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LA·FORE·T

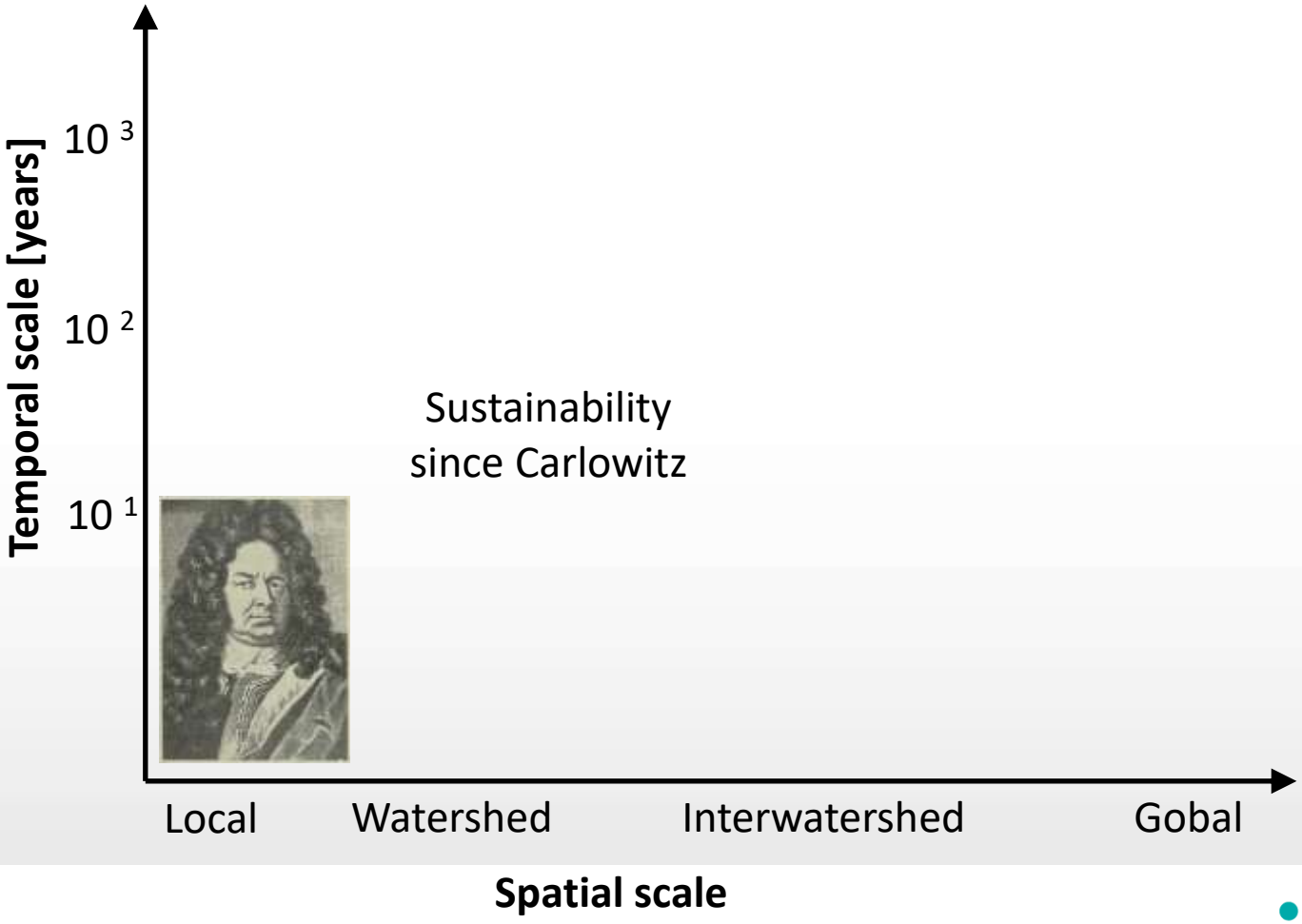
LANDSCAPE FORESTRY IN THE TROPICS

Sven Günter , Richard Fischer, Melvin Lippe, Jobst-Michael Schröder, Anastasia Yang, Eliza Zhunusova

Thünen Institute of International Forestry and Forestry Economics, Hamburg, Germany

