

Three Essential Strategies For Reducing Deforestation

December 2007



Aliança da Terra -- AT The Earth Alliance brings conscientious and committed landowners together with responsible agricultural production. The principal activity of AT is a Registry of Social-Environmental Commitment for ranchers and farmers.

Amigos da Terra - Friends of the Earth, Brazilian Amazon, acts to promote sustainable use of forest products, to prevent fire, to assist isolated communities, and to develop and monitor public policy.

Instituto Centro de Vida - ICV The Center of Life Institute conducts research and applied work on environmental conservation, citizen empowerment, and harmony between society and nature in the Amazon, Cerrado, and Pantanal biomes.

Instituto do Homem e Meio Ambiente da Amazônia - IMAZON The mission of the Amazon Institute of People and the Environment is to promote the sustainable development of the Amazon through research, support for the formulation of public policies, broad dissemination of information, and professional training.

Instituto de Pesquisa Ambiental da Amazônia -- IPAM The Amazon Environmental Research Institute brings together researchers and educators that share a commitment to generate scientific information and train human resources for the sustainable development of the Amazon.

Instituto SocioAmbiental - ISA The Socio-Environmental Institute was founded in 1994 to propose integrated solutions to social and environmental questions. ISA's principal objective is to defend collective social rights and benefits related to the environment, cultural patrimony, human rights the rights of peoples.

Núcleo de Estudos e Prática Jurídica Ambiental na Faculdade de Direito, Universidade Federal de Mato Grosso - The Center for the Study and Practice of Environmental Law in the Law School of the Federal University of Mato Grosso has as its principal objective the training of students in the environmental arena, contribution to the development of a legal social conscience, in which the law is conceived as a tool for social change and the promotion of public policies. The activities of the Center are concentrated on illegal deforestation as the most important environmental problem in its region.

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Woods Hole Research Center

With the financial support of the David and Lucile Packard Foundation

December 2007

Cover Photo: IPAM Archive

Printed on Recycled Paper (100% post-consumer, chlorine-free)

The Role of Tropical Deforestation in Climate Change

Tropical forests are shrinking at a rate of ~ 5 % per decade, as forests are logged and cleared to supply local, regional, national, and global markets for wood products, cattle, agricultural produce, and biofuels. Tropical deforestation is responsible for the emission of roughly 2 billion tons of carbon (as CO₂) to the atmosphere per year. When emissions of methane (CH₄) and nitrous oxide (N₂O) associated directly and indirectly with deforestation are added, tropical forest land-use change contributes roughly 25% of global greenhouse gas (GHG) emissions (Table 1). The largest contributors to this portion of global GHG emissions are Indonesia and Brazil which, unlike the other major GHG-emitting nations, have emission profiles that are dominated by land-cover change rather than fossil fuel emissions.

Table 1: Contribution of deforestation to global greenhouse gas emissions (Pg = billion tons; Tg = million tons).

Gas	Contribution of Gas to Greenhouse Enhancement	Annual Emission of Gas from Deforestation	Deforestation as % of Gas Emission	Deforestation as % of Greenhouse Enhancement
CO ₂	58%	2.2 Pg C	26%	15%
CH ₄	21%	275 Tg CH ₄	48%	10%
N ₂ O	6%	5.4 Tg N ₂ O	33%	2%
Total*	85%			27%

*Does not include CFC and HCFC. *Source: Houghto, R.A. 2005. Tropical deforestation as a source of greenhouse gas emissions. Pp. 13-20 in Moutinho, P. and S. Schwartzman, Eds. Tropical Deforestation and Climate Change. Amazon Institute for Environmental Research, Belém, Brazil.*

Within this context, it has become clear that reducing tropical deforestation has an important role in the overall reduction of greenhouse gas emissions. There is now widespread consensus that deforestation can and must be combated. Within Brazil, the federal government has approved an action plan for the prevention and control of deforestation in the Amazon region and, from 2004 to 2007, the annual deforestation rate in the Brazilian Amazon fell from a 10-year high of more than 25,000 km² to a 20-year low of ~10,000 km². The Brazilian government has claimed credit for that reduction, ascribing it to the creation of 24 million hectares of new protected areas since 2004, implementation of a Plan for the Prevention and Control of Illegal Deforestation, and a systematic crackdown on corruption in federal and state environmental enforcement agencies.

