



## BONN CHALLENGE

on forests, climate change  
and biodiversity 2011

# An Opportunity for Asia



More than 400 million hectares of southern and eastern Asia's deforested and degraded landscapes offer potential for restoration — a vast opportunity to reduce poverty, improve food security, reduce climate change, and conserve biodiversity.



THE GLOBAL  
PARTNERSHIP  
ON FOREST  
LANDSCAPE  
RESTORATION



WORLD  
RESOURCES  
INSTITUTE



South Dakota  
State University



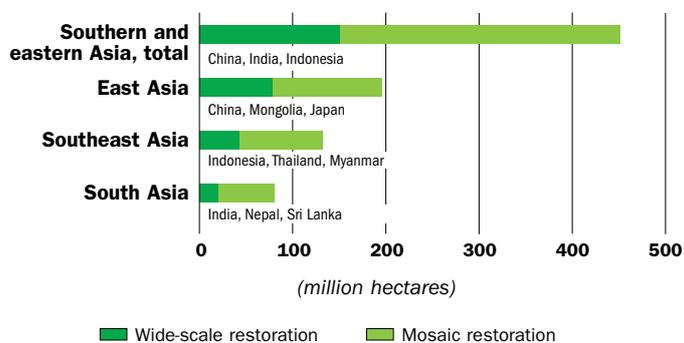
## Restoration of Forests and Landscapes

Forest and landscape restoration is an approach that complements and enriches more narrowly defined approaches to restoration such as afforestation, reforestation, and ecological restoration. Forest and landscape restoration improves both human livelihoods and ecological integrity. Key characteristics include the following:

- Local stakeholders are actively engaged in decision making, collaboration, and implementation.
- Whole landscapes are restored, not just individual sites, so that trade-offs among conflicting interests can be made and minimized within a wider context.
- Landscapes are restored and managed to provide for an agreed, balanced combination of ecosystem services and goods, not only for increased forest cover.
- A wide range of restoration strategies are considered, from managed natural regeneration to tree planting.
- Continuous monitoring, learning, and adaptation are central.

A restored landscape can accommodate a mosaic of land uses such as agriculture, protected reserves, ecological corridors, regenerating forests, well-managed plantations, agroforestry systems, and riparian plantings to protect waterways. Restoration must complement and enhance food production and not cause natural forests to be converted into plantations.

### Restoration opportunities in southern and eastern Asia (Leading countries by region)



## Mapping restoration opportunities

**A new and improved map** – This restoration opportunity map is a revised and improved version of a previous map (published in 2009 and revised in 2010). The boreal forest landscapes of the north are now included; differences in forest density are reflected in greater detail; the assessment of potential forest cover has been improved; and the analysis has been updated with more recent and higher resolution data. The new map indicates a global restoration opportunity twice as large as the old one. This is mainly because a more precise mapping of potential forest extent has increased the

estimate of degraded lands with opportunities for restoration, not because something has changed in the real world.

**Methods** – We first mapped where forests and woodlands could grow according to climatic conditions — their potential extent without human influence. Dry areas such as the Sahel were not included, although trees play an important role there, because of their very low potential forest density.

Second, we mapped the current extent of forests and woodlands from 250m resolution satellite imagery.

Third, we identified restoration opportunities by comparing the maps of potential and current forest extent in light of information about current land use. Intact forest landscapes and managed natural forests and woodlands were considered to have no potential for restoration.

Fourth, we considered constraints on restoration by mapping human pressure as a combination of population density and land use. Restoration opportunities in remote, unpopulated areas were also identified.

Deforested and degraded forest lands were divided into four categories, resulting in a map of restoration opportunity areas and other former forest lands (with resolution of one kilometer):

- **Wide-scale restoration** – Less than 10 people per square kilometer and potential to support closed forest.
- **Mosaic restoration** – Moderate human pressure (between 10 and 100 people per square kilometer).
- **Remote restoration opportunities** – Very low human pressure (less than one person per square kilometer within a 500km radius).
- **Croplands** – Intensive human pressure (over 100 people per square kilometer).

## How to interpret the results

The results must be interpreted with caution. The map is based on significant simplifications due to limited data.

The assessment is intended to inform the policy making process at the global level. It should be complemented by further investigation at regional and national scales, where more detailed information is needed and available.

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**The Global Partnership on Forest Landscape Restoration** is a worldwide network that unites governments, major UN and non-governmental organizations, companies, and individuals with a common cause. **We believe that ideas transform landscapes.** The partnership provides the information and tools to strengthen restoration efforts around the world and builds support for forest landscape restoration with decision-makers and opinion-formers, both at local and international levels.



# Asian Opportunities for Forest and Landscape Restoration



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CREDIT: LANSCHENING

**Wide-scale restoration** is possible in less populated areas with less intensive land use where closed forests can grow back on a large scale once barriers such as fire or grazing are controlled.



