

FORESTS AS RESOURCES FOR THE POOR – THE RAINFOREST CHALLENGE PARTNERSHIP



The Core Hypotheses

These eight over-arching hypotheses give the Rainforest Challenge Partnership its innovative character. Each hypothesis and principle is important in its own right in suggesting appropriate technologies, processes or policies. Of even greater importance are the interactions amongst a suite of such technologies, processes and policies.

H1. Landscape Synergy Hypothesis. Landscape diversification can enhance environmental functions and biodiversity, while accommodating gains from specialization of production at the plot level.

This hypothesis covers one of the eight ‘Grand Challenges in Environmental Sciences’, related to developing and testing techniques for managing landscapes for biodiversity, environmental functions and the immediate needs of people.¹ The extent and distribution of different forest types within *multifunctional landscapes*, and how they and the associated agricultural parcels are managed, will affect biodiversity and environmental services. There are special scientific challenges associated with the management of such landscapes.² Economic logic and empirical evidence suggests that most production systems will move towards higher degrees of specialization at the plot level. Forest conservation and development strategies must be based on this reality.

H2. Multi-scale Intervention Hypothesis. The combination and sequence of interventions at various scales and their interactions across scales profoundly influence productivity, sustainability, and biodiversity at the landscape level.

One major limitation of previous conservation and development initiatives was that they limited their activities to the local level, without devoting resources to influence key non-local issues or even recognizing the role of gross imbalances in wealth and political power at the national level in shaping local outcomes. Recent reviews hypothesize that multiple scales of analysis and intervention are required in order to influence development trajectories.³ Each type of natural resource may have a typical scale at which it can be meaningfully managed, depending on the patterns of lateral flow relative to the local stocks of the resource. This scale depends not only on the resource, but also on the situation. Furthermore, there are major scientific challenges in understanding and influencing the social and political processes across multiple scales that will be needed to achieve an equitable balance of desired outcomes. In addition, what may be appropriate at one scale may not be appropriate at another. The optimum combination and sequence of interventions at various scales is unknown, and the sequence that is feasible politically will differ from place to place.

¹ National Research Council. 2001. Grand Challenges in Environmental Science. National Academy Press, Washington (based on ideas solicited from thousands of scientists worldwide to identify high-priority environmental science projects in areas of opportunity that could yield significant new findings)

² van Noordwijk, M., T. P. Tomich, and B. Verbist. 2001. Negotiation support models for integrated natural resource management in tropical forest margins. *Conservation Ecology* 5(2): 21. [online] URL: <http://www.consecol.org/vol5/iss2/art21>

³ van Noordwijk, M., T. P. Tomich, and B. Verbist. *Ibid.*

H3. Local Rights Hypothesis. Clear property rights and secure tenure for poor people are necessary preconditions for negotiations to successfully and equitably balance local and global needs.

Many analysts claim that empowering local communities or other local stakeholders will lead to more effective development *and* conservation.⁴ One hypothesis is that clear secure local property rights and resource access for the rural poor are necessary for equitable outcomes that address their needs. In particular, empowerment that comes from these property rights creates the incentives and conditions for local people to participate in negotiations regarding tradeoffs. These views are anathema to others, as illustrated by the resurgent ‘protection paradigm’ in conservation.⁵ Another of the grand challenges in environmental science involves identifying the performance attributes of the full range of institutions governing resources, from local to global levels.⁶ The proposed network of benchmark sites and action research will provide an excellent means to test this and related hypotheses.

H4. Trade-offs Hypothesis. Science can be harnessed to provide active support to social processes of inclusive and transparent negotiations over tradeoffs in land use choices to achieve greater equity among stakeholders and better environmental outcomes.

Tradeoffs amongst the objectives of various stakeholders in multi-functional landscapes are the rule rather than the exception. It needs to be recognized that there are winners and losers. The belief in win-win situations that has dominated the literature must be challenged.⁷ Much work clearly needs to be done to identify and test promising new approaches for multi-stakeholder negotiations and *conflict management*. The implications of negotiations for disadvantaged groups of people are seldom critically examined.⁸ We suggest that negotiations that are explicit about the conditions affecting disadvantaged groups and that emphasize politically-informed behaviour and selective alliance-building promise better outcomes for disadvantaged groups. The Challenge Programme will identify, validate, and disseminate negotiation principles that will achieve greater equity among stakeholders.