Bangkok, November 15th, 2018

From timber exploitation to management of ecosystem services



Carlowitz 1713

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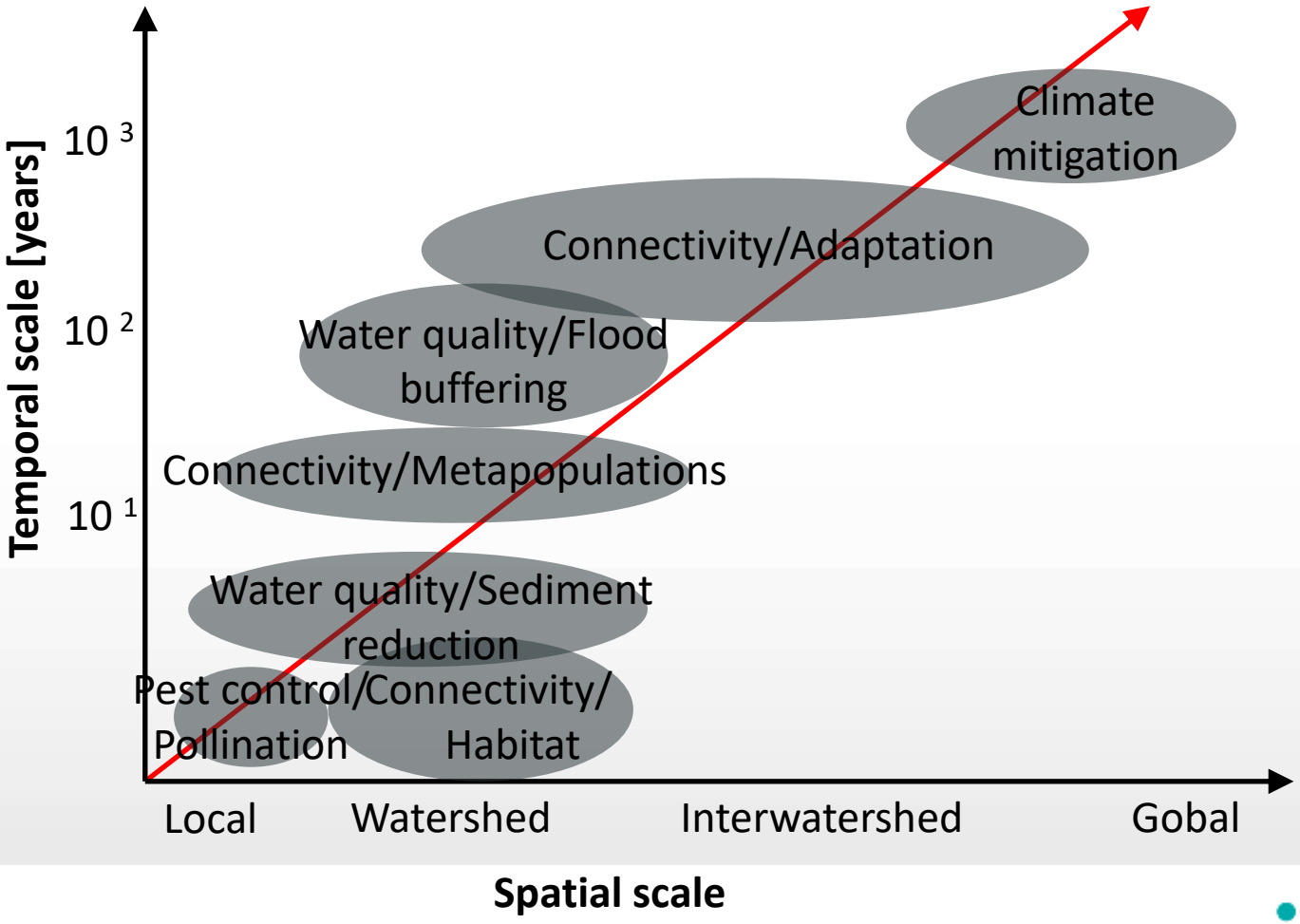
From timber exploitation to management of ecosystem services



Carlowitz 1713, Fremier et al. 2013

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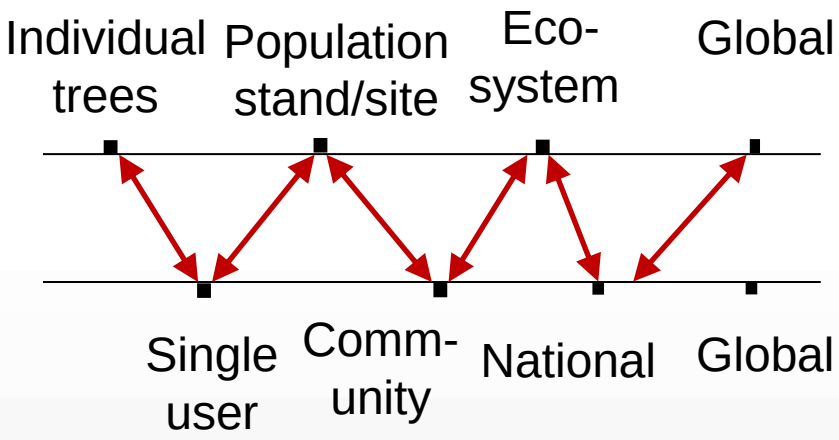
Ecological and societal dimensions: mismatch of scales