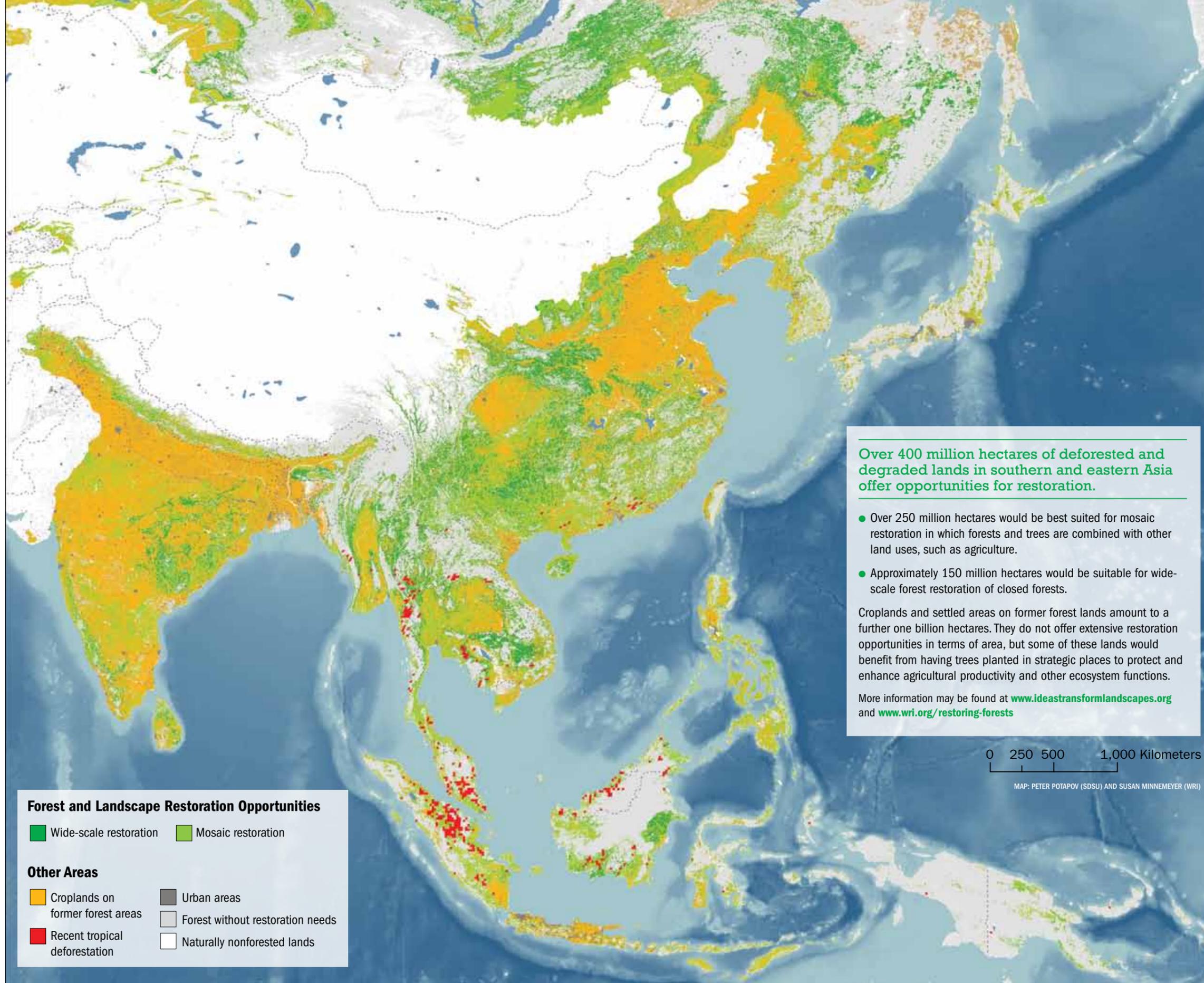
CREDIT: FLICKR/ADAM JONES

**Mosaic restoration** is suitable where the population density is higher, including on lands where closed forests cannot grow. The result is a mix of forest, trees, and other land uses including small-scale agriculture.



CREDIT: FLICKR/TIMOTHEOUBLE

**Croplands** and settled areas on former forest lands may benefit from tree planting on steep slopes, along waterways, and in other targeted places to prevent soil erosion, protect waterways, absorb storm water, increase soil fertility, and enhance soil moisture capacity.



**Over 400 million hectares of deforested and degraded lands in southern and eastern Asia offer opportunities for restoration.**

- Over 250 million hectares would be best suited for mosaic restoration in which forests and trees are combined with other land uses, such as agriculture.
- Approximately 150 million hectares would be suitable for wide-scale forest restoration of closed forests.

Croplands and settled areas on former forest lands amount to a further one billion hectares. They do not offer extensive restoration opportunities in terms of area, but some of these lands would benefit from having trees planted in strategic places to protect and enhance agricultural productivity and other ecosystem functions.

More information may be found at [www.ideastransformlandscapes.org](http://www.ideastransformlandscapes.org) and [www.wri.org/restoring-forests](http://www.wri.org/restoring-forests)

0 250 500 1,000 Kilometers

MAP: PETER POTAPOV (SDSU) AND SUSAN MINNEMEYER (WRI)

## Forest and Landscape Restoration Opportunities

■ Wide-scale restoration   
 ■ Mosaic restoration

## Other Areas

■ Croplands on former forest areas   
 ■ Urban areas  
■ Recent tropical deforestation   
 ■ Forest without restoration needs  
■ Naturally nonforested lands

