

*Effects of afforestation on rural livelihoods
and landcover: Evidence from 40 years' tree
plantations in northern India*

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..... with Forrest Fleischman (PI), Eric Coleman, William Schultz, Pushpendra Rana, Vijay Ramprasad, Claudia Rodriguez-Solorzano, Ashwini Chhatre, Anthony Filippi, Burak Güneralp

Tree plantations, restoration, and 'nature based solutions' for climate change

Now a global discourse, with far reaching consequences for policy

Many plantation/restoration programs are premised on the ability to advance human & livelihood benefits in tandem

But will these programs necessarily generate positive outcomes for people and the planet?

Viewpoint

Pitfalls of Tree Planting Show Why We Need People-Centered Natural Climate Solutions

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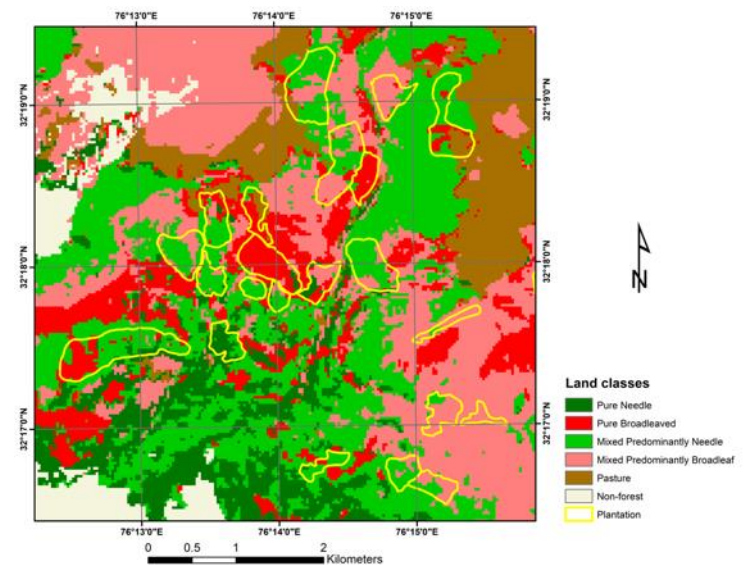
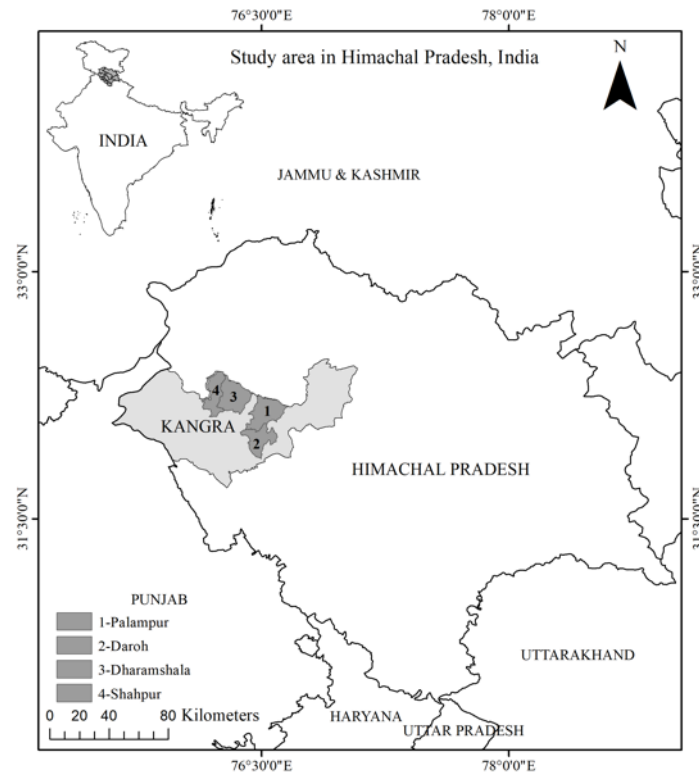
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“Impacts of Afforestation on Sustainable Rural Livelihoods in India”

We address the lack of evidence about long-term impacts of plantation project

- Satellite imagery analysis
- Forest Department plantations records (since 1980s)
- Large scale data collection (2400 households, 1250 plantations)
- In-depth qualitative enquiry

