The Relation Between Poverty and Resource Degradation

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Key Messages

- Natural resources are critical to food security & livelihoods of the rural poor
- The poor are not most responsible for degradation, but are most affected
- For the poor to protect and restore degraded resources requires investment
- Pro-poor NRM policies are needed to achieve MDG's, esp. in rural areas

Natural Resources: Roles in Food Security & Livelihoods of the Poor

- Food, micronutrients, medicines
- Fuel, construction, raw materials
- Farming inputs (fodder, compost, fencing, stakes)
- Ecosystem services (soil, watershed services; pollinator, game habitat)
- Asset convertible to other assets (savings, investments)

Agricultural Impacts on Natural Resources

- Wetlands conversion
- Land degradation
- Nutrient pollution
- Contamination
- Habitat fragmentation
- Irrigation using over 70% of freshwater withdrawals (89% + in LDC's)
- Devegetation

Who is Responsible for Resource Degradation? Mostly Not the Poor

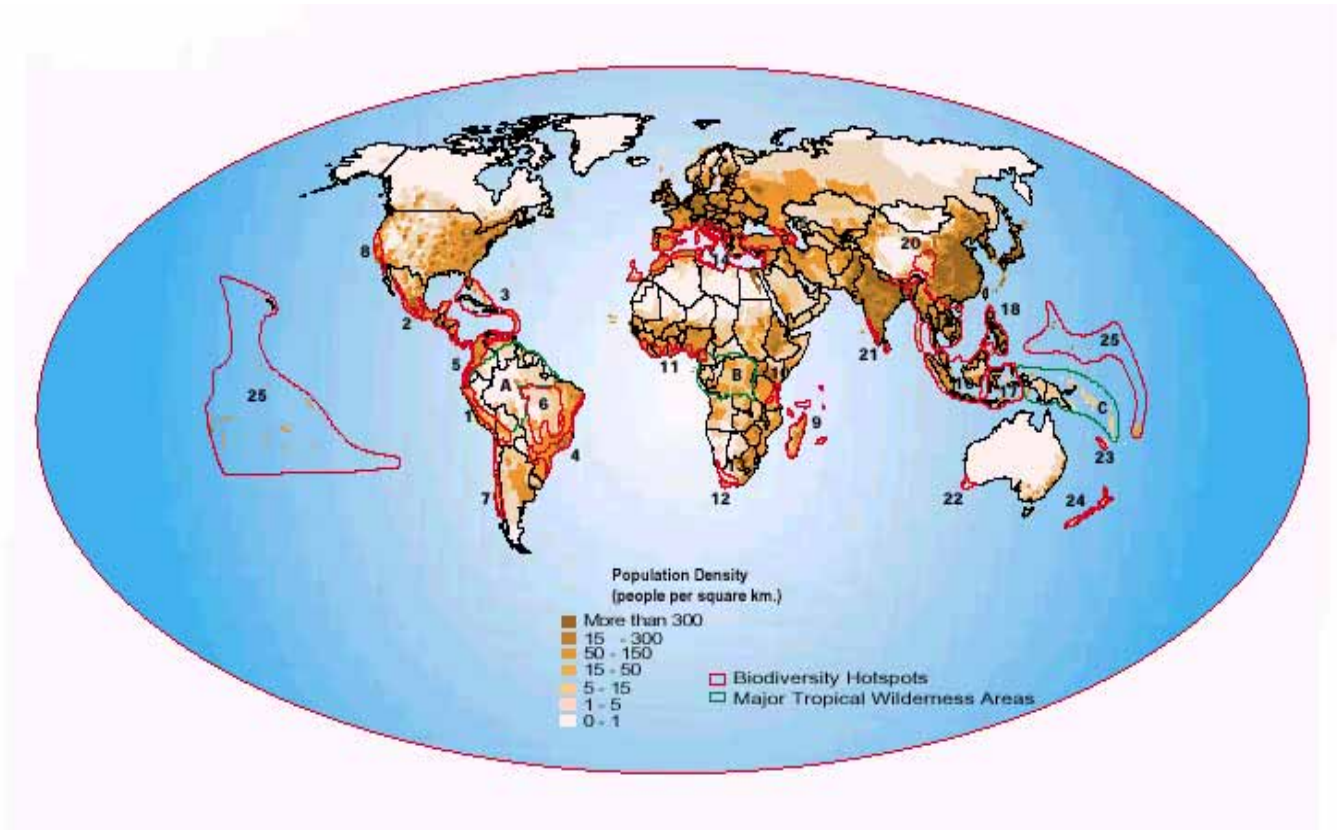
- Poor public stewardship
- Large-scale agriculture

