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MASTABAKAT

AGROFORESTRY

INDONESIA

World Agroforestry Centre

TRANSFORMING LIVES AND LANDSCAPES

21 May 2013 -- Malang Seminar Nasional Agroforestri

## **Agroforestry as buffer to livelihoods in a green economy: reflections from 20 years ICRAF Indonesia**




*Meine van Noordwijk – with thanks to Sonya Dewi,  
Beria Leimona, Betha Lusiana, Atiek Widayati, Ujjwal Pradhan dll*

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## **Agroforestry as buffer to livelihoods in a green economy: reflections from 20 years ICRAF Indonesia**

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- AF = Farmers + Trees + Forests
    - ➔ What happened to Indonesia's forests and AF?
  - A global research agenda on ecological intensification, agroforestry & buffer are key elements
  - Landscapes as institutional interface
  - Climate change increases need for buffering
  - How to green the Indonesian economy? 
-



**Agroforestry**  
a decade of development

Edited by  
H.A. Stepp  
and  
P.K.R. Nair

**ICRAF SEAsia**  
Celebrating 20 years World Agroforestry Centre in Indonesia, Philippines, China, Viet Nam, Thailand

Verified email at cgiaf.org

My profile: <http://scholar.google.com/citations?hl=en&user=KfXtvFUAAAAAJ>

**World Agroforestry Centre**

Change photo

Citation indices	
	Since 2008
Citations	11588
h-index	43
i10-index	277

Citations to my articles (1993-2013)

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**ICRAF thirtyfive years 25 years 2003**  
CGIAR World Agroforestry Centre (ICRAF)

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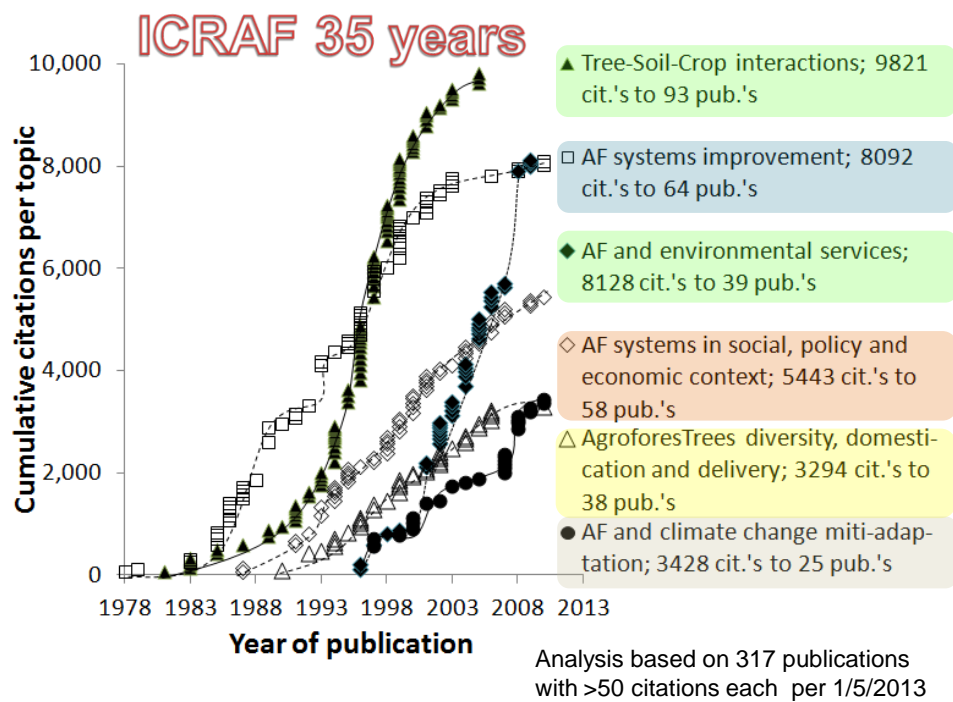
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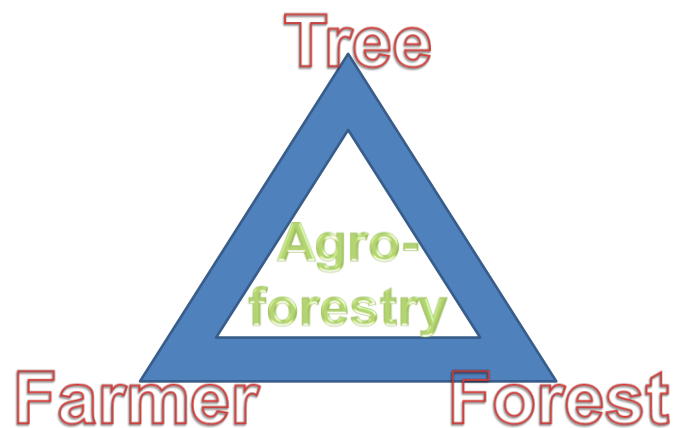
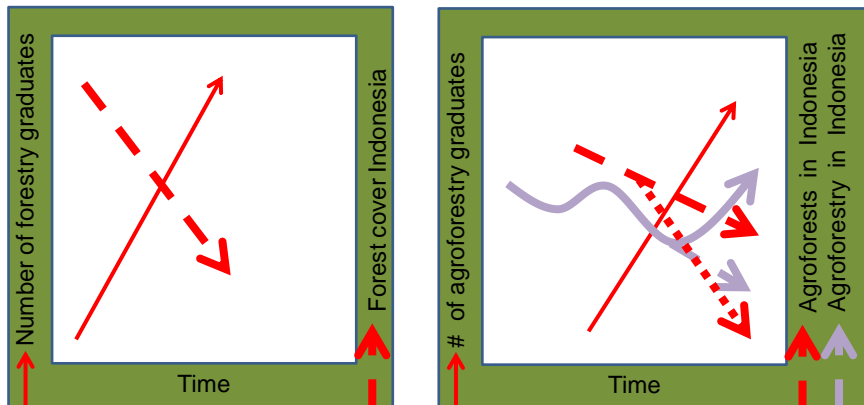
Citation indices	
	Since 2008
Citations	31001
h-index	66
i10-index	703