Funded by NASA, Land Cover Land Use Change grant

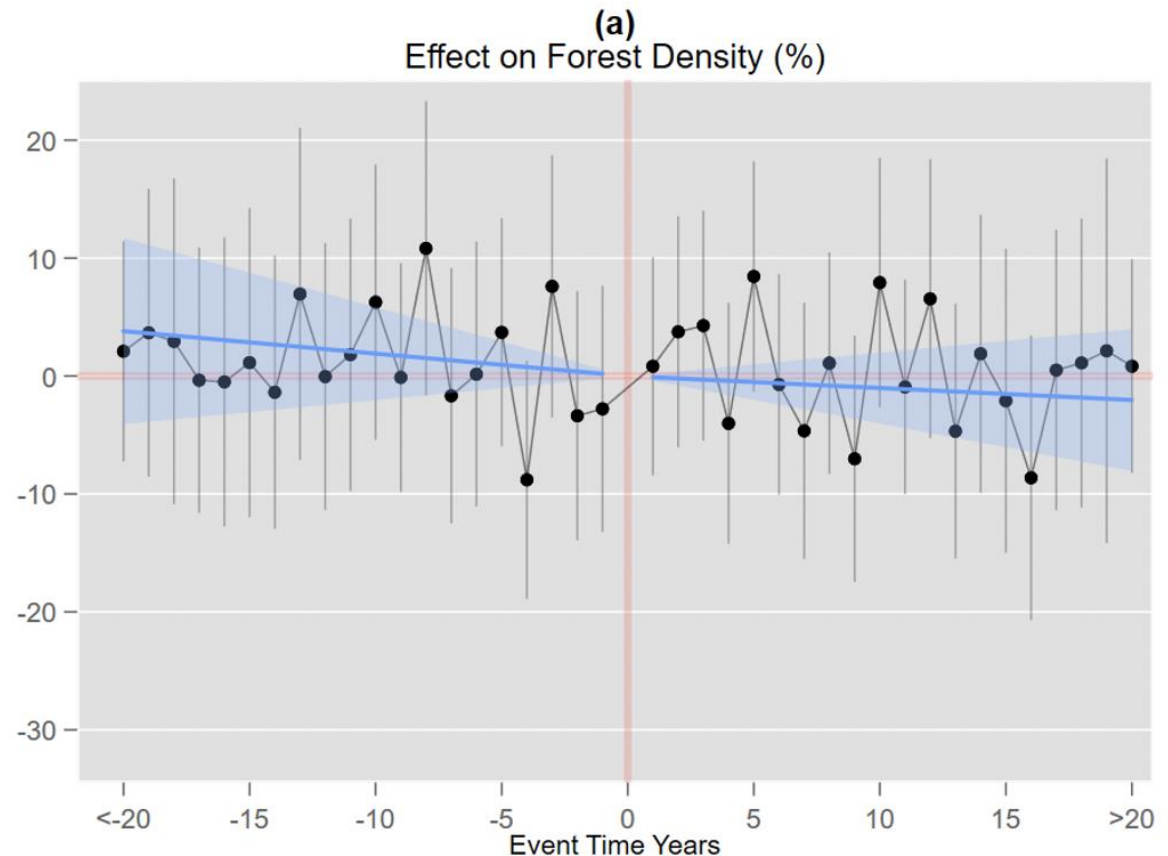


Tree cover: we find no impact on forest cover overall

Controlling for timing of intervention and other factors, we find **no evidence that forest cover improves** as a result of plantation events

Why?

The political economy of plantations...

