

# The Forest Transition theory under scrutiny. Towards a Degrowth-inspired Land Change Science

Preliminary ideas for a literature review

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## Presentation overview

- Degrowth spreads
- Land Change Science
- The Forest Transition
- Aim
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- Towards a Degrowth-inspired Land-Change Science

## Degrowth spreads

- As an emerging new paradigm, Degrowth is both influencing and being influenced by different research fields and theoretical frameworks.
- In so doing new research questions might be posed, research fields renewed and political proposals strengthened.
- I explore how Degrowth may engage with Land-Change Science focusing on the Forest Transition framework.

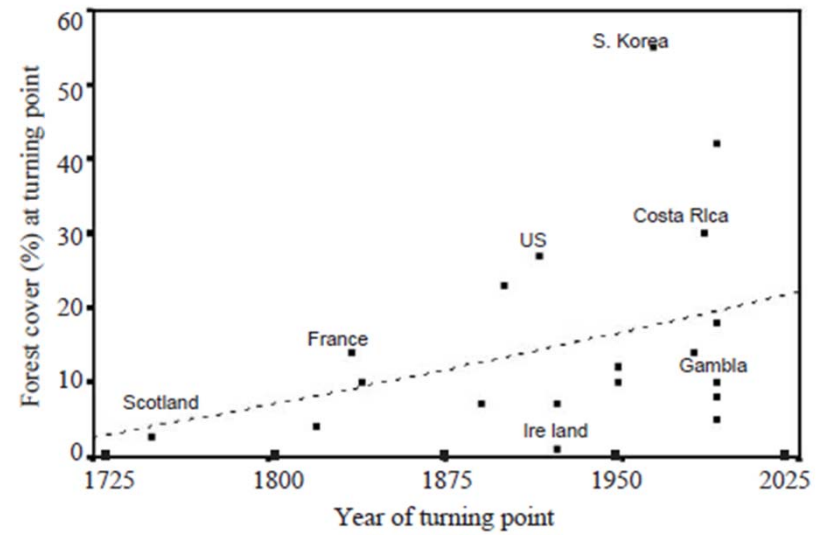
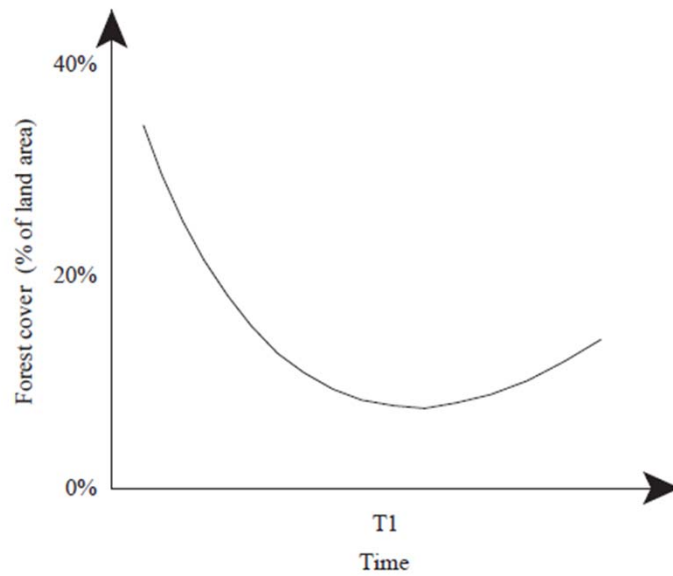
## Land Change Science

- It studies the dynamics of land cover and land use as a coupled human–environment systems (Turner et al., 2007).
- Land use transitions as sequential transformations from pre-settlement extensive to industrial intensive land use (Foley et al., 2005).
- Interest in proximate causes and underlying driving forces of land use changes (Geist and Lambin, 2002).
- *Telecoupling* is now being put forward to better account for feedbacks between distant human-environment systems (Liu et al., 2013).

## Forest Transition (FT)

- Theory used to explain changes in forest cover mostly at national scales.
- Described as a national (or regional) shift from net forest loss to net forest gain as an industrial economy develops.
- FT have been shown to occur in both developed and developing countries.
- Scholar interest in the prospects and policy options for a global FT which would halt worldwide deforestation.

## Forest Transition



Rudel et al. (2005)

## Aim

- Use insights from Degrowth sources to:
  - i) Scrutinize the Forest Transition framework.
  - ii) Suggest new research questions and alternative analytical frameworks for Land Change Science.

## Method

Literature review:

- Search for “forest transition” in the title of journal articles (n~100).
- Period 1992-2014.
- Journals: Area, AAAG, Land Use Policy, Rural Sociology, International Forestry Review, Society & Natural Resources, PNAS, The Professional Geographer, Journal of Rural Studies, Ecology & Society...



## Method

Meta-analysis:

- Questionnaire to survey selected articles (Nielsen and D'haen, 2014)
  - General characteristics: title, authorship, year published, region, scale.
  - Methodology: methods used, discussion of methods chosen, reflection on position.
  - Results and discussion: presentation of results, framing of discussion, issues included/excluded from discussion.
  - Conclusions.
- Answers entered and coded into spreadsheet for analysis.
- Discourse analysis?

## Hypotheses

- #1: FT is premised upon the inevitability of economic growth as universal path of social evolution (Perz, 2007; Turner and Robbins, 2008).
- #2: FT assumes that forest expansion is socially and ecologically desirable.
- #3: Both assumptions are somehow related through a common growth/forest fetish (Bae et al., 2012; Walker, 2012).

## Towards a Degrowth-inspired Land-Change Science

- How are changes in forest cover in one country related to changes in forest cover in other countries? (Meyfroidt et al., 2010)
- How are trajectories of forest change related to changes in social metabolism at multiple scales? (Kastner et al., 2011)
- Which are the positive and negative social and ecological impacts of forest regrowth?

## Towards a Degrowth-inspired Land-Change Science

- Which trade-offs between ecosystem services (e.g. water supply) and risk (e.g. wildfire)?
- Which changes in land use and landscape patterns may be expected with a transition to lower material and energetic throughput?
- How are decisions regarding land use shaped by alternative mental models beyond *Homo economicus*?

## References

- Bae et al (2012) *Land Use Policy* 29: 198-207
- Foley et al (2005) *Science* 309: 570-574
- Geist and Lambin (2002) *BioScience* 52: 143-150
- Kastner et al (2011) *Global Environmental Change* 21: 947-956
- Liu et al (2013) *Ecology and Society* 18 (2)
- Meyfroidt et al (2010) *PNAS* 107: 20917-20922.
- Nielsen and D'haen (2014) *Global Environmental Change* 24: 402-409
- Perz (2007) *The Professional Geographer* 59: 105-114
- Rudel et al (2005) *Global Environmental Change* 15: 23-31
- Turner and Robbins (2008) *Annual Review of Environment and Resources* 33: 295-316.
- Turner et al (2007) *PNAS* 104: 20666–20671
- Walker (2012) *Applied Geography* 32: 12-20