– **Ecological scales (ES producing dimension)** →



Mismatch of ecological and social scales

Overlapping and conflicting interests of stakeholders

– **Social scales (ES consuming dimensions)** →

Günter et al. 2013

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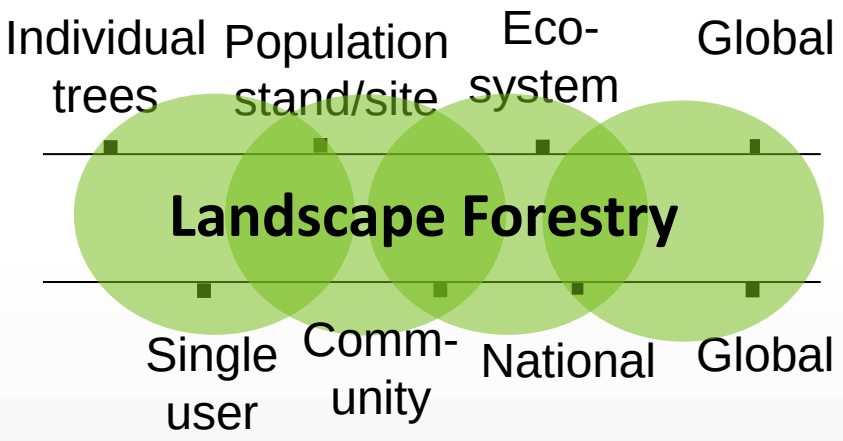
Landscape forestry: combining scales and dimensions

– **Ecological scales (ES producing dimension)** →



Hierarchical and nested approach

(adaptive management across scales, panarchy)

– **Social scales (ES consuming dimensions)** →

Günter et al. 2013

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Towards policy approaches for improving livelihoods, sustainable forest management and conservation

Formal and informal regulations
+
Incentive systems

Reducing deforestation
Fostering reforestation and restoration
Improving Livelihoods

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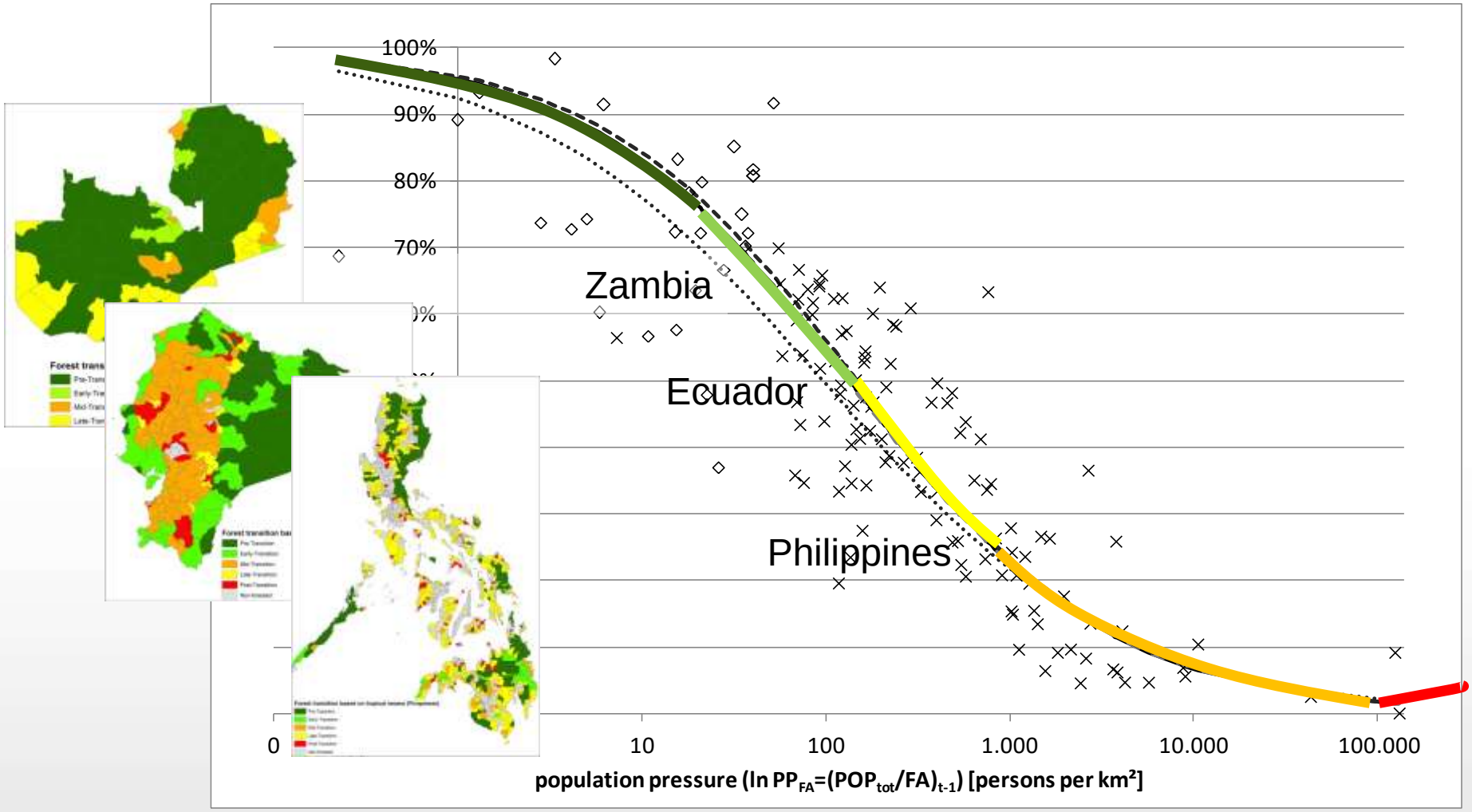
Forest transition hypothesis (FTH) as cross cutting theme