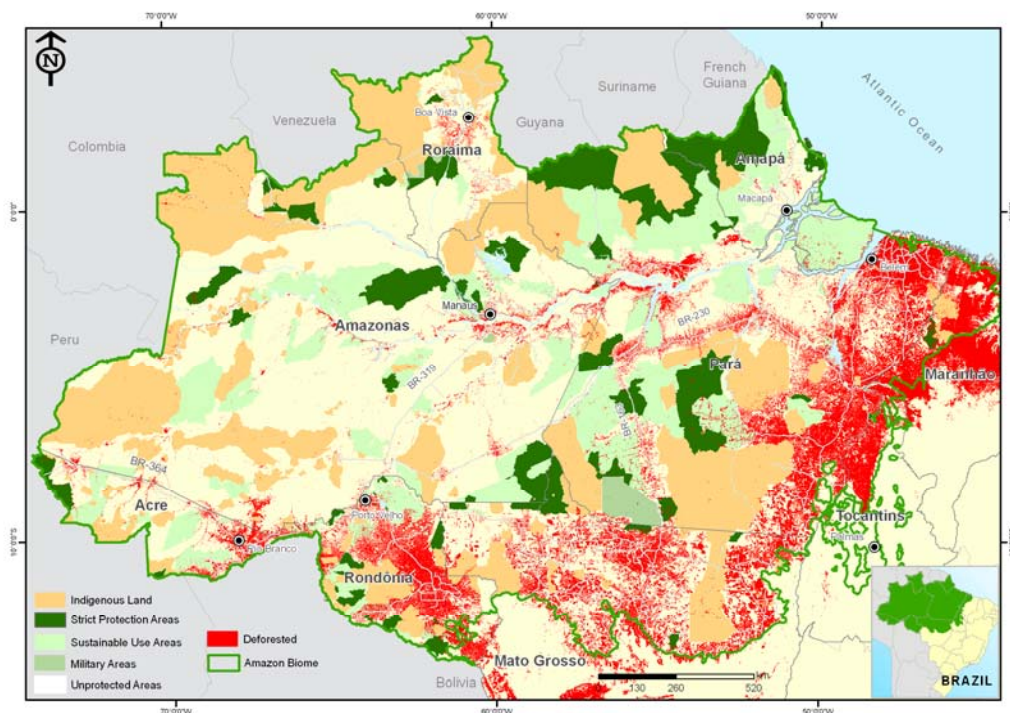


Figure 1: Protected areas and deforestation in the Brazilian Amazon.
 Source: *Imazon*

Indeed, the government’s strategies of expanding protected areas, combating illegal deforestation, and attacking corruption are among the most important means available for reducing deforestation. Recent analysis shows that all forms of protected areas act as barriers to illegal deforestation (Figure 1). However, simply creating protected areas does not guarantee the control of deforestation. Effective implementation is essential, including stakeholder participation, management plans, monitoring and enforcement. For example, in the Brazilian state of Pará, recent data show that deforestation has

started to increase in new conservation units created in areas of agro-industrial expansion (Terra do Meio, BR-163).

Prosecuting illegal deforestation and combating corruption also has an inhibitory effect and may diminish the sense of impunity typically ascribed to the perpetrators of environmental crimes. Nonetheless, while government policy has had a positive impact, much of the reduction in the rate of deforestation from 2004 to 2007 may have resulted from changes in currency and commodity markets that diminished the profitability of agricultural expansion. More recent changes in international markets signal price increases for agricultural commodities, which may now lead to increased pressure for land-clearing (Figure 2). This trend will challenge the Brazilian government's ability to maintain the downward trajectory in the deforestation rate that occurred in the Amazon region from 2004-2007.