- Urban, industrial demand for wild products
- Non-poor claim, collect more in commons

Who is Responsible? Sometimes the Poor

- Over-harvesting unmanaged commons
- Over-exploitation of resources in emergencies
- Rapid local population growth—expansion of agriculture, infrastructure

Population in Global Biodiversity Hotspots



Population Density in Forests

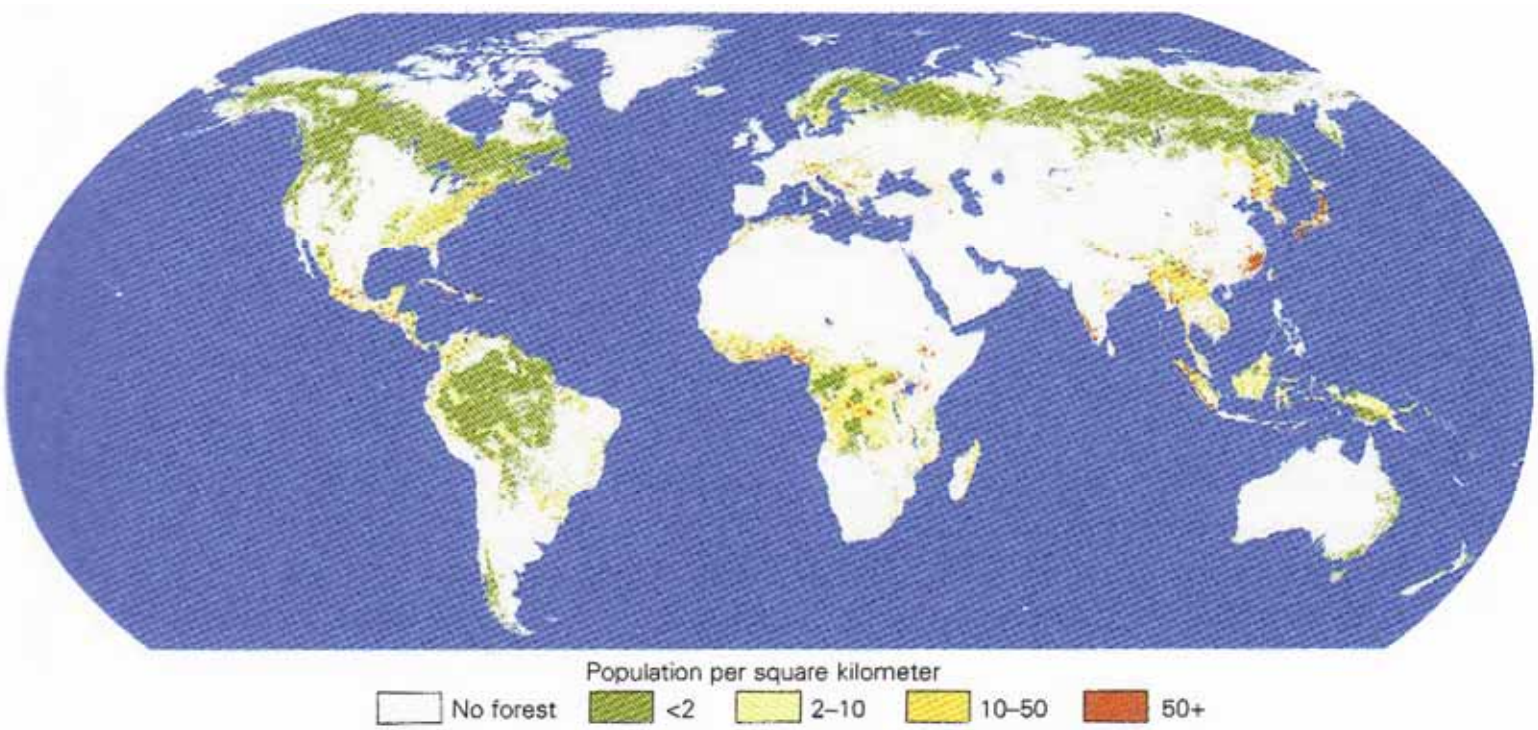
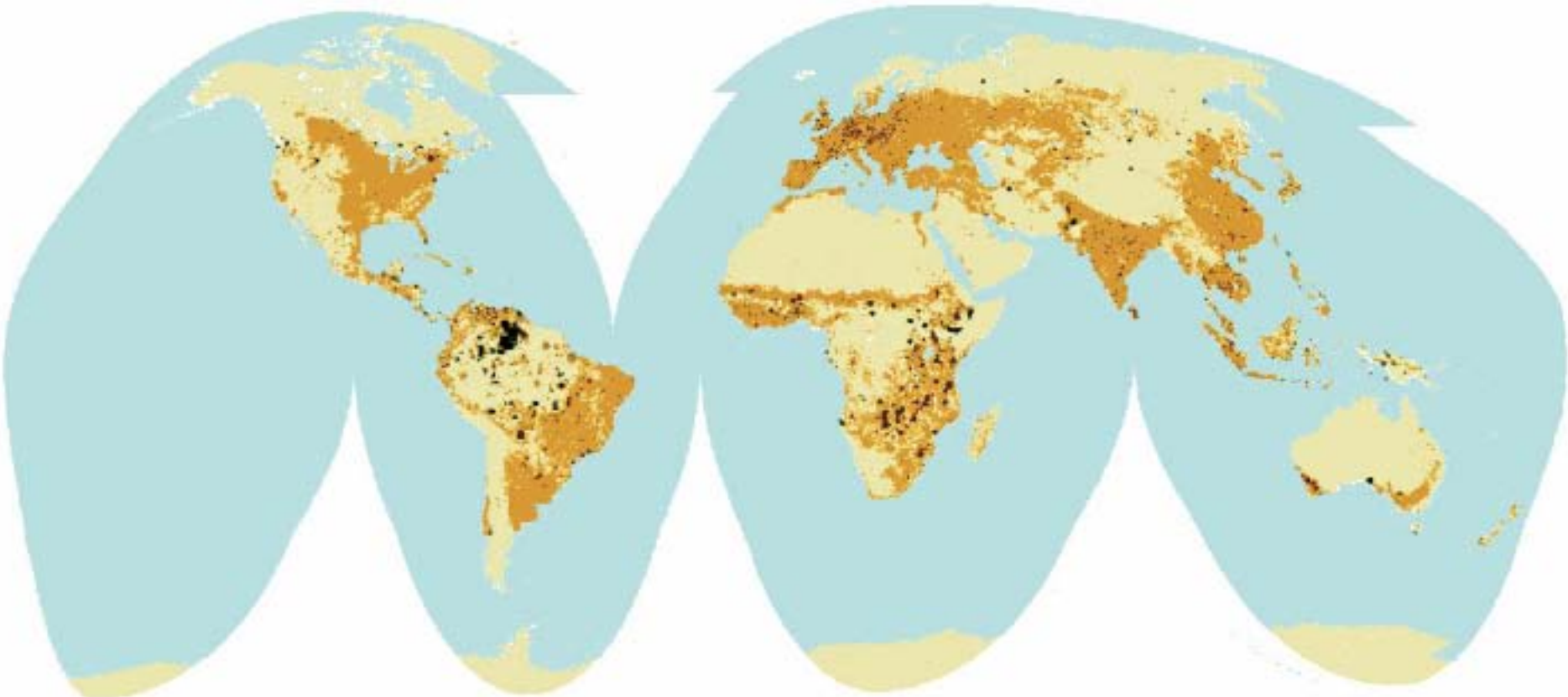


Figure 2: Agricultural Share of Protected Areas



Agricultural Share of Protected Area (%)

- **1 - 5**
- **5 - 30**
- **30 - 100**
- **Within the extent of agriculture**
- **Outside the extend of agriculture**

NOTES: The extent of agriculture estimate from Pilot Analysis of Global Ecosystems (PAGE) (Wood et al., 2000) includes areas with greater than 30 percent agriculture, based on reinterpretation of GLCCD, 1998 and USGS EDC, 1999, plus additional integrated areas based on Doell and Siebert, 1999. The protected areas within the extent of agriculture were derived from *Protected Areas Database* (WCMC, 1999). For protected areas represented only by points, a circular buffer was generated corresponding to the size of the protected area. The share of protected areas that is agricultural was calculated for each protected area using the PAGE agricultural extent.

