



Poverty and Forests

Multi-Country Analysis of Spatial Association and Proposed Policy Solutions

Anecdotal evidence and some country case studies have pointed to a strong coincidence between areas of remaining high forest cover and high poverty rate.

A recent CIFOR report examines this coincidence in seven countries (Brazil, Honduras, Indonesia, Malawi, Mozambique, Uganda and Vietnam), and presents a number of policy options for addressing poverty in forested regions. This *Infobrief* presents a short summary of the findings and recommendations of that study.

Key points

- The rate and severity of human poverty tend to be high in highly forested areas.
- In many cases it is necessary to intervene to reduce poverty in these places rather than assume that economic growth will help.
- Among the most promising approaches for poverty alleviation in these places are:
 - Transfer of forest ownership to local people;
 - Creation of a 'level playing field' in forest product markets;
 - Assistance in the establishment of commercial-scale community forestry and company–community partnerships;
 - Establishment of pro-poor models of payments for environmental services.

Is the poverty rate high in forested areas?

Although most people live outside forests, there is a general tendency for populations living in or near forests to have a high poverty rate, and to experience severe and chronic poverty. Conversely, poverty density tends to be high outside of closed forest areas and closer to cities.

Vietnam presents the archetypal case of a strong correlation between high forest cover and high poverty rate (Figure 1: red areas on poverty rate map), and between high forest cover and low poverty density (Figure 1: pink areas on poverty density map). It also shows a moderate correlation between low forest cover and low poverty density (Figure 1: dark blue areas on poverty rate map), and between low forest cover and high poverty density (Figure 1: light blue

on poverty density map). *Malawi* also mostly conforms to the expectations of the hypothesis, while *Brazil*, *Indonesia*, *Mozambique* and *Uganda* show moderate conformity. Only *Honduras* among the case studies conforms little to expectations.

On average across the seven case studies, about a third of the total closed forest area shows a high poverty rate; however, only a small proportion of each country's population of poor people actually lives in these areas—between 3% (Indonesia and Uganda) and 12% (Vietnam). In fact, for all except Mozambique, at least as many poor people live in the 'low forest – high poverty rate' zone as in the 'high forest

Box 1: Definitions used and hypotheses tested

Poverty rate is the proportion of people who are poor in a given area.

Poverty density is the absolute number of poor people in a given area.

Closed forest is where crown cover is 40–100%, as determined from Advanced Very High Resolution Radiometer (AVHRR) imagery from the year 2000 with a resolution of 1 km². For the purposes of the spatial regression analysis in this study, *forest* was defined as 'closed forest'.

The 1 km² pixels were aggregated into districts, and the district forest fraction derived from area of closed forest divided by the area of the district. For each country, the average district forest fraction was used as the country-specific cut-off point to define *high* and *low forest cover*: a district with forest fraction larger than the cut-off point is labelled as 'high forest', while one with forest fraction below the national average is labelled as 'low forest'.

In testing for spatial association between poverty and forest cover, the specific hypotheses tested were:

- Correlation of high poverty rate, low poverty density and high forest cover;
- Correlation of low poverty rate, high poverty density and low forest cover.

Analyses were performed at the district level.

For visual comparison, maps were prepared showing (1) forest and major urban areas, (2) population density, (3) forest and poverty rate, and (4) forest and poverty density.

