International migration drives reforestation in Nepal

Johan A Oldekop, KRE Sims, MJ Whittingham, A Agrawal
In 2010, 170 million international migrants contributed $432 billion to the global economy (Abel & Sanders, Science 2014)

How these flows influence natural resources?

Asheshwor Shreshta (UN, International Migrant Stock data 2013)
How has international migration influenced forest cover in Nepal?

<table>
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<tr>
<th>Predominantly rural &amp; forested</th>
<th>Decade-long armed conflict</th>
<th>Open border with India</th>
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• Growing labor market in Gulf countries

• Migration doubled over the past decade (29% HH in 2011)

• Remittances account for 25% of GDP (World Bank).
Quasi-experimental matching approach to isolate effect of variable of interest
VDCs in matched sample ($n = 2143$) exhibiting net reforestation and deforestation in areas of high and low migration in 2001. VDCs with high international outmigration were 51% ($P < 0.0001$) more likely to experience net reforestation than matched controls with low international migration.

Robust results:
1) different forms of matching,
2) inclusion or exclusion of VDCs
3) choice of outcome (Gross Re - / De- forestation) or treatment ($\Delta$ migration 2001 – 2011) variables
4) Levels of national migration
Through what mechanism does migration influence the changes in forest cover?

Migration 2001

Coef = -0.405***

Δ Agricultural effort 2001 - 2011

Prop. Mediated = 0.05***

Δ Agriculture effort 2001 - 2011

Coef = -0.421***

Δ Population density 2001-2011

Coef = -0.016***

Δ Poverty / Forest reliance 2001 - 2011

Δ Forest cover
Conclusions

• International migration has driven reforestation in Nepal

• Effect is driven by a reduction in household agricultural efforts

• Globalized labor markets and migration influence natural resource dynamics.

• We use publicly available data, so easily replicable in other countries/regions

• Interventions may be more effective by targeting high migration areas.

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