

---

# Governance and socio-economic drivers of deforestation

**Gisleine Cunha Zeri**

**Max-Planck-Institut für Biogeochemie  
Jena, Germany**

# Aim of the study

---

- **Support the development of efficient RED(D) incentives in the tropics**
- **By relationships between deforestation and national socio-economic and governance indicators**
- **Through statistical analysis in FAO world regions**

# State-of-the-art

---

- **Socio-economics:**
  - Population growth increases deforestation
  - Rising income reduces deforestation
  
- **Governance:**
  - A nation with poor governance may fail to achieve country's development and
  - may be inapt to enforce controls on forests use

# FOREST AREA CHANGE

**ACTIVITIES (Demand for productive land):** Agricultural expansion, Wood extraction, Plantations, Cattle ranching, Infrastructure extension

**Direct drivers**

**AGENTS (of deforestation):** cultivators, logging and mining companies, farming corporations, forest concessionaires, ranchers, etc

Capacity

**Demand for agricultural and forest products and energy**

Incentives, regulation, enforcement

Education

Population, income

**SOCIOECONOMIC FACTORS**  
(demographic trends, economic growth and development, etc)

**POLICY AND INSTITUTIONAL FACTORS**  
(policies on economic development, governance, property rights regimes, corruption, etc)

**Demand drivers**

**Structural drivers**

# Methodology

---

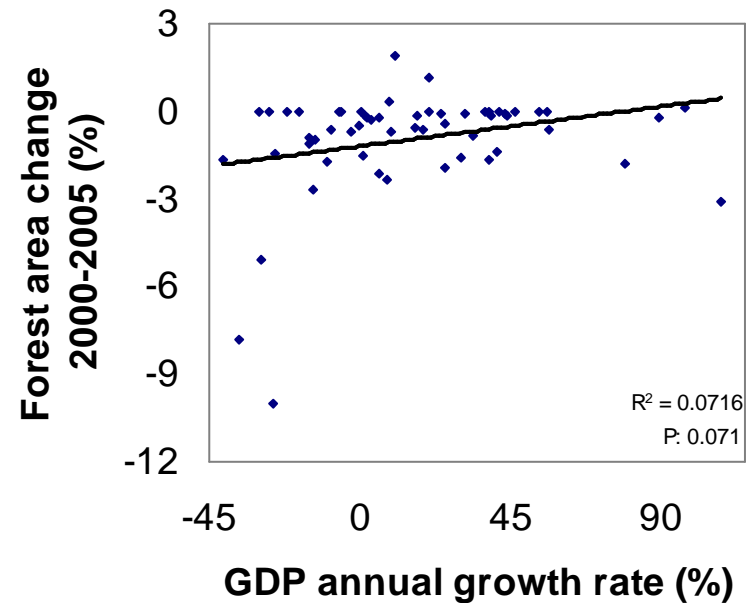
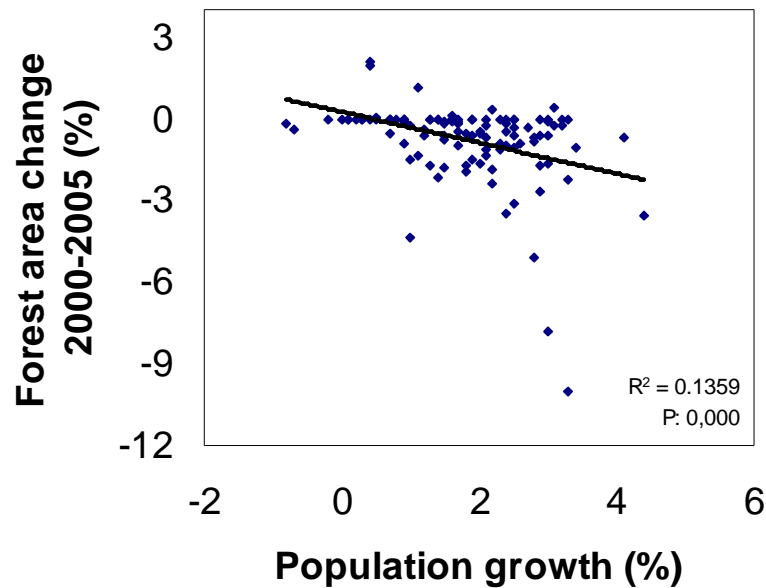
- A multi-country regression model is developed in “two-stage procedure”:

**1<sup>st</sup> stage** Deforestation is a function of the **demand drivers** (8 socio-economic variables) through a cross-sectional study (period 2000-2005)

**2<sup>nd</sup> stage** The significant demand drivers are analyzed as a function of the **structural drivers** (13 governance variables) for all years from 2000 to 2005