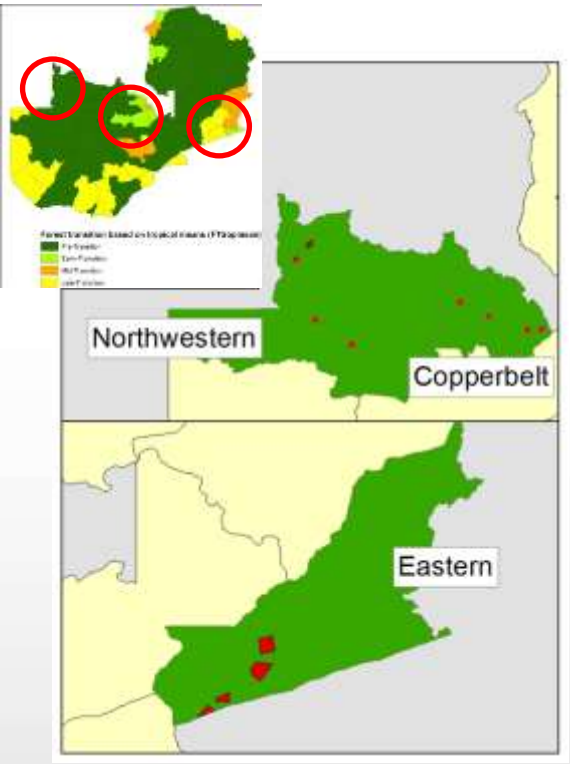


Köthke et al. 2013

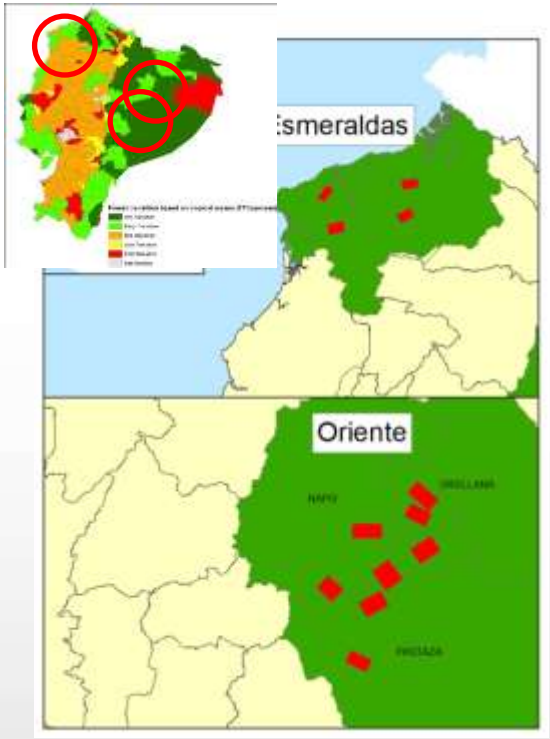
Forest transition contexts in Ecuador, Zambia and Philippines as strata for assessment

36 landscapes across different tropical continents, countries and forest transition contexts