Citations to my articles (1987-2013)



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Enough on the celebrations,  
what happened to Indonesia's  
forests, trees and agroforestry?





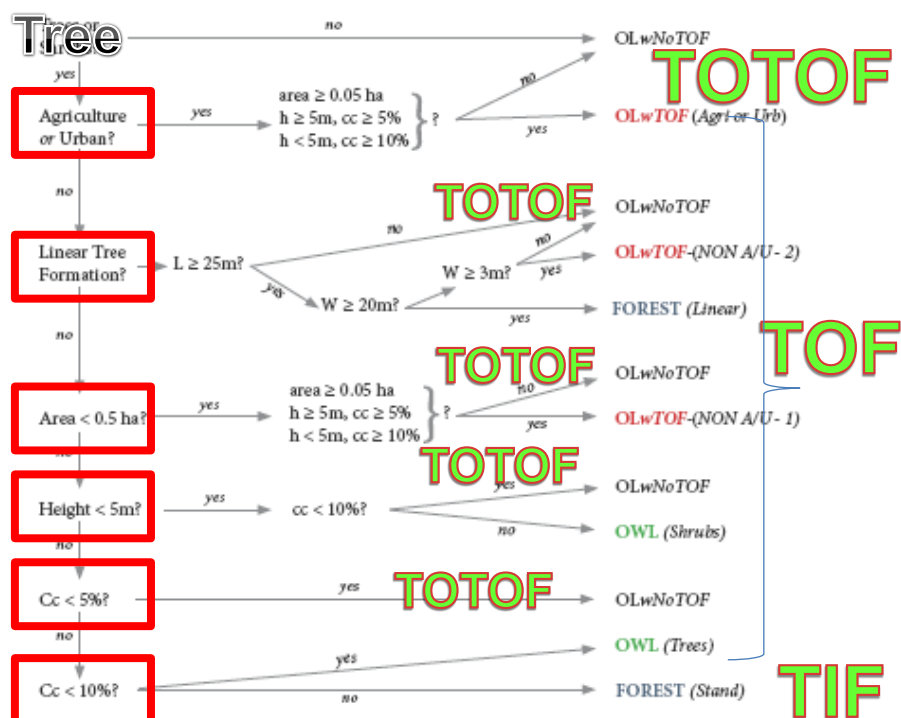
# TOWARDS THE ASSESSMENT OF TREES OUTSIDE FORESTS

A THEMATIC REPORT PREPARED IN THE FRAMEWORK OF  
THE GLOBAL FOREST RESOURCES ASSESSMENT

Hubert de Foresta, IRD  
Eduardo Somanriba, CATIE  
August Temu, ICRAF  
Désirée Boulanger  
Hélène Feuilly  
Michelle Gauthier, FAO