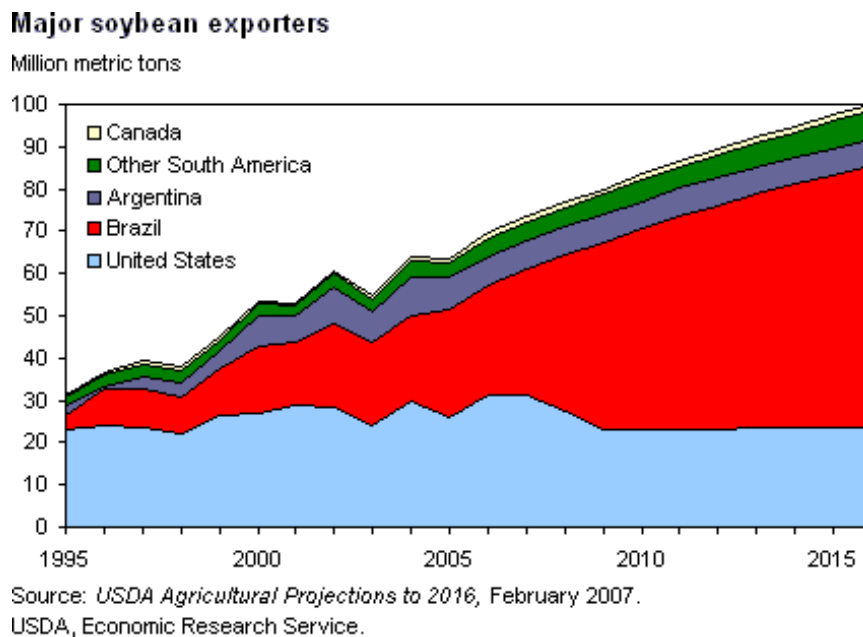


Figure 2: Most new soy production is expected to come from Brazil.

Source: USDA. 2007. *Soybeans and Oil Crops Market Outlook*.

<http://www.ers.usda.gov/Briefing/SoybeansOilcrops/2007baseline.htm>

In this context, areas of soy cultivation that were taken out of production in the state of Mato Grosso two years ago have gone back into production. In addition, the growing market for ethanol has led to the substitution of soy cultivation by sugar cane in neighboring states, and that has increased the demand for soy production in Mato Grosso. In turn, the expansion of soy production pushes cattle production further into the forest.

Indeed, an upsurge in deforestation associated with improved commodity markets appears likely (Figure 3). The correlation between macro-economic drivers and deforestation suggests that, in addition to command-and-control methods, increasing the financial value of the standing forest could contribute substantially to its conservation. Therefore, current government policies should be buttressed by additional efforts to provide incentives that transform forest conservation into a vehicle for economic growth sufficient to compete with the stimulus for deforestation that results from global increases in commodity consumption.