PROJECTION: Interrupted Goode's Homolosine

Impacts of Degradation on Livelihoods of the Poor

- Impacts on poor not well documented
- Decline in ag'l income
- Loss of in-kind income, food
- Impacts of over-regulation
- Decline in household, community wealth

Rural Poor are Critical to Conserve Globally Important Resources

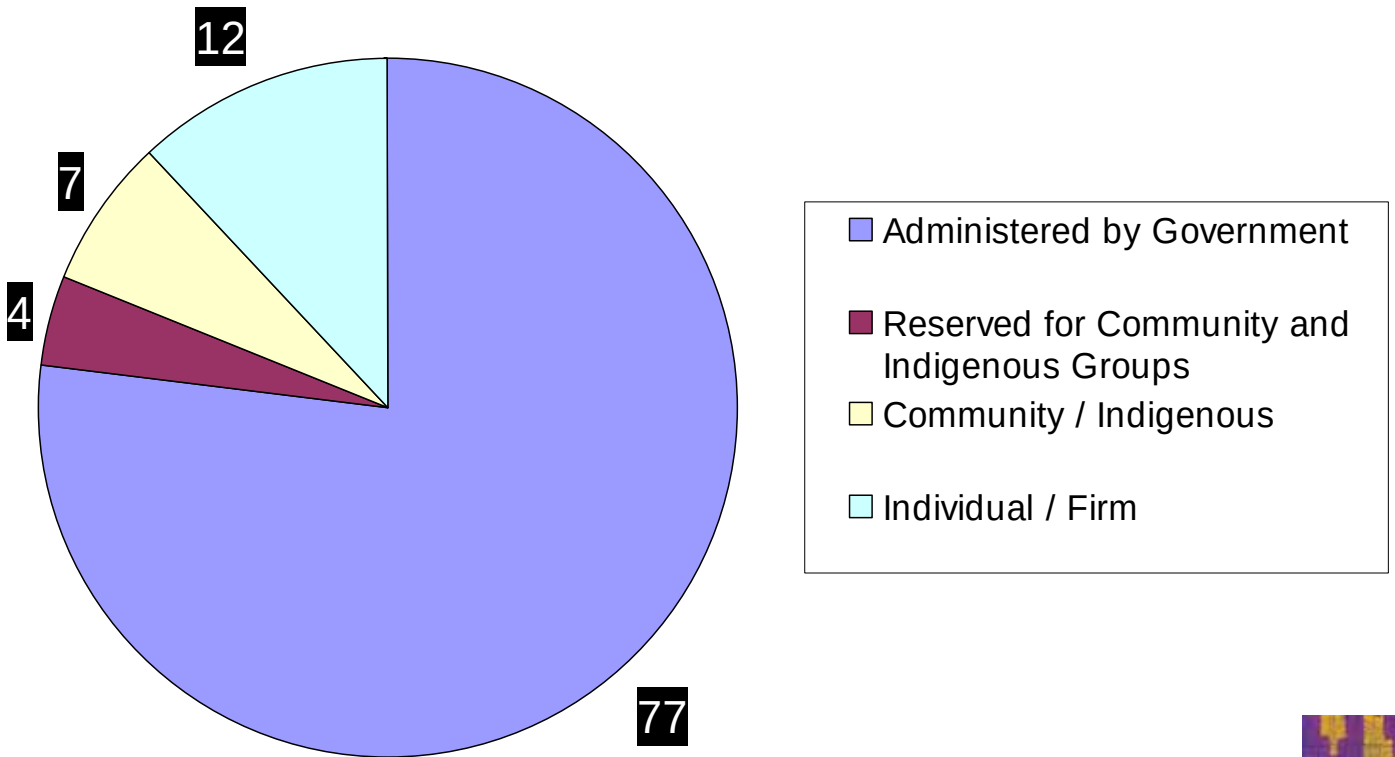
- Wild biodiversity
- Critical watersheds
- Terrestrial carbon sequestration, storage
- Coastal fisheries and reefs