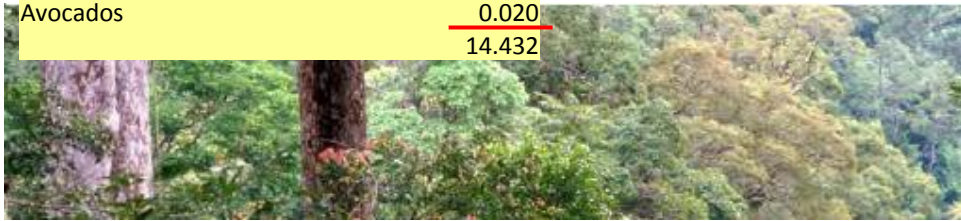


Rome 2013

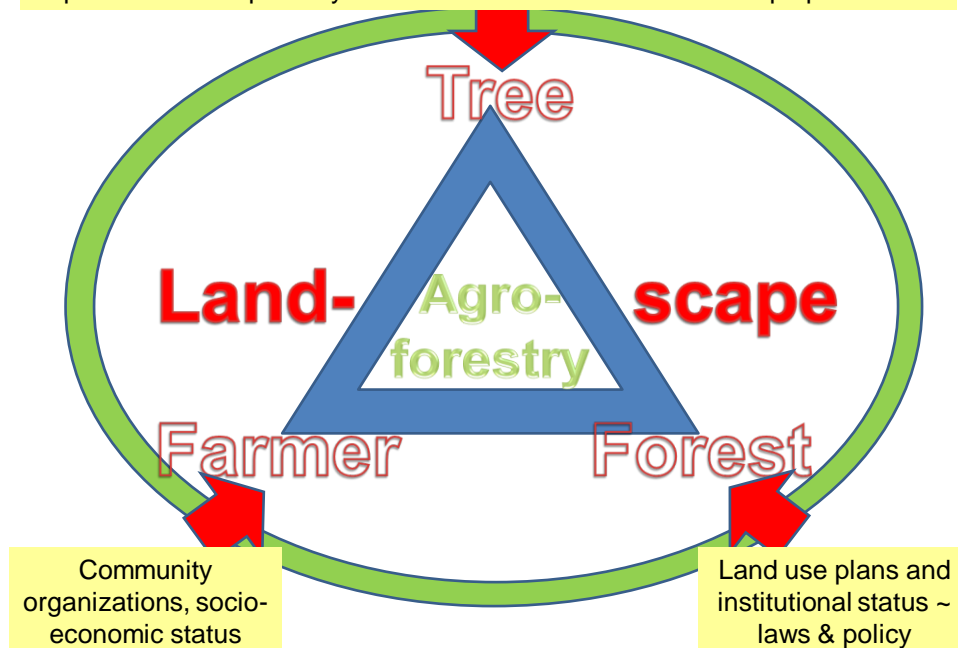


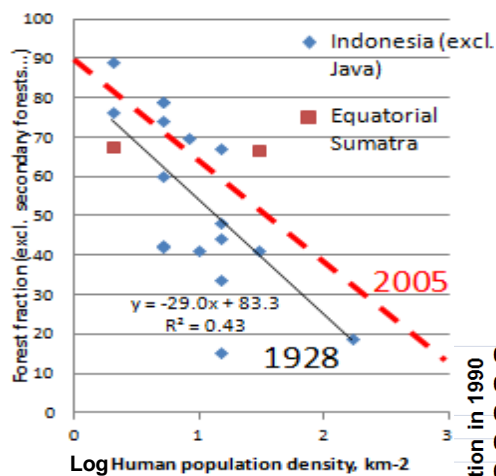
Oilpalm fruit	5.000
Coconuts	2.950
Natural rubber	2.898
Cocoa beans	0.990
Coffee	0.977
Cloves	0.312
Cashewnuts, with shell	0.308
Fruit,tropical	0.207
Mangoes,mangosteens, guavas	0.185
Kapok Fruit	0.133
Arecanuts	0.126
Tea	0.107
Cinnamon(canella)	0.081
Nutmeg, mace and cardamoms	0.075
Oranges	0.064
Avocados	0.020
	14.432

Agricultural “trees outside forest” in Indonesia, according to FAOSTAT: at least 9.4 + 5 Mha



Remote sensing + ground truthing information about quantity, quality, spatial pattern and temporal dynamics of tree cover across landscape positions



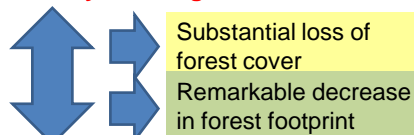


Environmental impact =

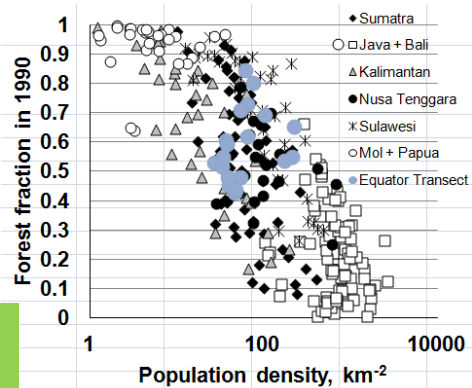
- ☐ Human population density \*
- ☐ Welfare
- ☐ Footprint/unit welfare

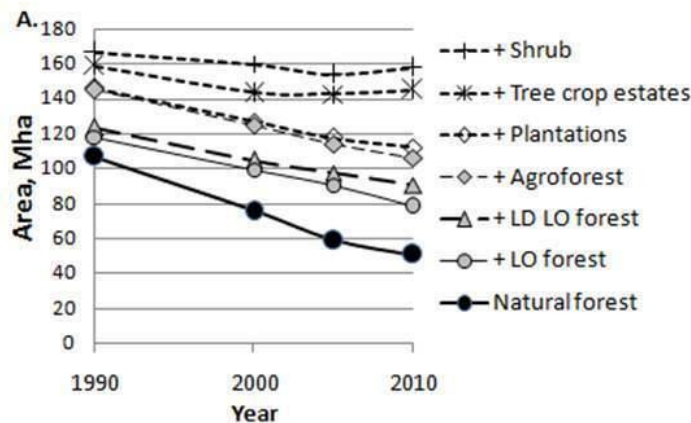
Sustainable development requires footprint to decrease faster than growth in population and welfare