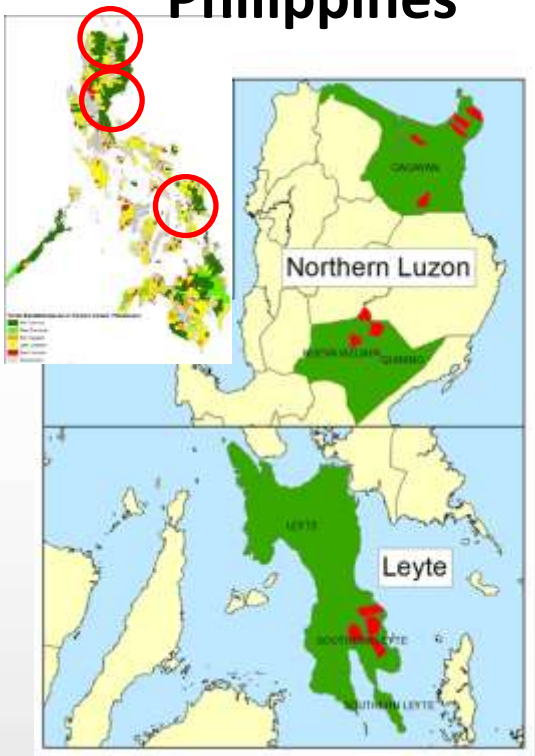
Zambia



Ecuador



Philippines



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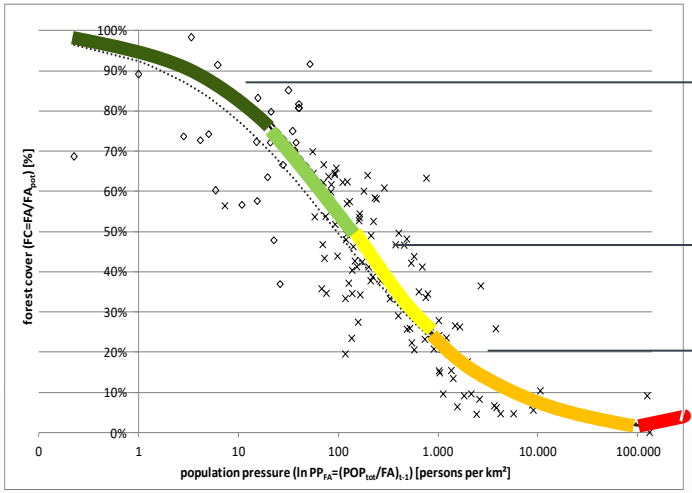
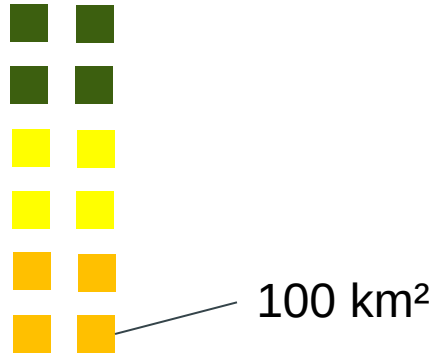
Combination of scales: forest transition hypothesis from global to national and local level

12 landscapes per country with different forest transition context





100 km²

Combination of scales: forest transition hypothesis from global to national and local level

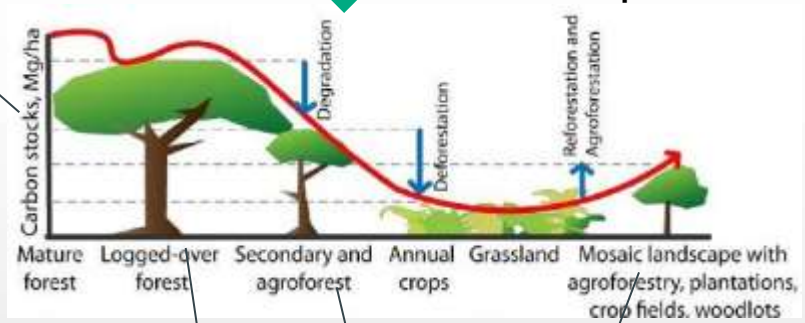
- Ca. 500 plots
- Ca. 4000 interviews
- Ca. 60 communities and participatory workshops
- Satellite image analysis

12 landscapes per country with different forest transition context

Governance and PES

Livelihoods
Opportunity costs, LUC

Cause-effect relationships



-Primary forest
-Degraded natural
-Fallow/succession
-Planted/Agroforetry

Sample plots for assessment of forestry potential and ecosystem services

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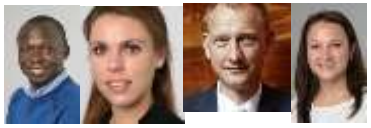
Organisation workpackages and countries

Sozioecological Systems

Land use simulation modelling



GIS + Drivers of deforestation

ES from forest and land use

Livelihoods and opportunity costs

Governance

Payments for Ecosystem Services (PES)

Ecuador: Universidad Estatal Amazonica, Universidad Luis Vargas Torres
Philippines: Visayas State Univ., Isabela State Univ., Univ. Philippines Los Banos, ERDB,
Zambia: CIFOR, Copperbelt University

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Thank you!