Capacity and Record of the Poor for Resource Protection/Restoration

- Forest cover, soil conservation improve with increased pop'n density in hillsides (Templeton & Scherr)
- Forest conservation by indigenous, local people (Molnar et al)
- Ecoagriculture cases (Equator Initiative)
- Watershed restoration (India)

Key: organization, governance, link to income

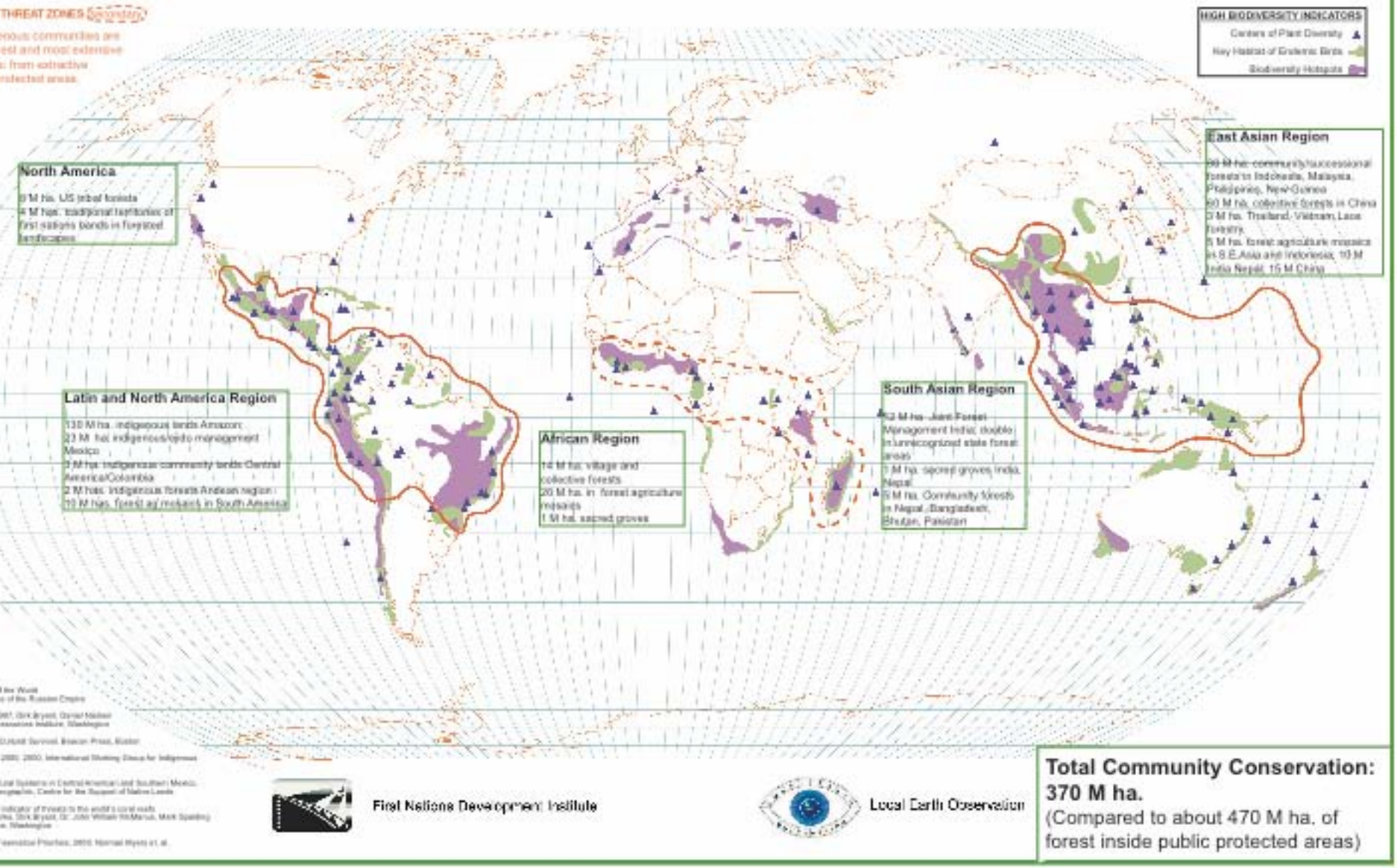
Who Owns the Developing World's Forests?