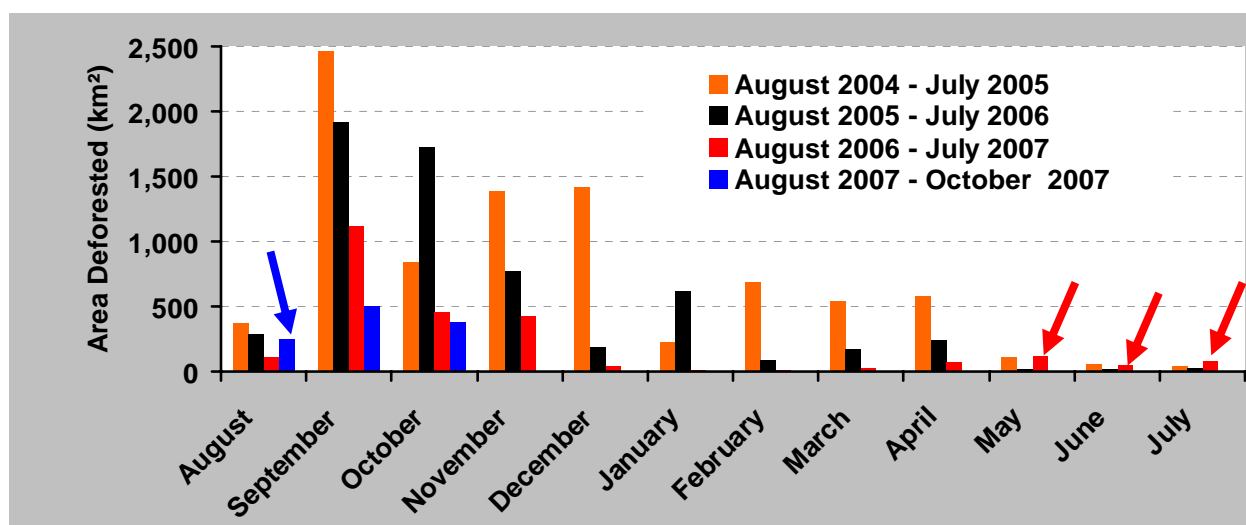


Figure 3: From May through August 2007, the Deforestation Alert System identified a potential reversal in the overall trend of deforestation reduction that occurred during the previous two years. *Source: Imazon/ICV*

Three Strategies to Reduce Deforestation

Numerous strategies to reduce deforestation have been proposed previously. In this report we describe three that we consider essential. None of these strategies replaces the critical roles of national, state, and municipal governments in the prevention of illegal deforestation. On the contrary, each of these three strategies empowers civil society and the private sector to take a pro-active role in reducing deforestation, often working in conjunction with government.

The three strategies are:

1. To enhance transparency, dissemination, and effective use of deforestation data by government agencies and civil society.
2. To develop and implement functional, credible market mechanisms that provide financial incentives for conservation and sustainable use of tropical forests.
3. To contribute to the development of public policies that will “scale-up” the incentives for conservation and sustainable use of tropical forests.

The first strategy aims to strengthen the linked components of the deforestation control system (Figure 4) by providing high-quality, independently analyzed deforestation data to the responsible government agencies, policymakers, the media, and the public. The second strategy aims to achieve a “green premium” for agricultural producers who contribute to forest conservation by promoting the independent registration, and ultimately third-party certification, of good stewardship of agricultural lands, beginning with compliance with Brazil’s progressive socio-environmental legislation (Box 1). The third strategy emphasizes multi-stakeholder consensus-building efforts, focused on garnering broad-based support within Brazil for state-, national-, and international policies that will result in financial compensation for reducing emissions from deforestation.

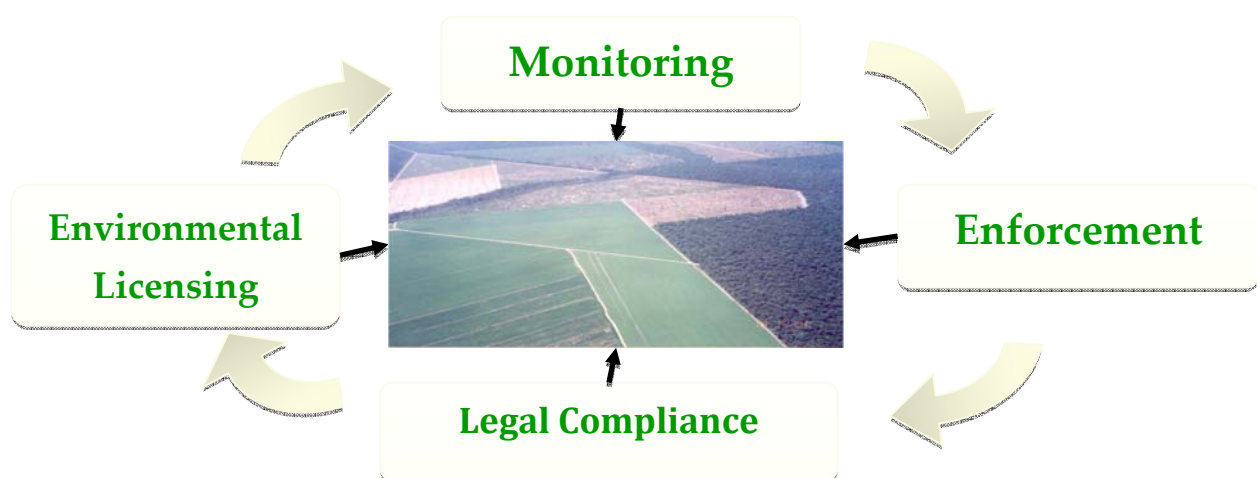


Figure 4: A systematic approach to the control of deforestation. *Source: IMAZON*

Box 1: Forest Code requirements for conservation on private rural properties in Brazil.

