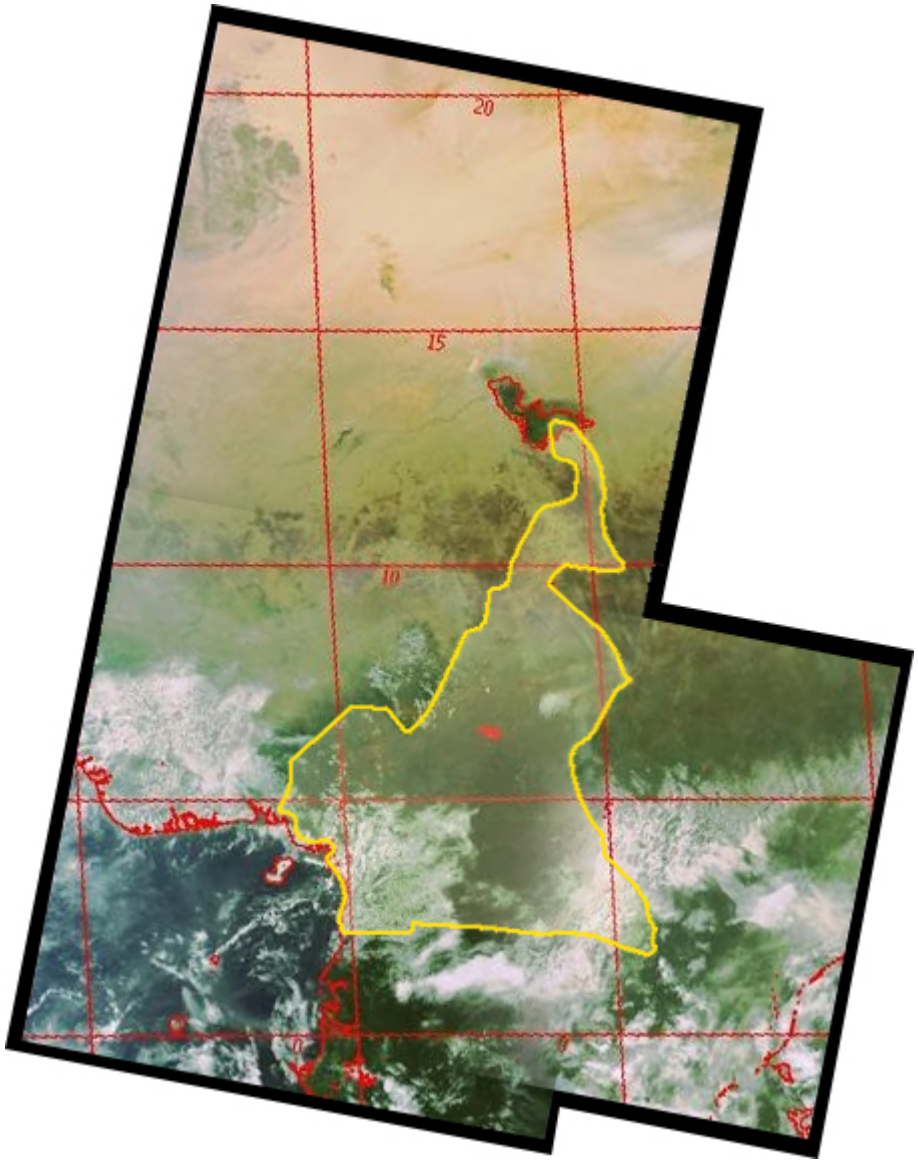
Bolivia – EO Data Availability

Meris 2005

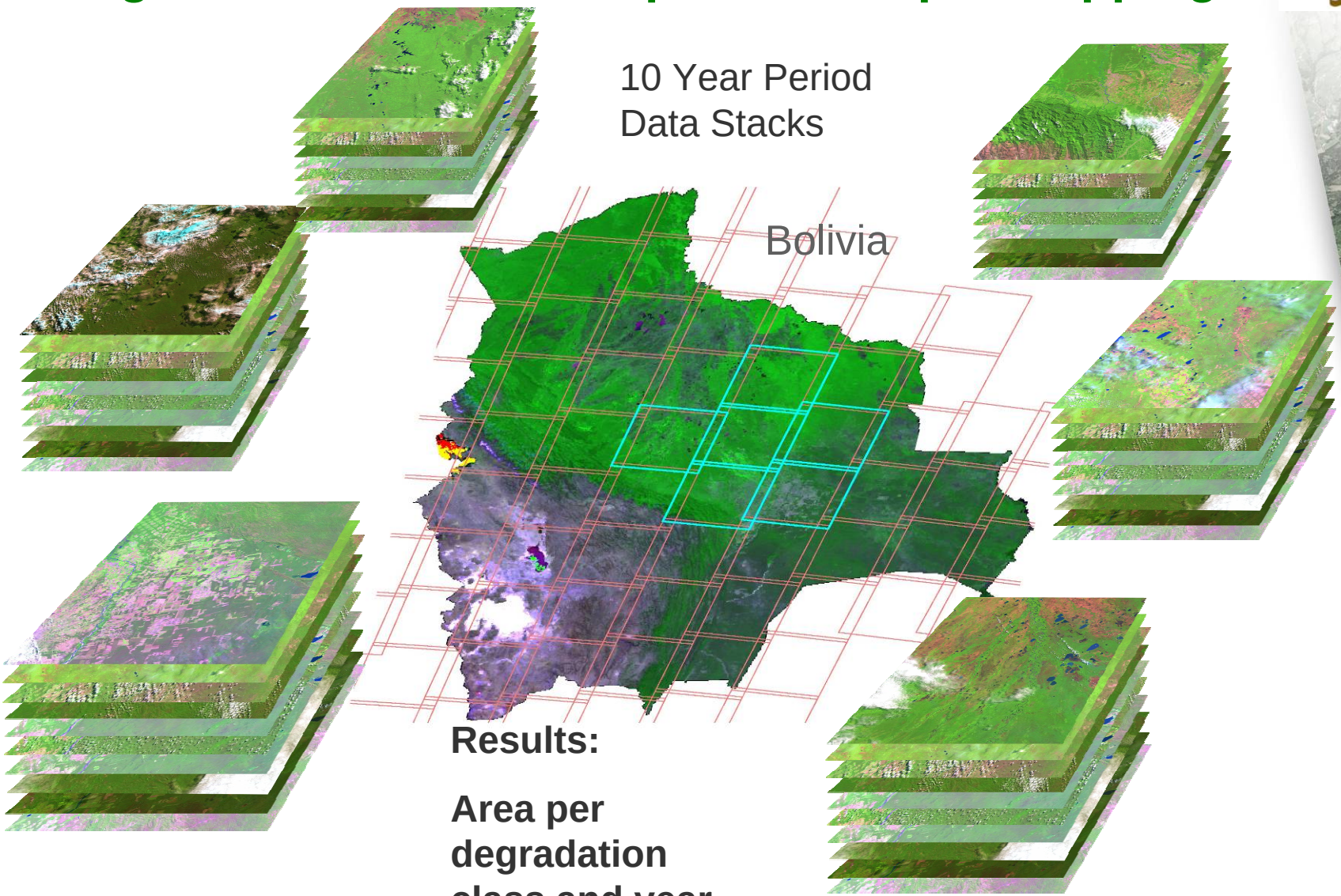


Cameroon – Recent Status

Meris 2006



Degradation – Multi-temporal Hot-Spot Mapping



Rational for Selection of Hot Spots

Covering several types of degradation along with large scale deforestation;

Covering different types of timber production.