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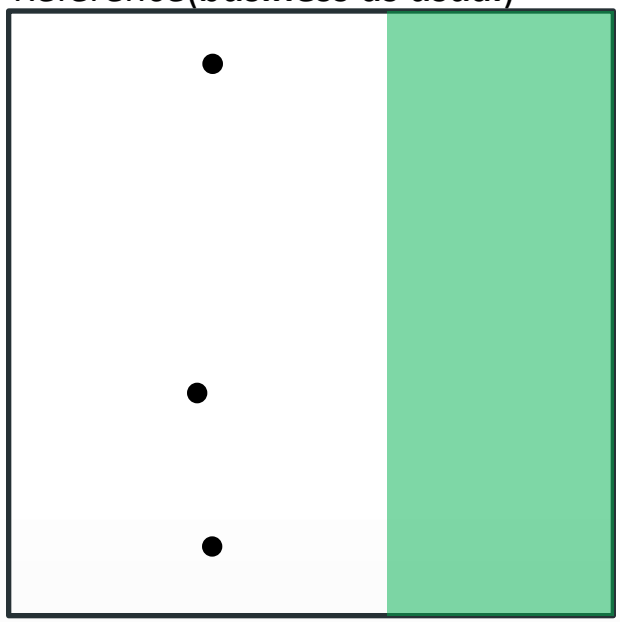
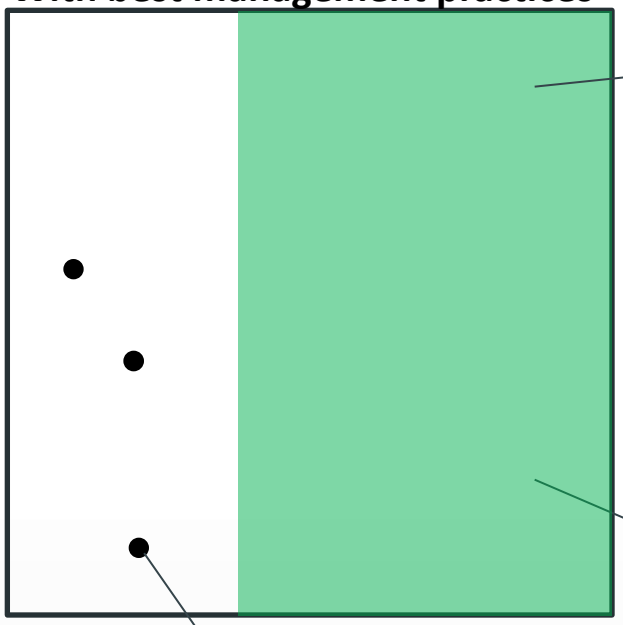
www.la-foret.org

Outlook: Design is adujstable to focussing on restoration in Africa: best management practices vs. business as usual?



Reference(**business as usual**)



With best management practices

Better forest functions ?
Less degradation /fragmentation?

Less human pressure ➔ Less fragmentation/ degradation?

Community

Forest

- Higher forest use potential ➔ More products and services for livelihoods?
- Forest/tree based ecosystem services lead to more resilient/sustainable agriculture?

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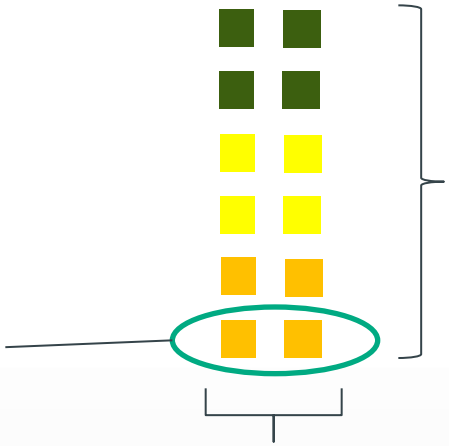
Forest transition context and access & use regimes as experimental factors

12 landscapes per country with different forest transition context



Different biophysical context (climate, soil, etc.)

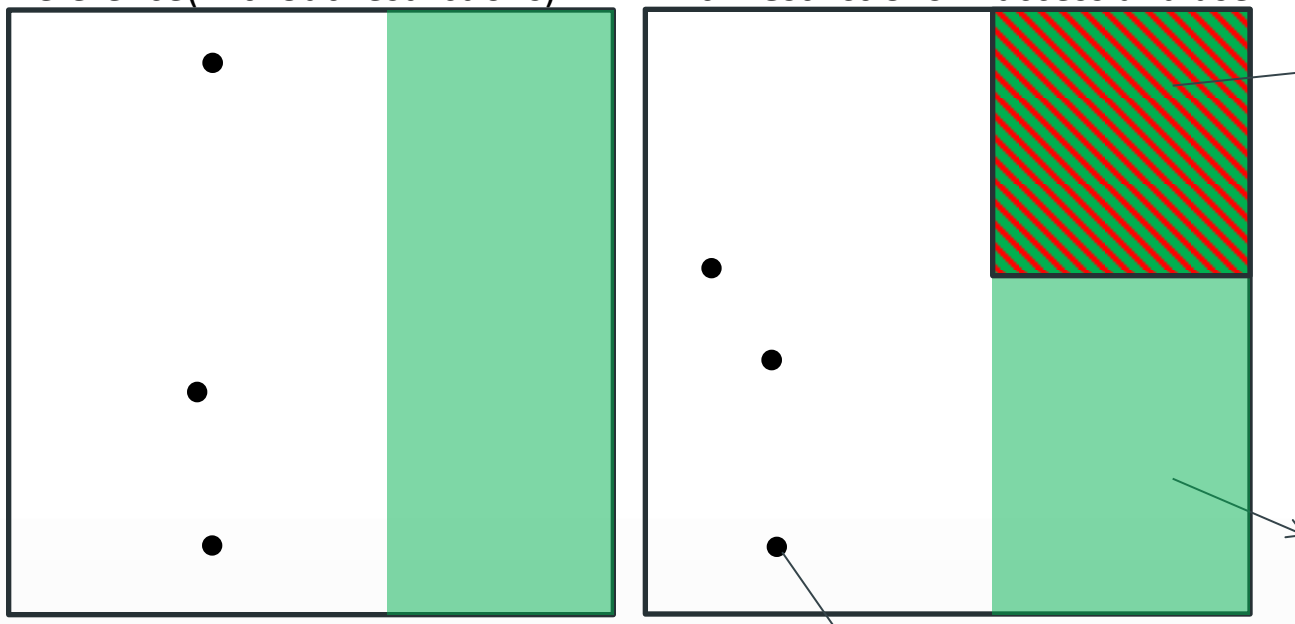
Similar biophysical context

Differences in access & use regimes (e.g. protected areas)

Blocked landscape design of access & use regimes and related research questions

Reference(**without** restrictions)

With restrictions in access and use



Better forest functions ?
Less degradation /fragmentation?