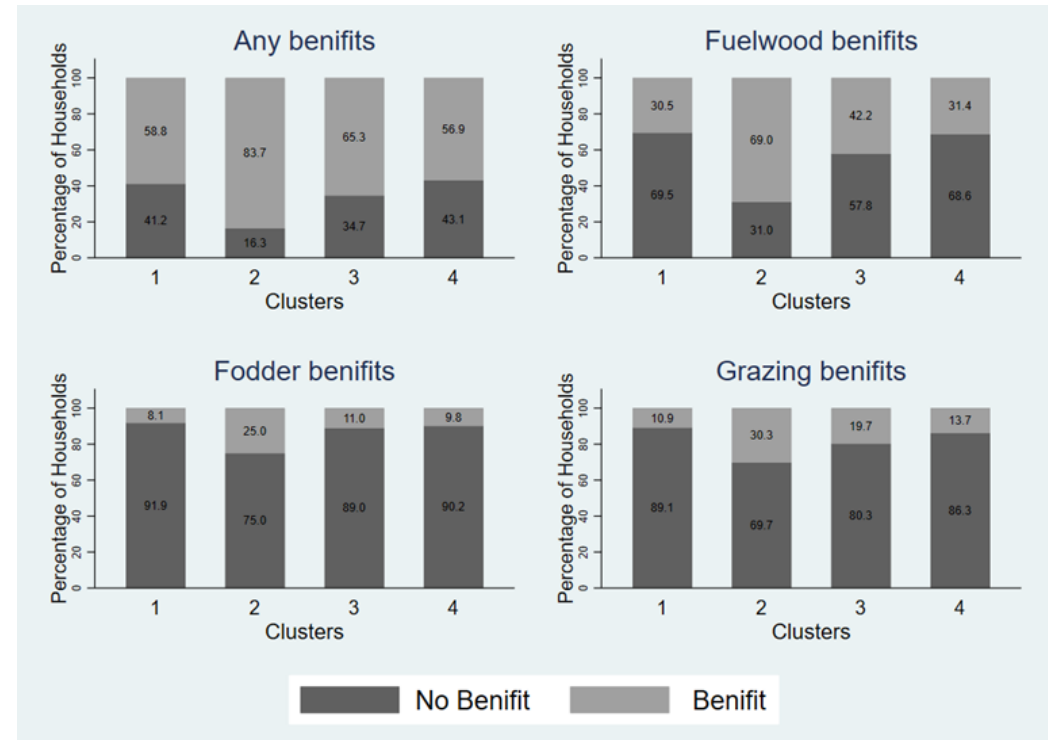
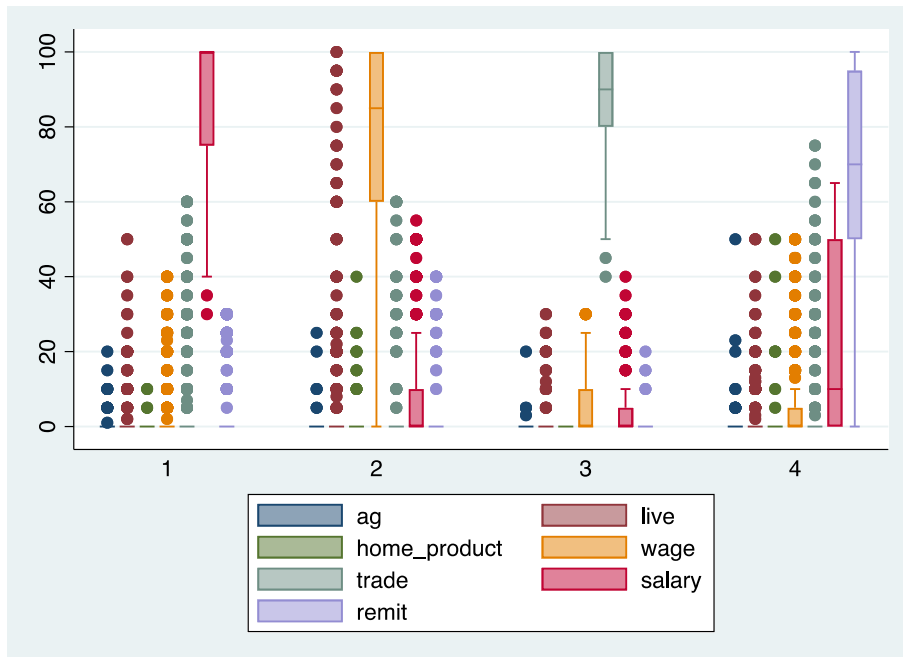


Note: analysis is still in development, findings are preliminary

Most people in our study area use plantations

8 major livelihood benefits derived from plantations:

fuelwood, fodder, grazing, timber, mulching, and others



Households cluster into four major groups based on income source (left);

All livelihood “profiles” derive benefits from plantations (top)

Especially wage laborers (i.e. the poor)

Importantly: we do not know possible negative effects from land conversion

Lessons for plantations

- Global analysis may vastly over-estimate 'restoration' potential
- Communities have much to gain, and much to lose – especially the poor
- Mixed species, broad-leaf plantations associated with more benefits overall (see right)
- Increased local participation may improve outcomes over the longer-term

Thanks, and input welcome!
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