Large increase in human population density + average welfare



Almost same relationship between log(PopDens) and forest cover

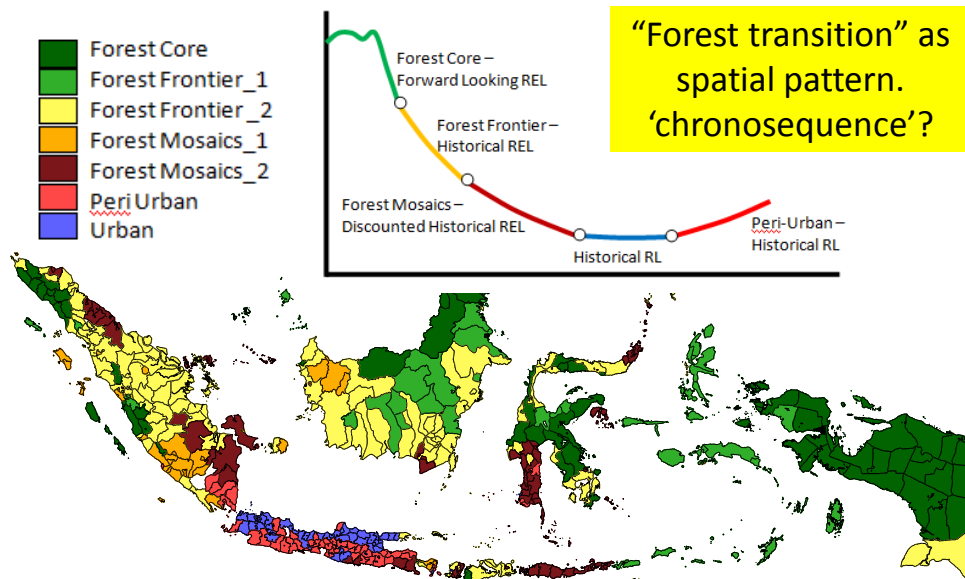




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**Stakeholder:**

1. Undisturbed natural forest ← Rainforest foundation
2. Undisturbed + sust. logged natural forest ← Conservation agency
3. Closed canopy undisturbed + logged forest
- 4A. as 3 + agroforest ← Forest ecologist
- 4B. as 3 + timber plantations ← Ministry of Forestry
- 4C. as 3 + agroforest + timber plant's + estate crops ← UNFCCC definition
- 4D as 4C + shrub ← Modis data



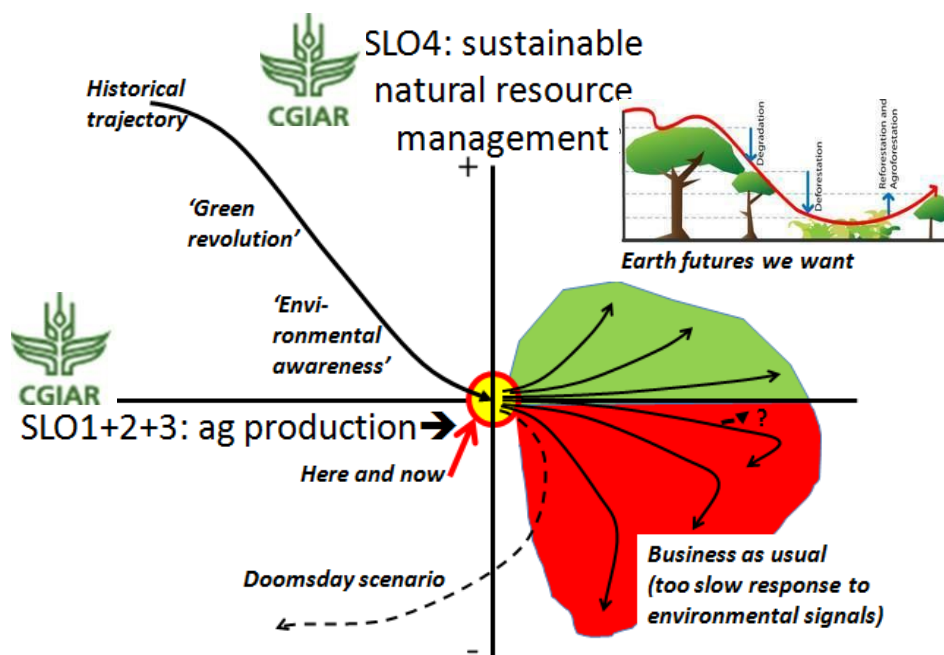
Spatial analysis: classification of 450 districts in Indonesia according to 7 tree cover transition stages (Dewi et al., in prep.)