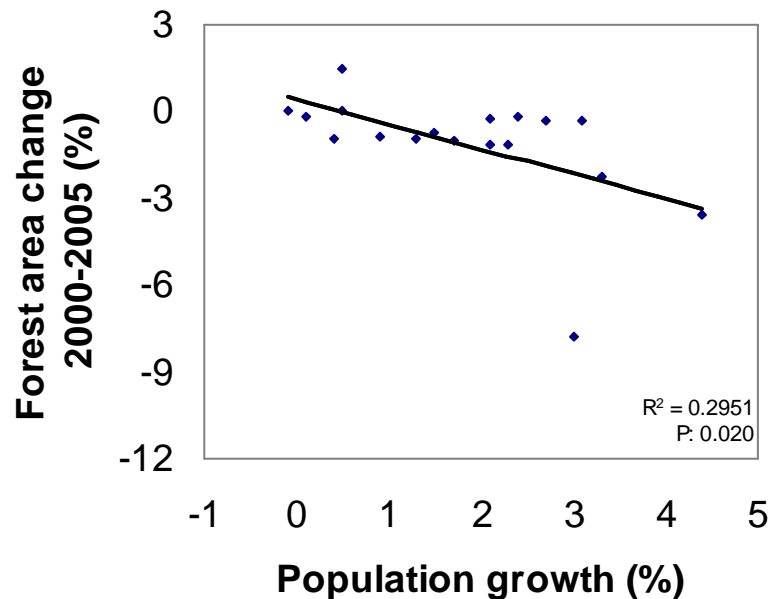
# Results: 1<sup>st</sup> stage (socio-economic)