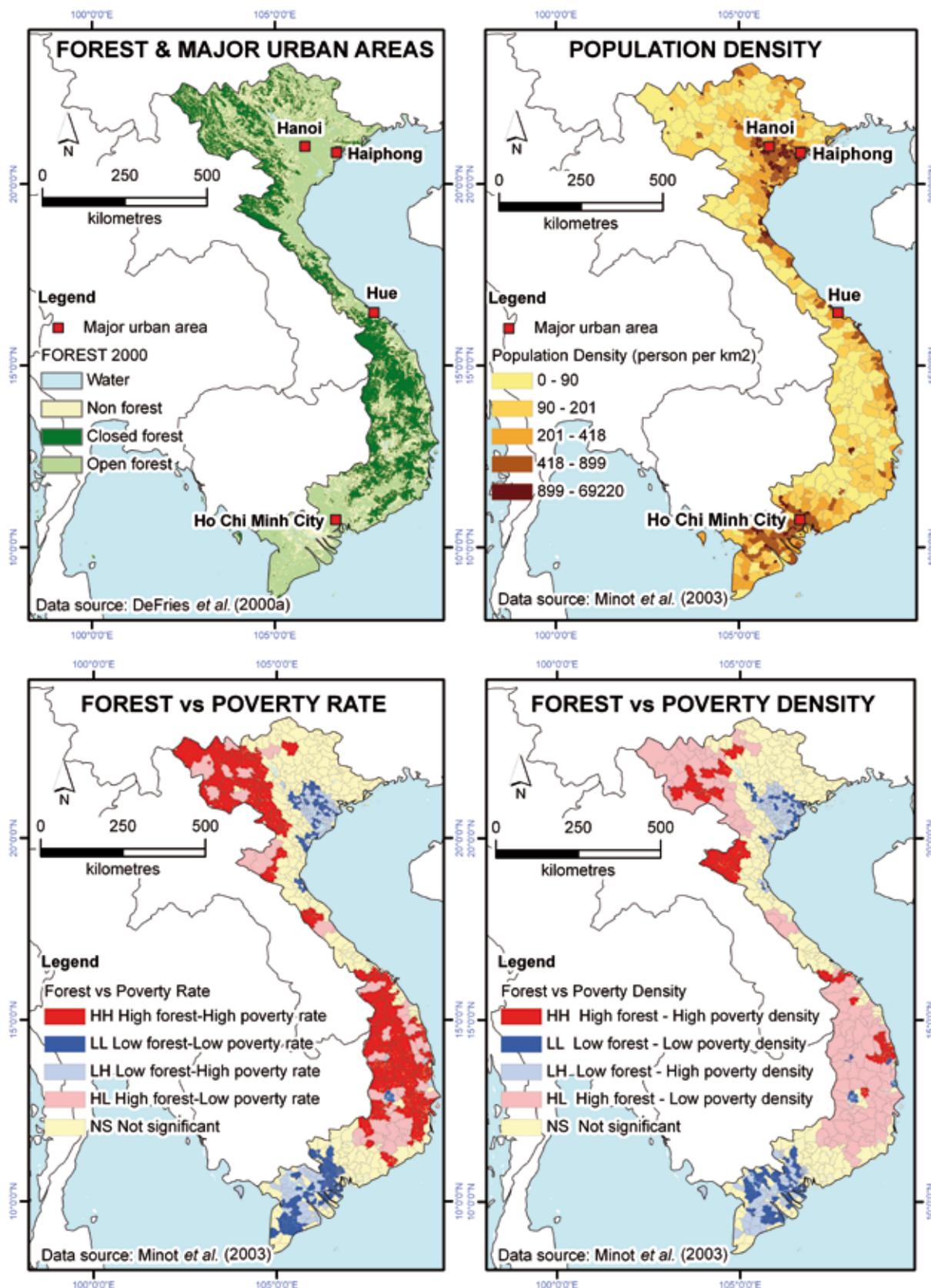


Figure 1. Vietnam: Forest and major urban areas; Population density; Analysis of forest cover by poverty rate; Analysis of forest cover by poverty density.

– high poverty rate’ zone. While this seems to suggest a low coincidence between high poverty rate and forest cover, the findings understate the reality. Many of the areas defined as ‘low forest’ in the study in fact have significant areas of forest that local people depend on.

Why is there a coincidence of poverty and forest?

‘Primordial poverty’ in forests: Many forest dwellers—especially where high forest coincides with remoteness from infrastructure—have been relatively untouched by the modern market economy, and live much as their ancestors have done for many generations. Most measures of poverty record such people as poor.

Powerlessness of forest dwellers: For reasons of remoteness from national political and economic activities, or because of deliberate government policy, most dwellers in remote forests have little or no say in development policy in their countries. This tendency is reinforced by low levels of education and literacy.

Forests attract migrants: Forests offer safe haven for refugees. They are remote and offer cover from ground or aerial observation; in addition, they provide free resources for fulfilling basic needs. Economic migrants are attracted by the rich agricultural land underlying some forests, and the pro-poor qualities of timber and non-timber forest products. However, economic migrants are unlikely to be the poorest of the poor, since they will need some minimal means to see them through to their first harvest.

Low investment in remote areas: Remote, sparsely populated areas do not offer many economies of scale for governments promoting development (e.g. healthcare, schools). They can reach far more poor people by focusing their efforts elsewhere. The powerlessness of remote communities adds a political angle to this low investment.

The density of natural forest cover tends to increase with distance from urban areas—from the periurban zone, through the agricultural mosaic and forest frontier to undisturbed forest.

Policy options for poverty alleviation in forests

The historic pattern of conversion of forest to agricultural land will provide a path out of poverty for some, but there are diminishing returns over time to this process. Furthermore, there is an increasing global need to retain forests, among other reasons for their carbon sequestration value, in an attempt to mitigate the effects of climate change. Some others will find economic wellbeing by emigrating from the forests, but many more have neither the means nor the will to do so. National economic growth has some potential to improve the wellbeing of all of a country’s citizens, but there is usually an unacceptably long timelag before such benefits reach remote rural communities. Therefore, the poverty of forest dwellers often needs to be addressed *in situ*.

Policy options are proposed for improving the wellbeing of poor people in developing countries through the use of forest resources. Emphasis is placed on going beyond income protection and poverty mitigation or avoidance, and rather moving towards improved income and poverty elimination. Moreover, emphasis is placed on the use of timber and forest services rather than non-timber forest products (NTFPs), in part because poor forest dwellers rarely benefit from the rich timber resource that surrounds them, and in part because the generation of substantial income from NTFPs appears to be limited.

The proposals also build on the fact that many changes have occurred in the enabling environment that can, under certain circumstances, favour positive impact on the poor. Among these are: decentralisation of authority and resource control; democratisation and anticorruption efforts; rapid growth of urban markets and the consequent demand for forest products; market deregulation and liberalisation; the withdrawal of commercial loggers from forests already harvested; improved technologies for small-scale wood harvesting and processing; and increased willingness of various parties to pay for forest environmental services.