19

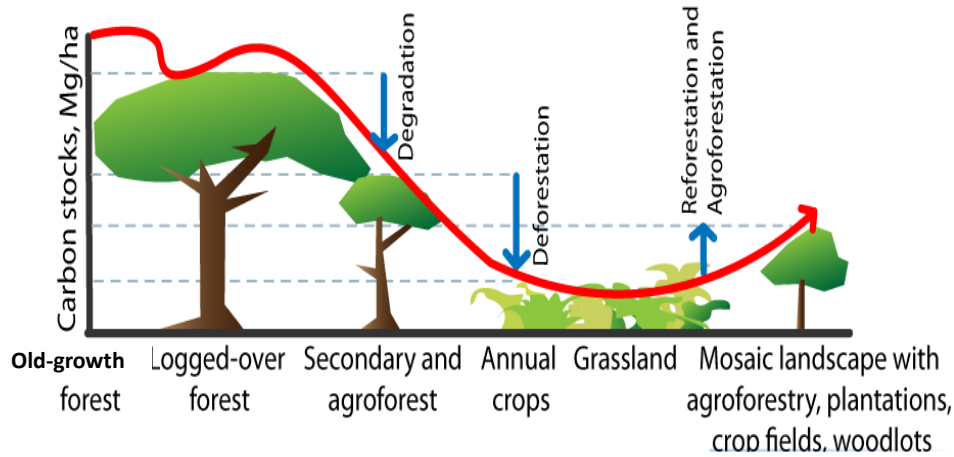


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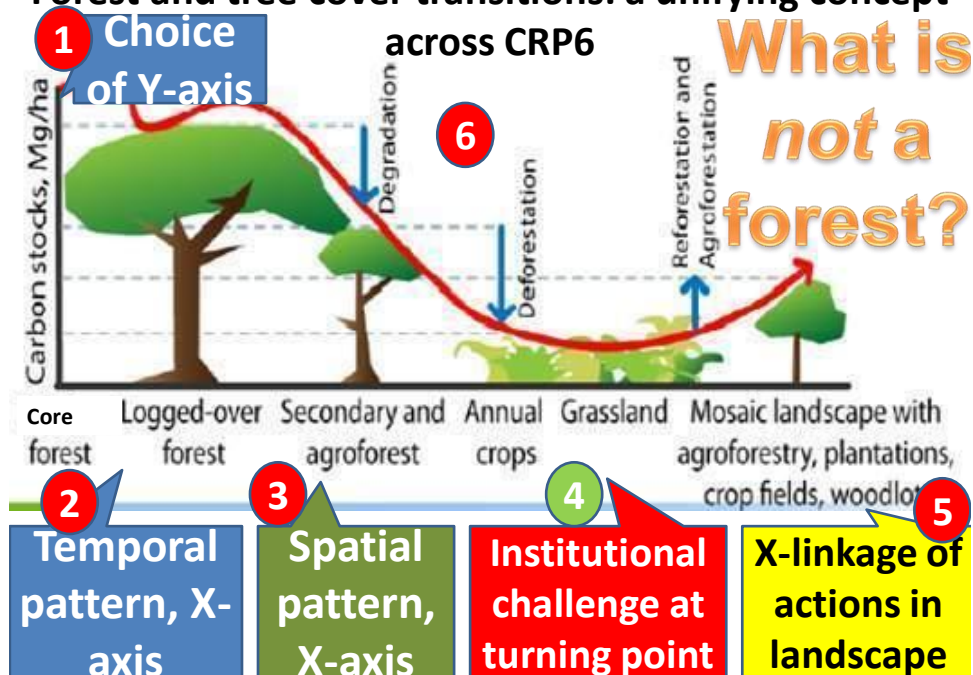


Tree cover transitions as unifying concept for livelihoods, landscape and governance aspects



<http://www.cifor.org/es/crp6/research-portfolio.html>

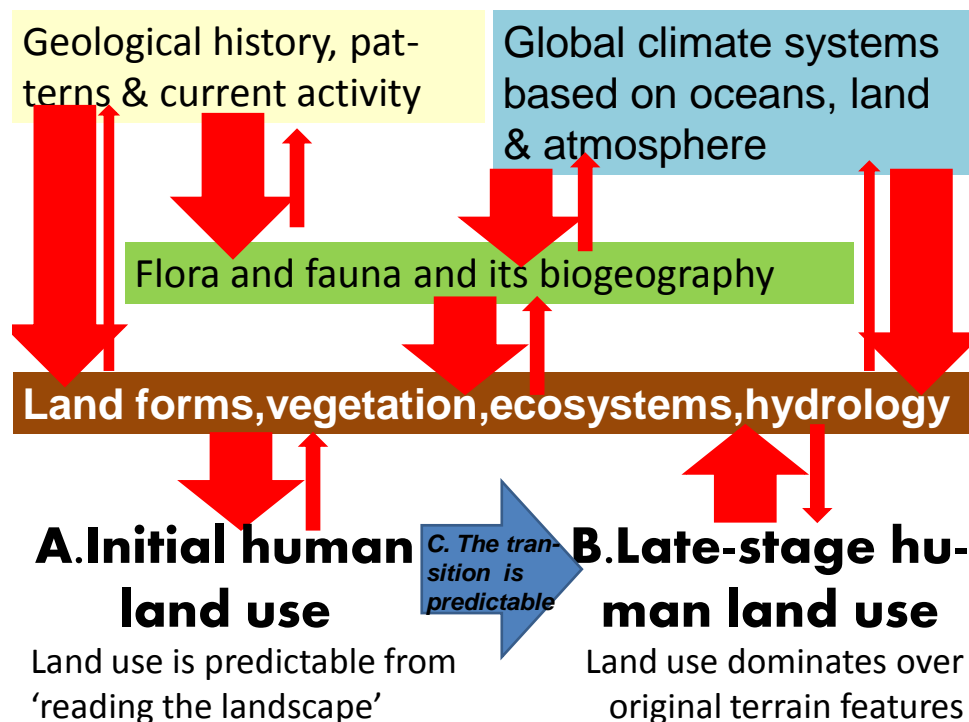
## Forest and tree cover transitions: a unifying concept across CRP6