## Tropical Countries (2000-2005)

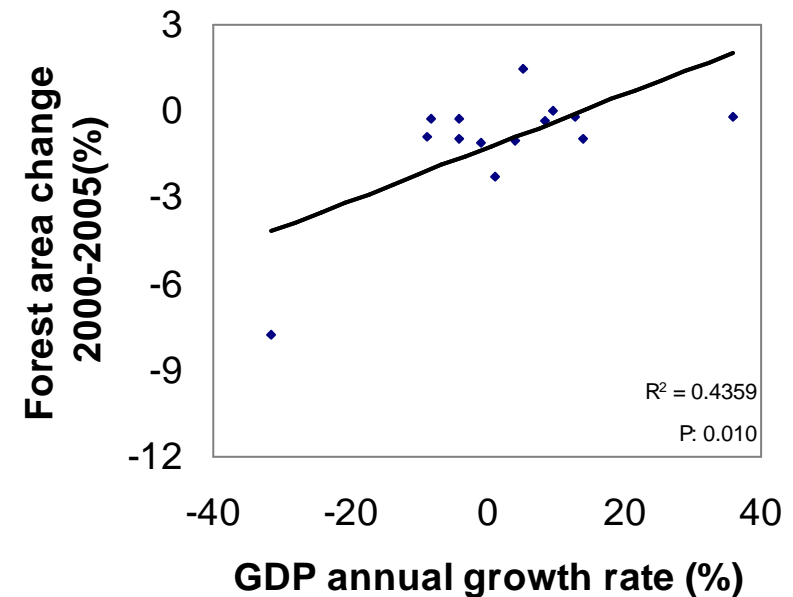


# Results: 1<sup>st</sup> stage (socio-economic)

Eastern and Southern Africa



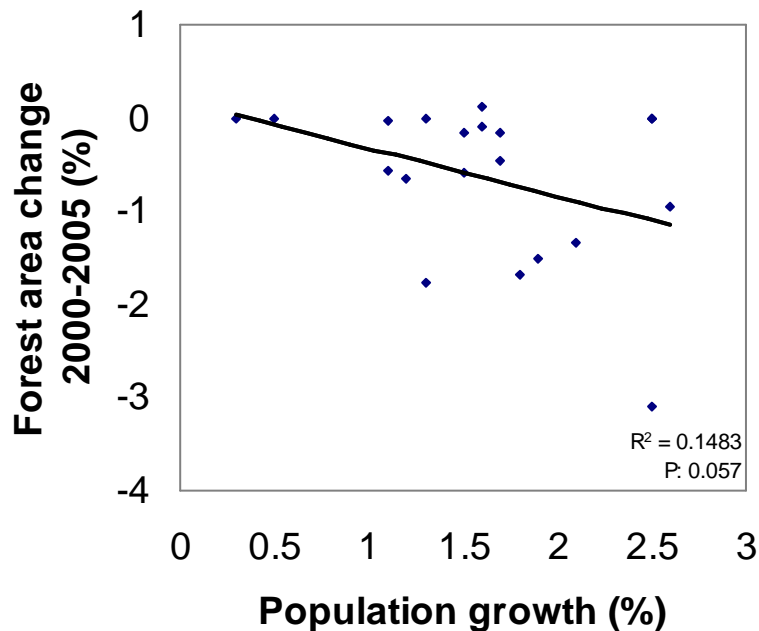
Eastern and Southern Africa



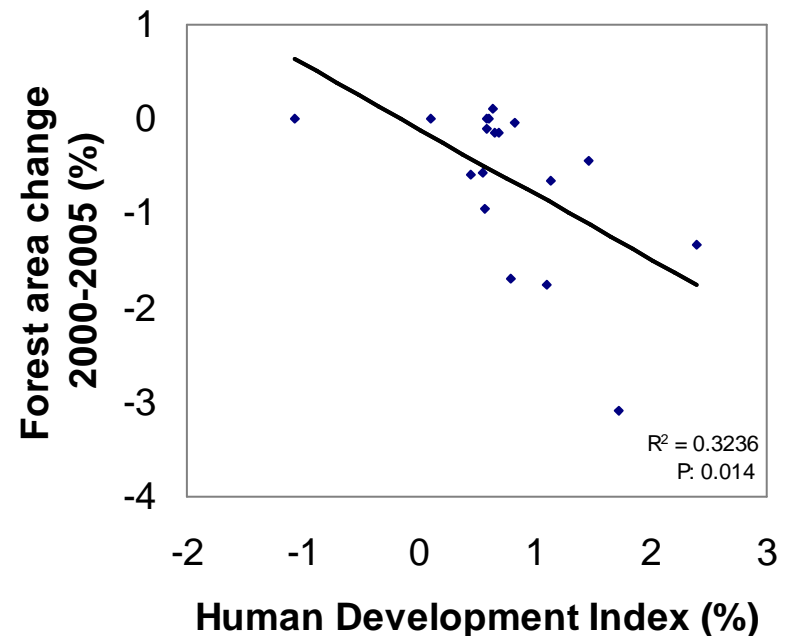
Due to a low level of human development, increase of income in this region may influence to decrease of deforestation

# Results: 1<sup>st</sup> stage (socio-economic)

South and Central America



South and Central America



Rising of development may increase demand for agricultural and forest products, hence enhance deforestation



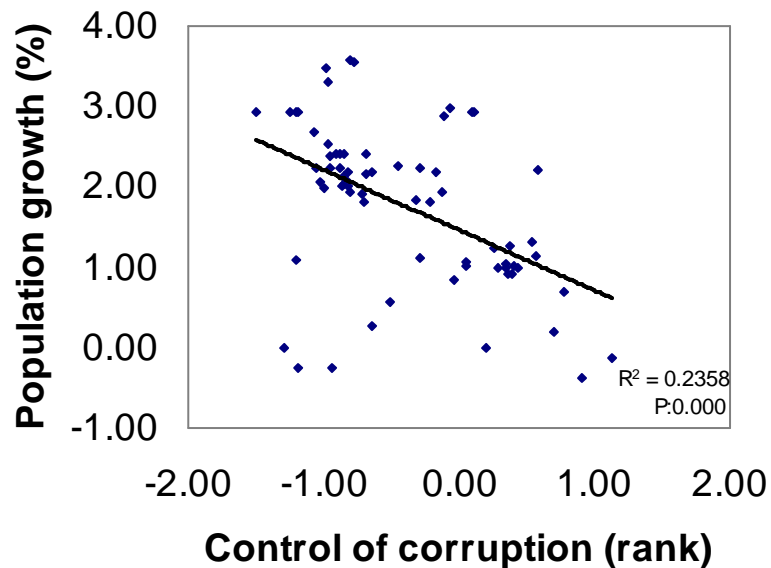
# Discussion: 1<sup>st</sup> stage (socio-economic)

---

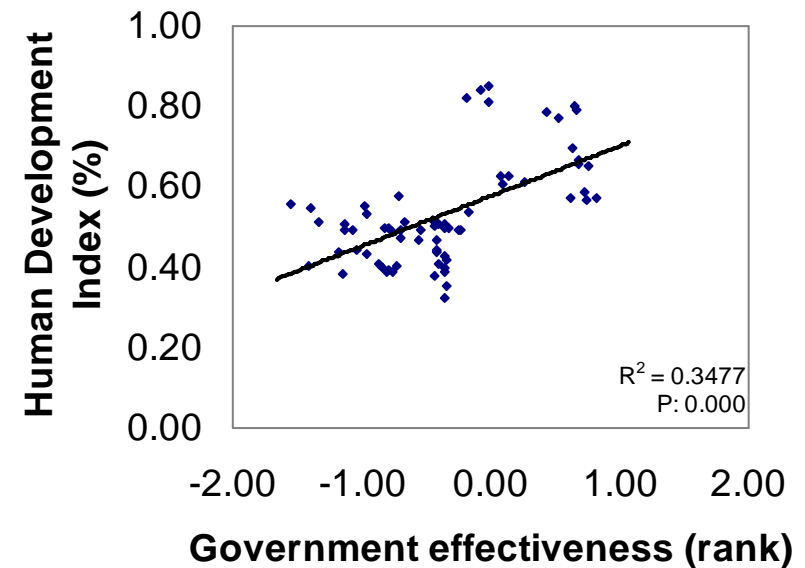
- Increase of income has conflicting effects on forest conversion: it can provide other ways for subsistence and/or rise demand for agricultural and forest products
- Population growth can not be considered the determinant driver of deforestation: low human development and the unfair distribution of income may work as external variables