Tenure transfer

Transferring the tenure of forests from governments to indigenous or local communities has potential to put income from timber into the hands of those who have historically been excluded from them. Tenure transfer is already happening in some countries, as governments realise that existing or former arrangements were discriminatory, and are under pressure from international conventions and national political movements. They also realise that tenure transfer could improve forest management, making them economically productive, where government-led forest management has failed.

Although historical tenure transfers have had mixed results in terms of their impact on the poor, a number of issues have been identified that should, if they are addressed adequately, enable future transfers to provide livelihood gains for the rural poor: improving documentation of forest tenure claims; assisting community networks to engage in regional and global dialogue and with institutions; advocating that valuable forests (not just the most degraded and least valuable ones) be transferred to local communities; devising ways to minimise elite capture; avoiding outcomes that lead to forest destruction; and recognising that secured tenure is insufficient to ensure long-term sustainable management.

Tenure transfer is likely to be most effective in poverty alleviation in remote forests, since they tend to have the most standing timber and indigenous residents. However, transfer of degraded forests near urban centres has potential because of market opportunities.

Promote market access

First, policy barriers need to be removed. Local people need secure access and ownership rights. Regulatory barriers and excessive state regulation need to be removed. Revoking privileged access and subsidies from large-scale producers will level the playing field for small-scale producers. Local

producers need to be involved in policy negotiations, and a mechanism must be put in place to protect the poorest (e.g. ensuring that forests retain their safety net function).

Second, forest enterprises should be developed. Small producers should be helped to respond to consumer preferences and in developing market strategies. Producer organisations should be strengthened so that they can make capital investments, engage in value-added processing, negotiate deals, and establish production controls. Strategic partnerships between communities and businesses should be promoted. Business services (e.g. technical assistance, insurance, marketing and financial assistance) should be established. Community enterprises should have access to education and training in production, processing and management.

This policy area recognises that commercial forest product markets are among the few options open to many poor people for improving their wellbeing. The policy applies to all forest zones: in remote high forests, the value of the timber compensates for high transportation costs; close to urban centres, producers will be encouraged to grow trees for the urban market, their lower value being compensated by the much reduced transportation costs.

Community forestry

'Community forestry' covers a whole range of activities which link rural people with forests and trees. 'Traditional community forestry' is a local system of forest management created spontaneously in a community (often many years ago), which often aims to establish rules for village-level forest access and resource consumption. Conversely, 'introduced' models of community forestry are brought in from outside the community (by government, international agency or NGO) and are often designed to relieve pressure on forest resources and biodiversity. Although they often claim to have livelihood improvement goals, these models are in many cases merely aimed at poverty avoidance and mitigation, and are sometimes restrained by resource management goals.

Community forestry can increase the bargaining power of otherwise unorganised and weak local producers, and

create competitive advantages through economies of scale. However, their performance in improving wellbeing is mixed and largely unresearched. That said, the authors believe that there is sufficient potential in both commercially-oriented natural timber management at the community level (in agricultural mosaic and forest frontier zones) and in company–community partnerships (anywhere, but least likely in remote high forest) to warrant their promotion. The former has shown promising signs in Mexico and Lao PDR. Both of these types of community forestry will be most effective if built on secure land and resource tenure, and a levelled playing field and solid business practices.

In company–community partnerships, the community gains access to capital, marketing channels, information and expertise, while the companies gain access to land and labour. The major positive impacts are a contribution to the security of land rights and more job opportunities, while problems encountered are high transaction costs (both sides), and perpetuation of low-wage labour and inequitable land distribution.

Payments for environmental services

Increasingly, both international agencies and local people are prepared to pay for the preservation of environmental services, in particular for carbon sequestration storage, biodiversity protection, watershed protection, and protection of landscape beauty. If forest dwellers are compensated to keep forests standing or to restore them, both they and those seeking to maintain or rehabilitate the public good function of forests can gain. The potential for such schemes is large. However, the empirical evidence of poverty reduction is weak. Opportunities for success may be affected by the need to include non-poor stakeholders in agreements, and by the distribution of benefits between participant and non-participant poor people in the area. In order to maximise the participation of the poor in such schemes, it is necessary to nurture the interest and capabilities of marginal landowners, and to minimise transaction costs.

At least in Latin America, such schemes are found in all forest zones—for example, watershed protection near cities, and restraining agricultural expansion at the forest frontier.

For more information

This Infobrief is based on CIFOR Occasional Paper No. 47, *Poverty and Forests: Multi-Country Analysis of Spatial Association and Proposed Policy Solutions* (2007), by William D. Sunderlin, Sonya Dewi and Atie Puntodewo. The report includes further details on the background to the study, along with details of the methodology and detailed findings.

For a copy of *Poverty and Forests: Multi-Country Analysis of Spatial Association and Proposed Policy Solutions*, contact Nia Sabarniati at n.sabarniati@cgiar.org.



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