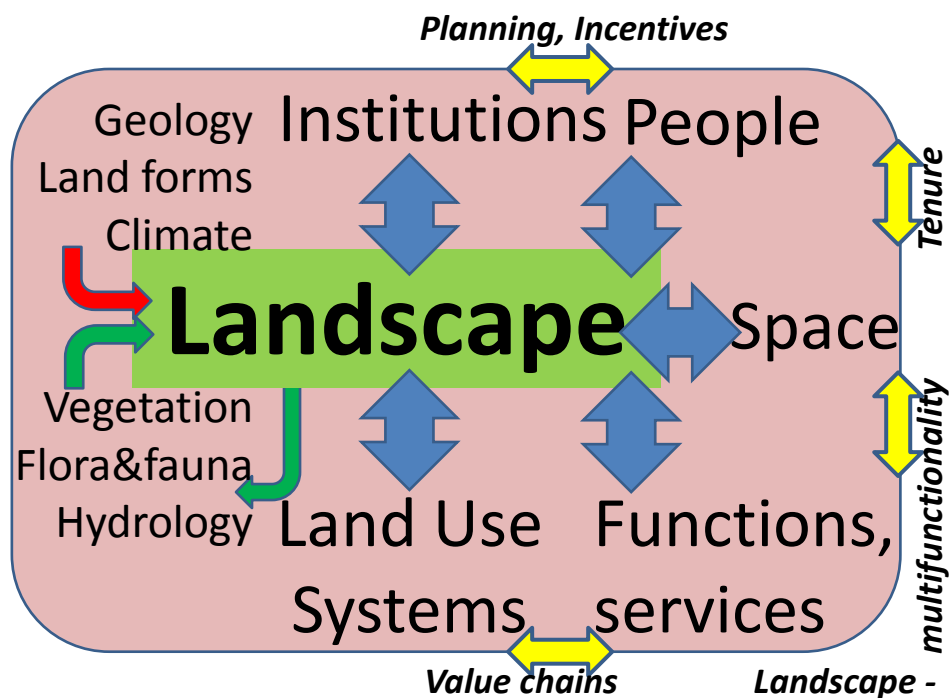


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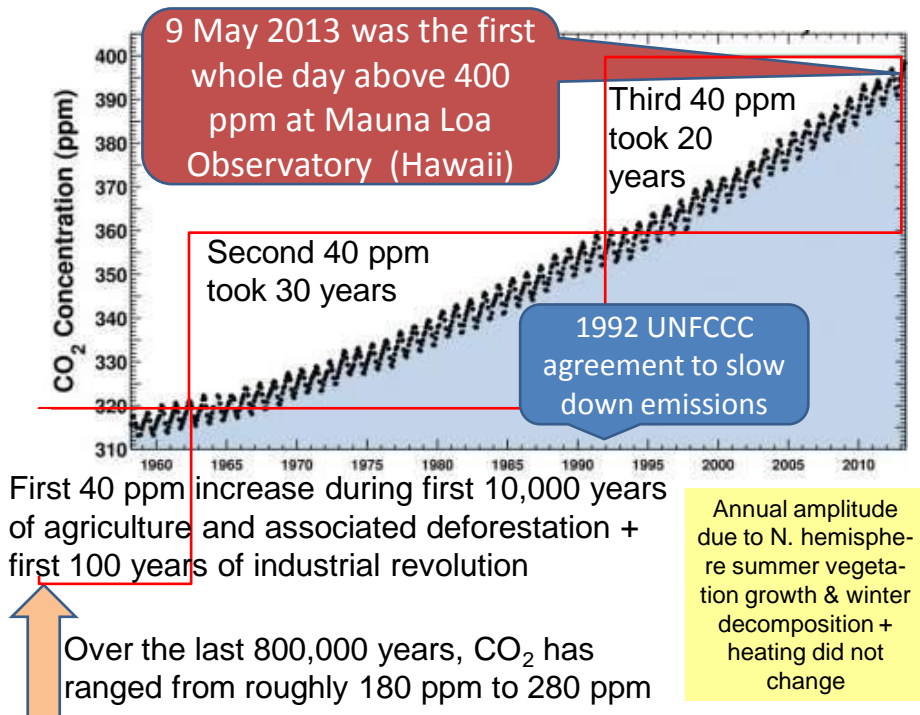




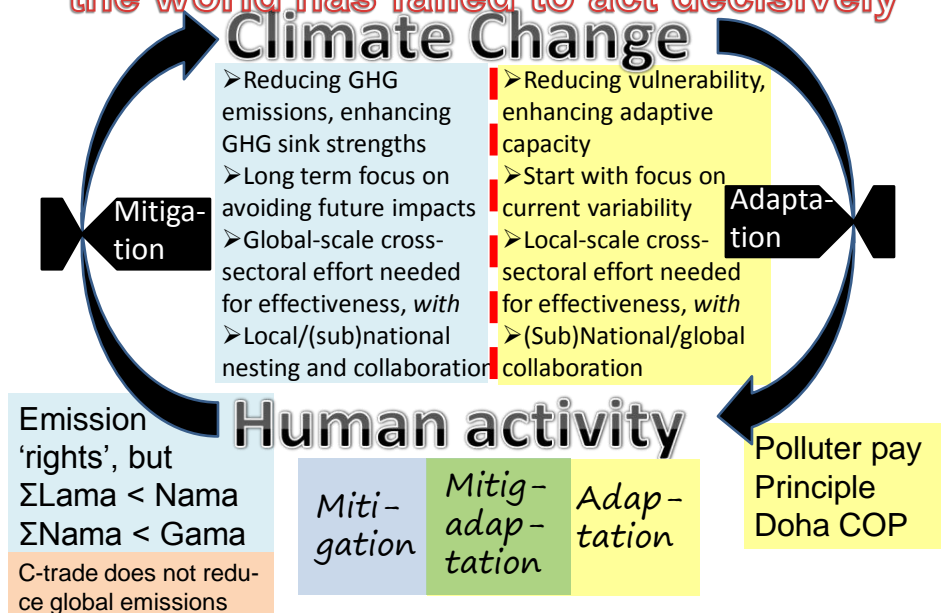
## Agroforestry as buffer to livelihoods in a green economy: reflections from 20 years ICRAF Indonesia