# Results: 2<sup>nd</sup> stage (governance)

Eastern and Southern Africa

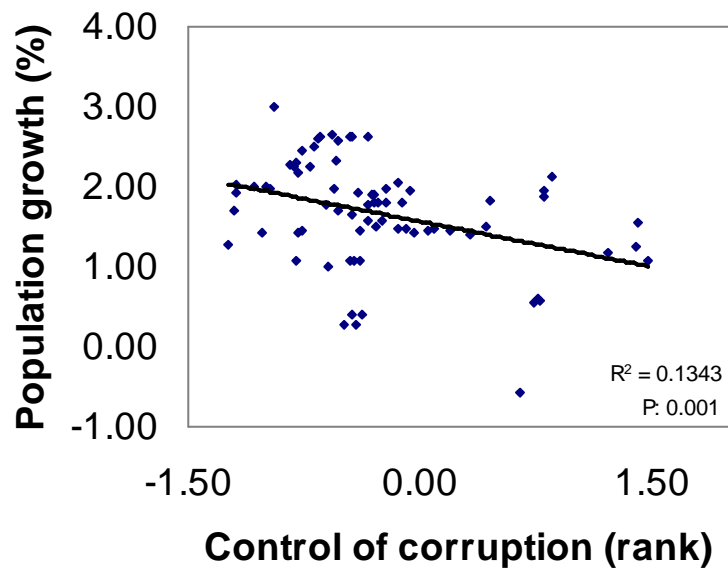


Eastern and Southern Africa

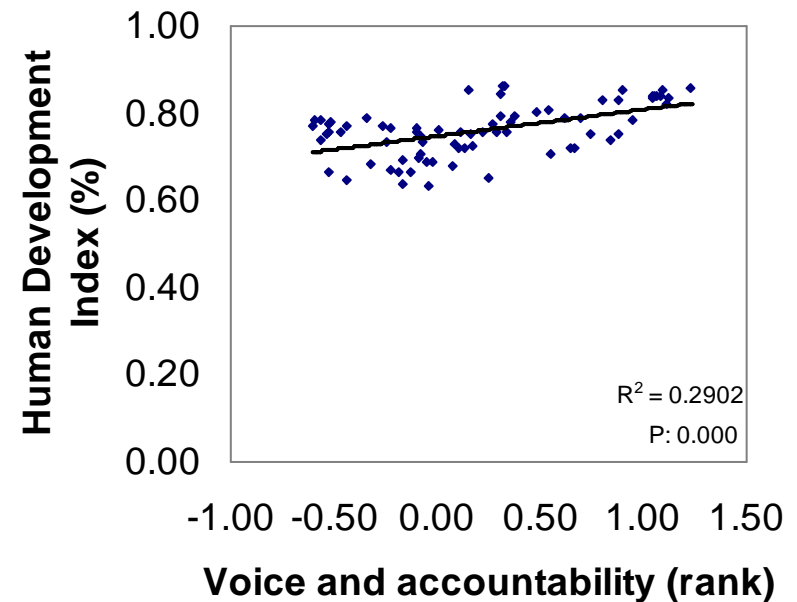


# Results: 2<sup>nd</sup> stage (governance)

South and Central America



South and Central America



# Discussion: 2<sup>nd</sup> stage (governance)

---

- **Corruption, political instability, government ineffectiveness, lack of democracy, badly designed property rights, and restricted access to market are all factors that hamper economic growth and human development**
- **These factors also make the “long-term investment” to conserve or sustainably use forests more risky and insecure, and hence lead to greater deforestation**

# Conclusion

---

- **Economic development has to be hand in hand with good governance and human development**
- **To be successful and sustainable any mechanism, including RED(D), has to aim, at the same time**

**(1) at the decrease of deforestation rate,**

**AND**

**(2) the implementation of policies to improve governance and social development**

---

**Good governance and socio-economic  
development need not only to be  
prescribed;  
they must be part of the whole process**

# Results: 2<sup>nd</sup> stage (governance)

## Tropical Countries (2000-2005)

