Amazon Forests at the Crossroads: Pressures, responses and Challenges

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Amazon forests are of global importance
Opportunities and challenges in the Amazon region
Changing social landscape
Land use change
Threats to Amazonian forests and livelihoods
Responses to challenges
Reducing emissions from deforestation and degradation (REDD)
The way ahead
Amazon forests are of global importance

- The Amazon basin covers 6.5 million km² of which 5.5 million km² are forests within the territories of nine countries
- They are
  - an important carbon stock, but contribute to greenhouse gas emissions through ongoing deforestation
  - global repository of biodiversity and natural resources like minerals and fossil fuels
  - provider for livelihoods for significant number of people
  - under treats related to climate change, economic development (infrastructure and energy crop expansion) and security issues
Opportunities and challenges in the Amazon region

Persistent problems in the Amazon region include:

- Deforestation and land degradation
- Poverty
- Violence around land appropriation and concentration of land and resource ownership
- Ineffective regulatory policies
- Weak institutions and law enforcement

Positive trends relate to:

- Increased forest and biodiversity conservation efforts
- Increased territorial control by indigenous people and traditional communities
- Expanding markets and increased incomes
Changing social landscape

• Within the Amazon watershed and its contiguous area of influence population increased from 5 million in 1970 to 33.5 million in 2007 mainly due to high fertility rates, declining mortality and in-migration
• Immigration has further increased the ethnic diversity of the population
• Majority of the population lives in urban areas
• Today an important part of the immigration into forest-rich rural areas originates in the urban centers
Land use change

- The total deforested area in the Amazon countries was 3.5 million ha/year in 1990-2000, and 4 million ha/year in 2000-2005
- Some of the deforested area is reported to be regenerating into secondary forests
- Regional variation in the dynamics of land use change
  - affected by infrastructure development especially road network, proximity of markets, trade policies, incentives for cattle ranching, settlement programs, agriculture development programs, high prices for some products like coffee and cotton, oil and gas exploitation
- In the absence of competitive economic alternatives and rule of law roads attract poor migrants and commercial interests in search of timber and land for agriculture
Threats to Amazonian forests and livelihoods: cattle ranching and soybean production

- Cattle ranching is still one of the most important direct causes of deforestation in the Brazilian and Bolivian Amazon.
- Subsidised credits have been important in driving the expansion of cattle ranching, but it has expanded also without subsidies due to rapidly expanding markets for beef.
- Cattle ranching is attractive to farmers because of the availability of cheap land, and small labour and capital input requirements after pastures have been established.
- Rapid expansion of soybean production in some regions
  - driven by road expansion which improved market access, improved seeds and production technologies, access to credit and growing international demand.
Threats to Amazonian forests and livelihoods: logging industry and oil and gas exploitation

- Timber industry is important in Brazil, Bolivia and Peru
- Some progress in transferring logging rights to communities
- Rampant illegal logging
  - In some areas it has been estimated that 40% (Brazil) or 90% (lowlands of Peru) of logging is illegal
- Since 1990s oil and gas exploitation has grown drastically in western Amazon
  - Over 10% of the region’s forests under gas and oil concessions
  - Poor practices, inadequate environmental safeguards and poor supervision and monitoring have resulted in pollution (heavy metals and chlorides) of soil and waterways
Threats to Amazonian forests and livelihoods: infrastructure expansion

- Road construction has been combined with settlement programs
- Spontaneous migration along roads to escape poverty and violence in areas outside the Amazon
- Major plans to further expand the road network, railroads, waterways and hydroelectric dams
- It has been estimated that without significant improvement in environmental governance, road network expansion will lead to the loss of 40% of the original Amazonian forests by 2050, mainly in Brazil
Responses to challenges: institutional reform (1/2)

- Nearly all Amazonian countries have revised the legal framework for the protection and sustainable use of forests during the past two decades
  - forestry plans at different levels (federal, state, municipal) for strategic guidelines
  - concessions are still the main governance approach with detailed operational frameworks for authorisation, audit and control
Investments in strengthening governmental organisations
- establishment of competent organisations, such as environmental ministries and forest services
- investments in technologies for environmental control, particularly in remote sensing, auditing and capacity building
- decentralisation of competences from central government to the state and in some cases municipality level

Problems with the institutional framework: insufficient financial resources and lack of technical capacities
Responses to challenges: land tenure and access to resources

- Lack of consistent rural land register, illegal land-grabbing and invasions and overlap of tenure categories impede the responses to challenges in the region
- Implemented measures to address these have included
  - regularisation of private land tenure
  - strategic spatial planning
  - establishment of mechanisms to effectively control public lands
- In many countries recognition of customary rights and in some tenure and access rights to indigenous groups and traditional communities
  - in the Amazon app. 197 million ha (25.3% of the territory) formally titled or in the process of formal recognition to favour indigenous populations
Responses to challenges: decentralisation and deregulation

- Efforts to promote decentralised decision-making in policy-formulation and public investment
  - has in some cases enhanced sustainable forest management and supported communities, but in others reinforced the role of local elites and spread corruption
  - limited public resources at local government level
- Decentralisation has been accompanied by reforms in forestry regulations
  - have mostly followed the large-scale commercial logging model
  - same norms and standards applied to local forest users for whom they are difficult to implement
Reducing emissions from deforestation and degradation (REDD)

- In most Amazonian countries the present institutional and policy setup provides strong incentives for agricultural expansion
- To make a difference REDD must change the current mix of incentives for deforestation
  - need to combine sticks with carrots to compensate for the opportunity costs of maintaining forests in place of agricultural expansion and timber extraction
  - major bottleneck is the lack of institutional mechanisms to deliver both sticks and carrots effectively
  - most important are regulated land tenure reform, effective property rights enforcement and improved access to technological and economic alternatives to extensive land uses
Amazon forests: the way ahead (1/2)

- Adding to the interests in agricultural land, oil, minerals and timber, increasing global and local demands for the conservation of biodiversity, climate regulating functions and water resources → increasing need for trade-offs in planning development and conservation
- Need for improved governance and ability to control land conversions and illegal logging
- Urgent need to remove the incentives that promote otherwise unprofitable activities and strengthen support for legal and sustainable use of forest resources
- Need for incentive schemes to account for the negative environmental externalities caused by the extensive use of natural resources
Amazon forests: the way ahead (2/2)

• Need for socially sustainable development strategy with improved access to knowledge, technology and markets
• Strengthen decentralisation of decision-making power and participation mechanisms for local population while improving accountability and transparency at all levels
• Continue land tenure and resource access reforms that result in well-defined property rights for local people
• Need for
  – interdisciplinary research on the costs and benefits of investment in economic development and environmental conservation, considering also social dimensions
  – research to help determine the best mix of incentives and disincentives to maximize conservation spending