Community Forest Conservation

- 370 mln has in community conservation (450 mln under govt. cons.):
  - Indigenous reserves (100 mln)
  - Community forest / agroforest mgmt (+120 mln)
  - Settlers adopting compatible uses (+ 50 mln)
  - Restoration in intensively managed lands (+ 100 mln)
- $1.3 bln community investment in forest conservation ($1.4 bln by gov'ts and donors)
- $3.0 bln govt' support for PA systems (stable)
- $1.3 bln ODA, $.2 bln Foundation support for PA's (declining)

Figure 3. Community Conservation Overlay on Biodiversity in Plant and Bird Distributions

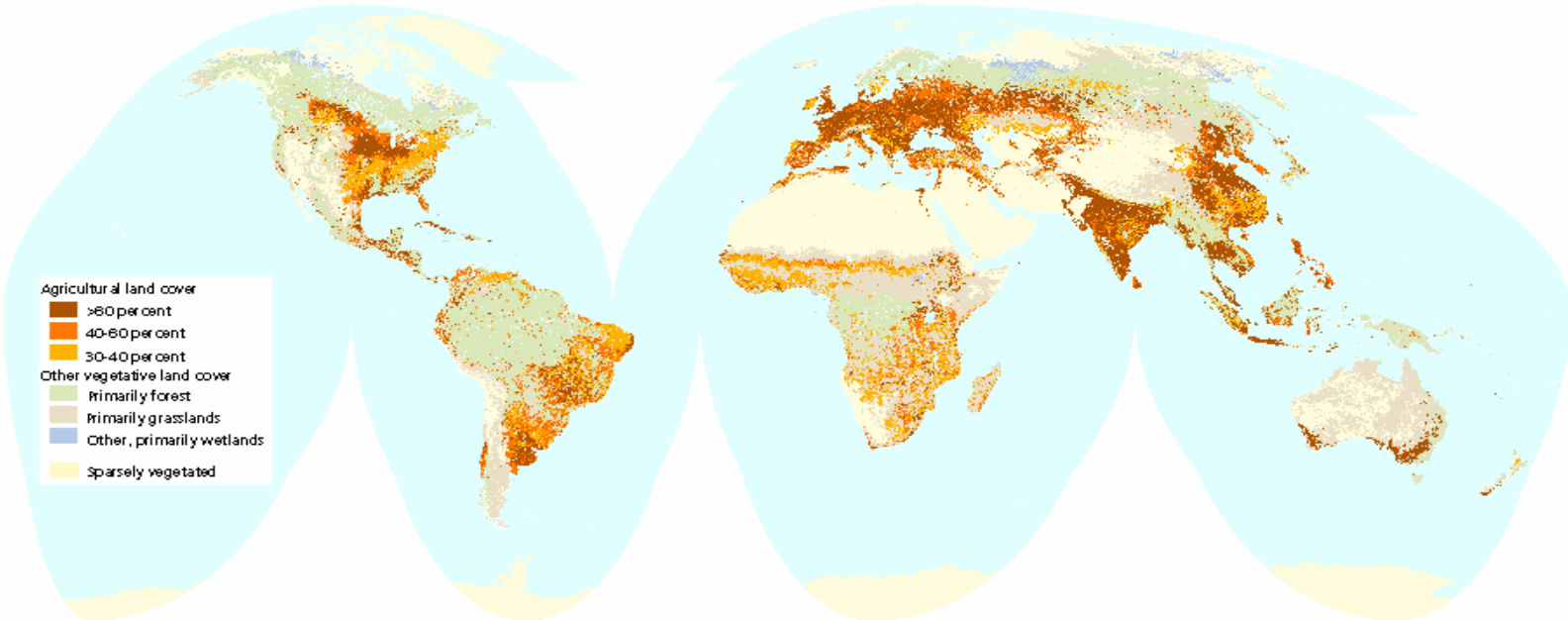


nmunity conservation data have been compiled by the authors into the global biodiversity map in the Global Threat Overlay map series prepared by the First elopment Institute (FNDI) and Local Earth Observation (LEO), FNDI, 2003.