H5. Environmental Payments Hypothesis. In order to satisfy basic livelihood needs, the only feasible land use options open to many local people will result in the clearance or degradation of forest. To change that will often require interventions such as environmental service payments.

The global values of intact tropical forests are ‘indisputable’ - it is estimated that each year's loss of natural habitat from practices such as logging and farming costs around \$250 billion in each subsequent year.⁹ However, there are no simple steps to maintain these environmental services. In many circumstances, real, tangible compensation will be required for the poor households/communities to give up certain types of activities in order to conserve biodiversity or maintain environmental functions. IUCN has initiated discussions with financial institutions to broker deals between investors and local communities that are involved in landscape restoration. The project team will utilize such opportunities to explore how innovative financing mechanisms

⁴ Wily, L. 1999. Moving forward in African community forestry: Trading power, not use rights. *Society and Natural Resources* 12: 49-61.

⁵ Wilshusen et al., 2002. Reinventing a square wheel: critique of a resurgent ‘protection paradigm’ in international biodiversity conservation. *Society and Natural Resources* 15: 17-40

⁶ National Research Council. 2001. *ibid*.

⁷ Angelsen, A. and Wunder, S. 2001. Exploring the poverty - forest link: key concepts, issues and research implications. Paper in preparation, CIFOR, Bogor. Lee, D. and Barrett, C., 2001. Tradeoffs or Synergies? Agricultural Intensification, Economic Development and the Environment. CAB-International, Wallingford, esp. Chapters 11, 12, 13.

⁸ D. Edmunds, E. Wollenberg. 2001. A Strategic Approach to Multistakeholder Negotiations. *Development and Change* 32, 231 - 253.

⁹ Balmford, A. et al. Economic reasons for conserving wild nature. *Science*, 297, 950 - 953, (2002).

(e.g. payments, tradable rights) for biodiversity conservation, carbon storage, and other ecosystem services can contribute to equitable and sustainable livelihood and production systems.

H6. Production Resilience Hypothesis. Landscape diversification enhances resilience to multiple and interacting stresses (e.g. climate change, major economic shocks, fires, disease).

Likely rapid simultaneous changes in social and environmental systems could have massive impacts on biodiversity and the poor. A number of the core research questions recently identified by the Sustainability Forum concern the resilience or adaptive capacity of socio-ecological systems.¹⁰ We need to identify what determines the vulnerability of production systems and landscape mosaics in particular contexts, and how to enhance their resilience.

H7. Social Transformation Hypothesis. Because of aggregate progress to reduce poverty, reliance on land and forest resources to meet basic human needs will peak in the next generation and then gradually decline across the tropics.

Demographic transition and structural transformation are important conditioning factors for the feasibility of specific options to reconcile forest conservation and development.¹¹ In particular, we hypothesize that labour market conditions – whether the rural labour force is expanding or contracting and whether rural wages are rising or falling – have a major impact on the feasibility of different strategies and production systems. Knowing where the larger economic system is in relation to transformation will be crucial in proposing a suite of possible interventions at any particular site.

H8. Asset Creation through Restoration Hypothesis. Landscape restoration is a key opportunity to expand production and fight poverty without accelerating deforestation.

Sustainable productivity growth and resource use are central to this hypothesis. Although the countries concerned have vastly different social, political and economic circumstances, the tropical forest biome has many common biophysical features and patterns. There also is a shared legacy of neglect of smallholder production systems. Taken together, these features produce a distinctive combination of opportunities for sustainable productivity growth and challenges for natural resource management. Landscape-scale restoration of degraded areas holds particular opportunities as a poverty alleviation strategy, but because promising technologies may favour forest conversion, this should be combined with an effective strategy for forest protection.

¹⁰ Kates et al., 2001. Sustainability Science. *Science* 292: 641-642.

¹¹ Tomich, T.P., Kilby, P., and Johnston, B.F., 1995. Transforming Agrarian Economies: Opportunities Seized, Opportunities Missed. Cornell University Press, Ithaca, NY.