Higher human pressure ➔ More fragmentation/ degradation?

Community

Forest

Protected area

- Less forest use potential ➔ less products for livelihoods?
- Higher intensification of agricultural uses, higher opportunity costs ➔ Less efficiency of PES ?

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What is the problem?

Mismatch of provision and demand

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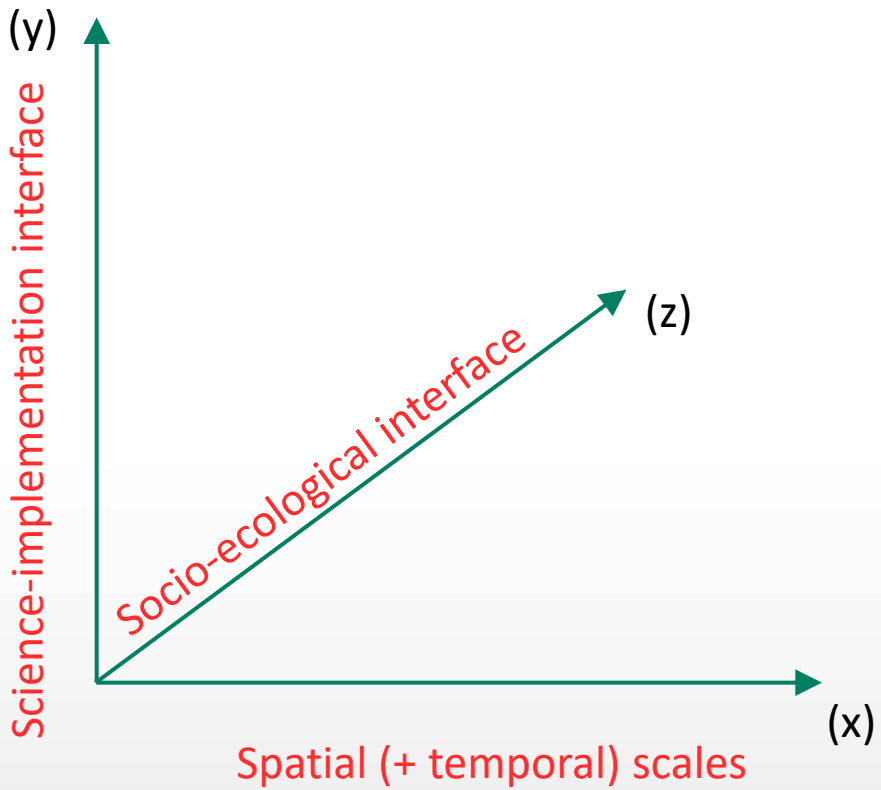
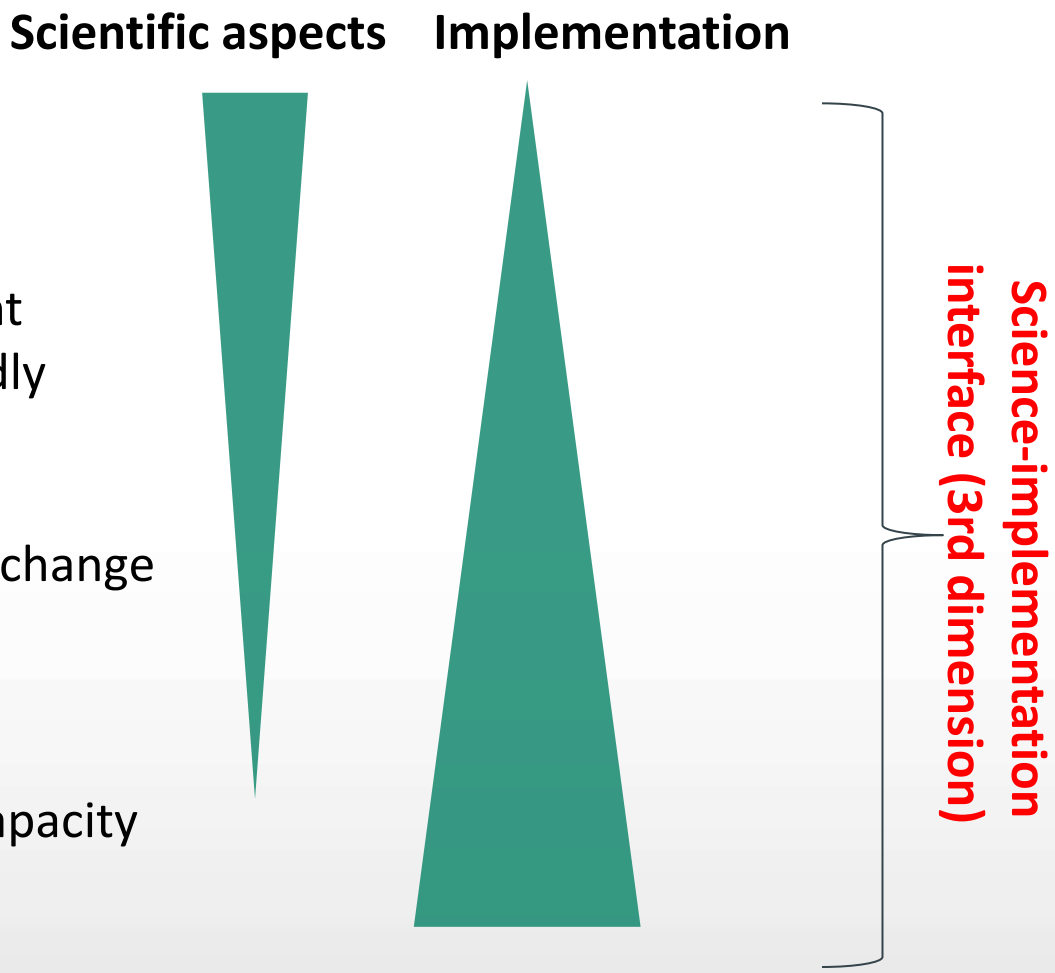
Landscape Forestry: Combining three dimensions