Ecoagriculture: Potential Synergies Between Agricultural Productivity & Natural Resource Quality

- Efficiency of input use
- Synergies between components
- Substitute natural capital for financial capital
- More efficient spatial organization
- Improved input performance
- Economies of scale thru farmer collaboration
- Wild species managed to benefit farming

Map 1
PAGE Agricultural Extent

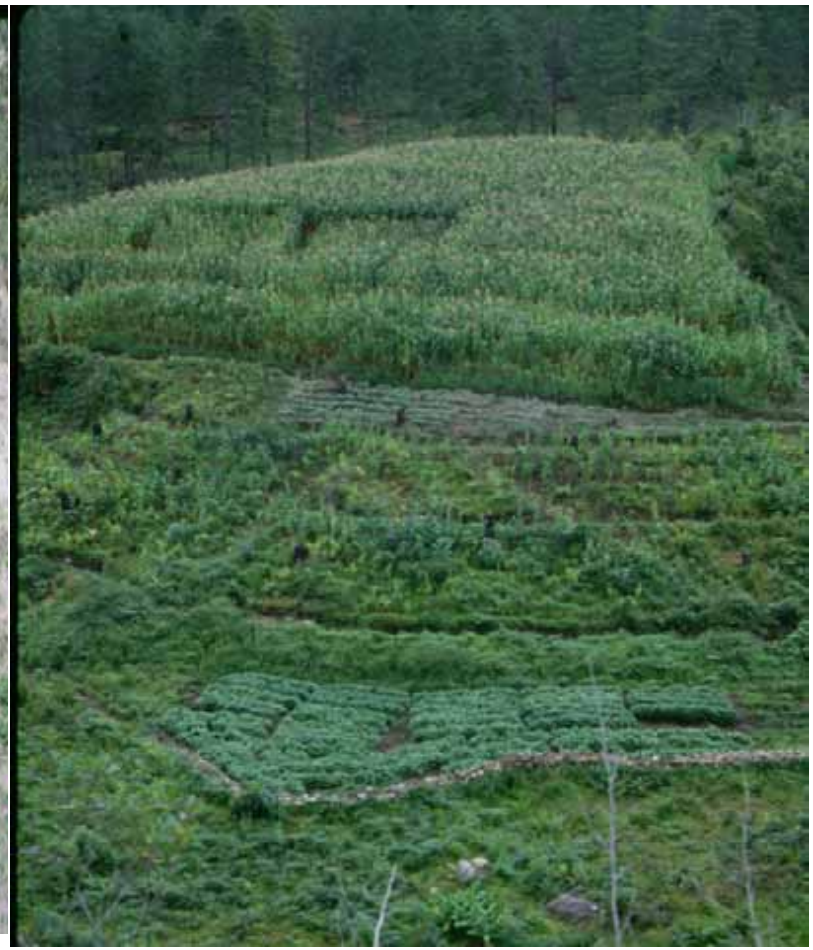


Source: IFPRI reinterpretation of GLCCD 1998; USGS EDC 1998a.

Projection: Interrupted Goode's Homolosine

Note: Other vegetative land cover might contain as much as 30 percent agricultural land, but the actual amount cannot be determined using the GLCCD dataset. The satellite-derived estimate of agricultural extent is likely to under-represent some types of agricultural land cover including: extensive dryland arable farming, pastures, irrigated areas, and permanent crops - particularly in forest margins. Since the satellite interpretation was performed on a regional basis, the nature and extent of this under-reporting varies among regions.