Results of the Hot Spot Mapping:

4 degradation classes:

- **Combination with in-situ data: infrastructure features, biomass measurements on sample basis, forest inventory data (full assessmen)**
- **Areas corresponding to**
  - **•mechanised logging under sustainable forest management**
  - **•mechanised logging without forest management plan and monitoring**
  - **•non-mechanised logging**
  - **•non-mechanised logging in combination with fire**

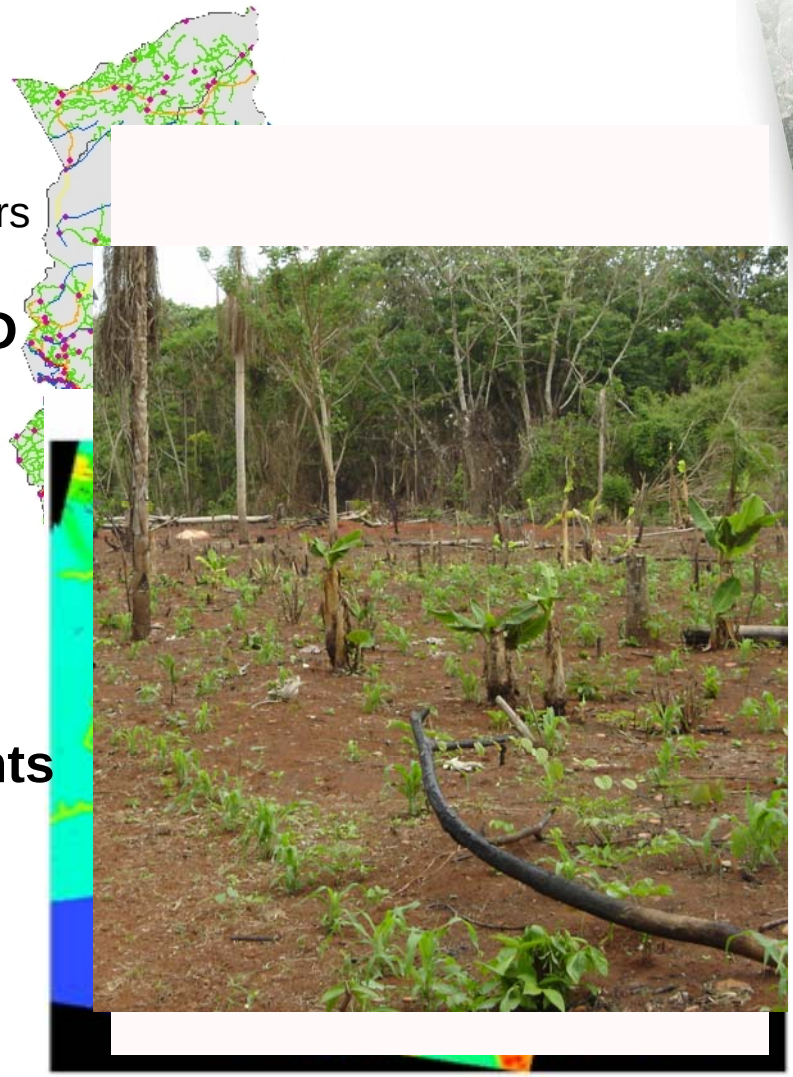
→ **Input to biomass loss estimation**

Biomass and Emission Modelling: Deforestation

Inputs

Detected deforestation and patterns
1990 - 2000 -2005

Spatially explicit drivers:
e.g. roads, soils, settlements, forest edge, rivers



Wall to Wall Processing in GEOMOD

Calibration: Statistical evaluation of different driver combinations

Spatial allocation of future deforestation

Statistical validation of model results

Link areas to biomass measurements

Discount for secondary land use

Partners

PROFOR

PROGRAMA NACIONAL DE CAMBIOS CLIMATICOS

OTCA
De Organisatie van de Overeenkomst voor Amazonische Samenwerking

esa

inWent
Internationale Weiterbildung und Entwicklung gGmbH

gtz Partner for the Worldwide.

commissioned by
Federal Ministry for Economic Cooperation and Development

SUPERINTENDENCIA FORESTAL

Embassy of The Netherlands in Bolivia

GAFAG

JOANNEUM RESEARCH

fan Bolivia

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