Ten principles for a landscape approach (Sayer et al. 2013)

1) Multifunctionality
2) Multiple stakeholders
3) Multiple scales
4) Common concern entry point
5) Participatory and user-friendly monitoring
6) Continual learning
7) Negotiated and transparent change logic
8) Clarification of rights and responsibilities
9) Strengthened stakeholder capacity
10) Resilience



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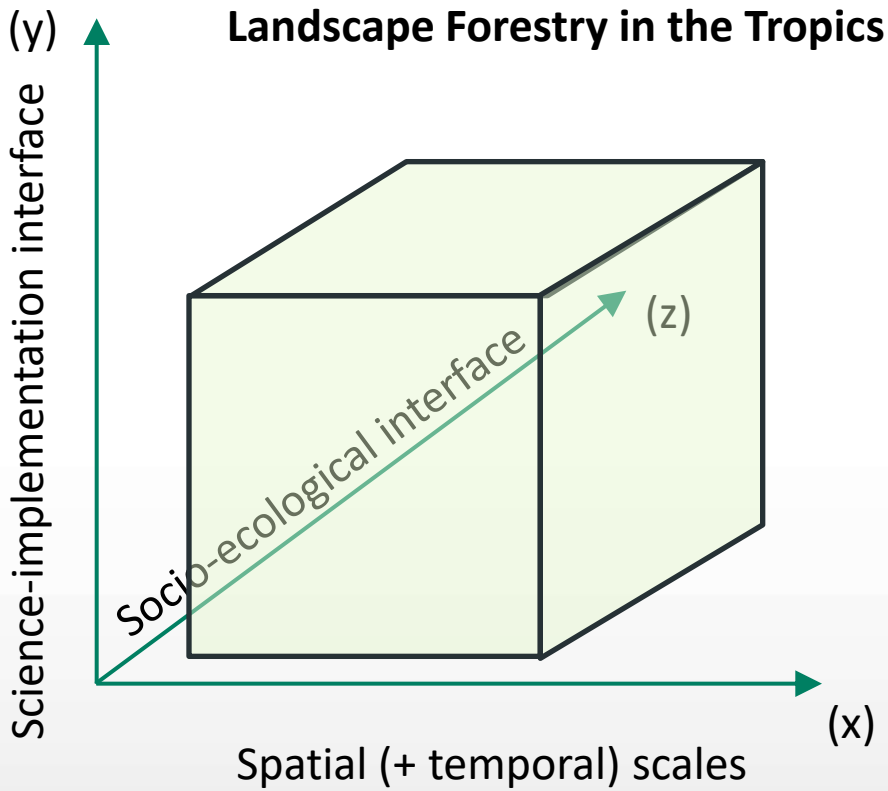
Landscape Forestry: Combining three dimensions



What is the problem?

Prioritisation of ecosystem services and timing

Spatial allocation of ecosystem services?

LaForeT: conceptual structure

gradient of spatial scales

1) Re- and deforestation patterns on **national scale** (Landsat)

1) Re- and deforestation patterns on **landscape scale** (Rapid-Eye)

2) land use types: Sustainable forestry and agroforestry

WP 3a) **Community scale** (land use plannig)

WP 3b) **Land user** (livelihoods, opportunity costs)

4) Governance

5) Payments for Ecosystem Services/ PES

Landscape modelling and simulation of policy scenarios

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