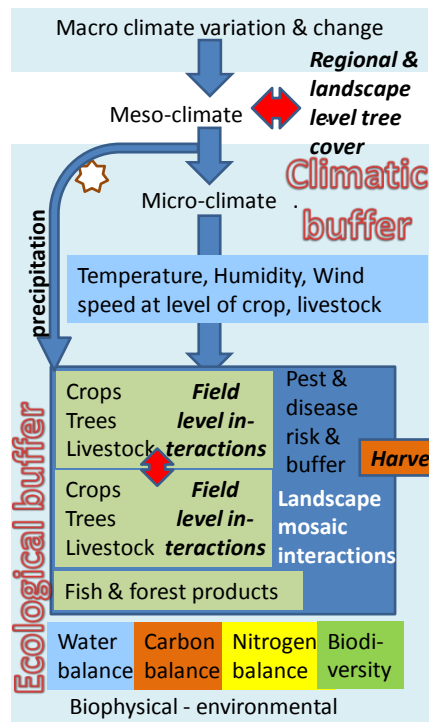
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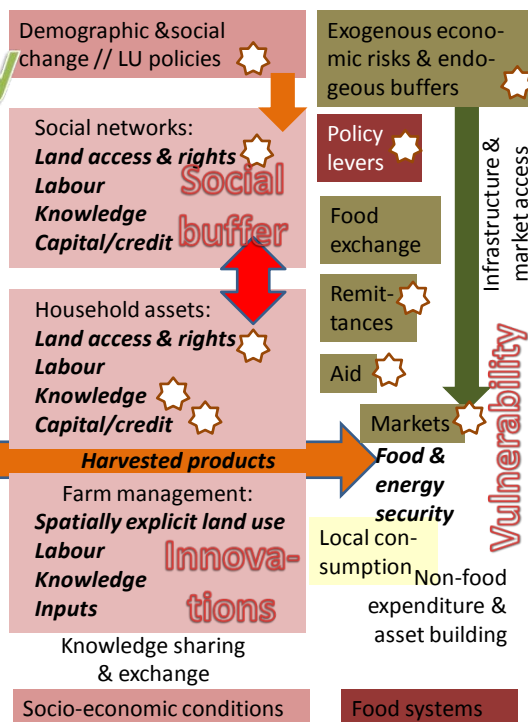
Despite 50 years of science and warnings, the world has failed to act decisively