Restoration of Degraded Farmlands

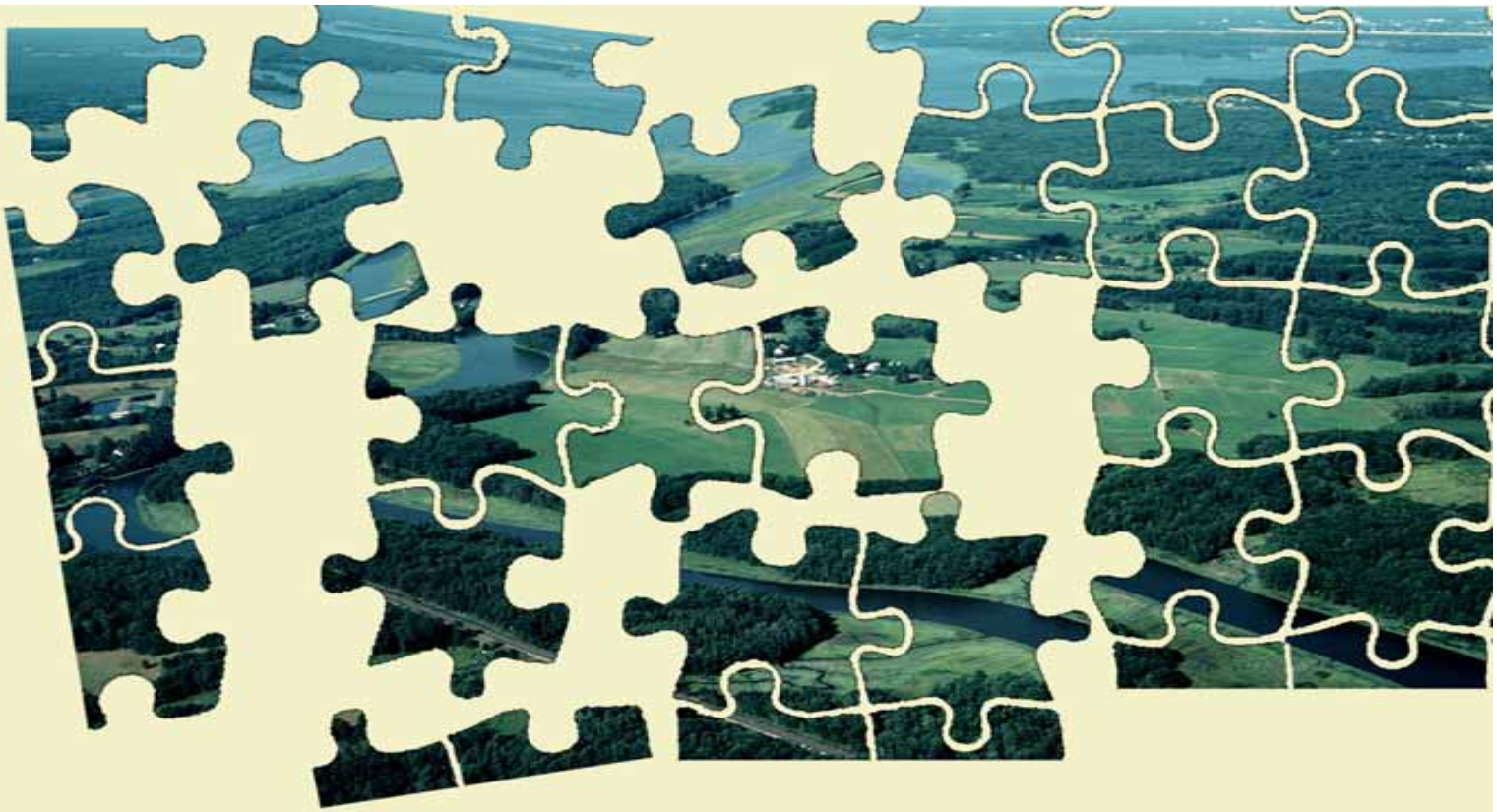


Water Harvesting to Restore Dryland Environments

Revegetation with Useful Plants

Strengthen Community Organization

Natural Resource Management at a Landscape Scale



Meeting the MDG's: Implications for Rural Policy

1) Secure tenure security & access
2) Local, landscape-scale governance
3) Link NRM with agricultural strategies
4) Co-invest to restore natural resources
5) Promote 'green' enterprises
6) Synergies among MDG's

Thank you…

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www.forest-trends.org

www.ecoagriculture partners.org