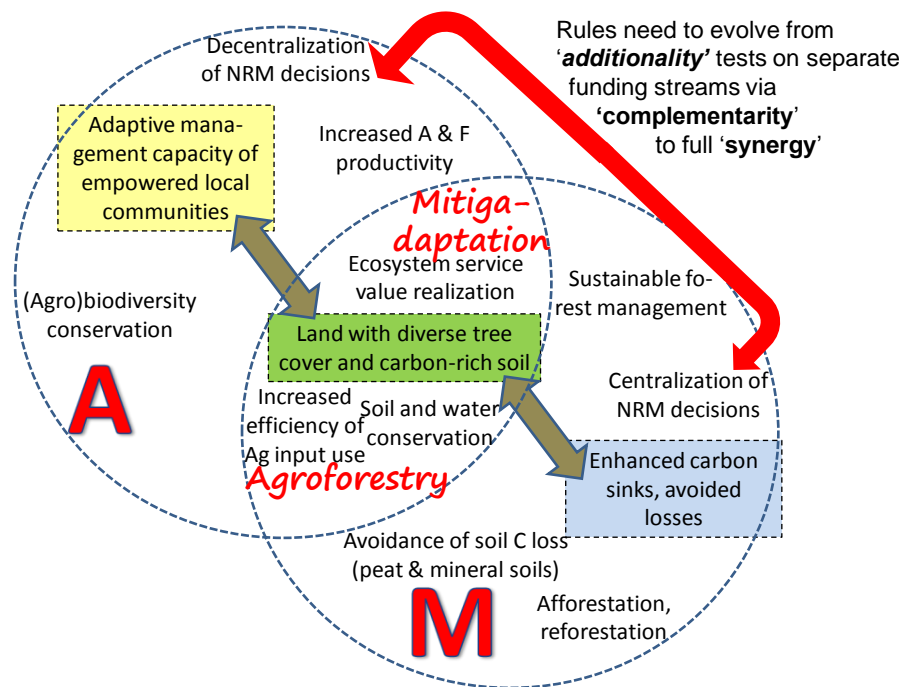
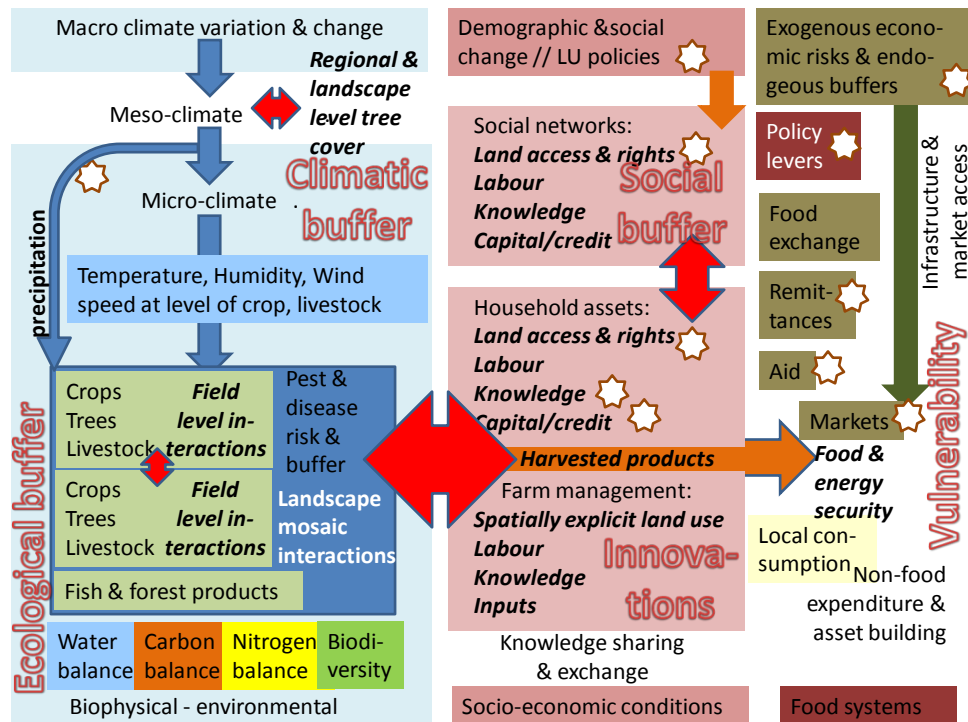




Agroforestry  
is an  
important  
part of  
ecological  
buffering

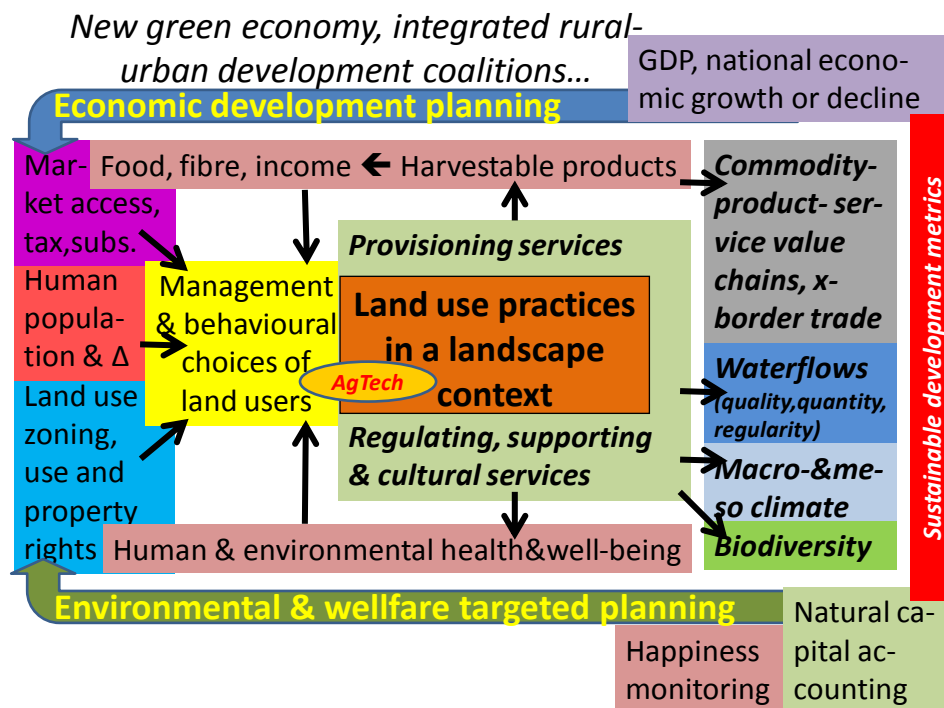
Agroforestry  
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important  
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socio-economic  
buffering





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## Conclusions & way forward

- We need good empirical evidence of **tree cover transitions** (quantity, quality, pattern) and their Ecosystem Service (**ES**) consequences
- We need a smooth institutional landscape interface between **Forests** and **People ~ ES** evidence
- **Climate change uncertainty + globalization** means an increased need for **buffering**
- **AF** can provide much of **the buffering needed**
- **Green Growth (7/42)** is feasible, but requires paradigm shift in ambitions