Brazil's Forest Code was signed into law in 1965, and regulates the use and conservation of forests and other native vegetation types on private rural properties through two principal mechanisms: (1) Permanent Preservation Areas (*APP – Áreas de Preservação Permanente*), and (2) the Legal Reserve (*RL – Reserva Legal*). APPs protect the riparian vegetation, steep slopes ($> 45^\circ$), and hilltops. The RL (but not the APP) may be sustainably harvested subject to an approved management plan that maintains the ecological function and composition of the native vegetation. Property owners are exempt from paying rural property tax (*ITR – Imposto sobre a Propriedade Territorial Rural*) on both RL and APP.

The size of the Legal Reserve (RL) varies by region and biome. Originally, properties located within the Legal Amazon were required to retain 50% of their area as RL and properties located in other regions of the country had a 20% RL requirement. At present, under Provisional Measure (MP) 2.166 the RL requirement is 80% for properties in the Amazon forest biome, 35% for properties in the *cerrado* biome within the Legal Amazon, and 20% in all other areas of the country, with the following conditions: (1) the area of the APP counts toward fulfilling the RL percentage requirement, but only in the Amazon forest biome; (2) the RL may be reduced from 80% to 50% in the Amazon forest biome under an approved, state ecological-economic zoning plan; (3) where native vegetation has already been cleared in excess of the limits stipulated by the Forest Code, property owners are required to either restore the RL or to compensate for the excess deforestation by protecting additional forest area of equal extent and ecological function and character within the same micro-basin; (4) RL on properties < 150 ha may be restored using exotic species mixed with natives.

Experiences and Results

Since 2005, a group of NGOs, with university, governmental, and private sector participation, have been carrying out an integrated set of projects to test the efficacy of these strategies in Brazil, with major focus on the state of Mato Grosso. This report describes some of the promising results achieved thus far.

Strategy 1: To enhance transparency, dissemination, and effective use of deforestation data by government agencies and civil society.

Mato Grosso's integrated monitoring and environmental licensing system (SIMLAM – <http://monitoramento.sema.mt.gov.br/simlam/>) is widely regarded as a model for systematizing the registry of rural properties and the licensing of land-use. Nonetheless, Mato Grosso is a leading source of CO₂ emissions from illegal deforestation, partly because only 30% of the area of private rural properties in the state is registered in SIMLAM, and in part because licensing is only one component of deforestation control (Figure 4). Other components of deforestation control include monitoring, field enforcement, and legal compliance. Under this strategy, our aim is to catalyze improvements to Mato Grosso's deforestation control system, by disseminating information and providing technical assistance.

Implementation of this strategy began with an effort to enhance the monitoring component of deforestation control through the development and implementation of an independent "Deforestation Alert System" by the *Instituto de Homem e Meio Ambiente da Amazônia* (Amazonian Institute of People and the Environment - IMAZON). The system provides virtually real-time, automated updates on forest clearing in Mato Grosso, utilizing digital satellite imagery produced at 16-day intervals,¹ and has proven itself to be consistent, reliable, and timely for providing "alerts" of emerging deforestation trends, most recently the upsurge in deforestation in Mato Grosso from May through August 2007 (Figure 3).

IMAZON and the *Instituto Centro de Vida* (Center of Life Institute – ICV) have publicly disseminated the results and analyses from the Deforestation Alert System through a monthly *Forest Transparency Bulletin*, highlighting the extent and spatial distribution of deforestation in Mato Grosso. The Bulletin has been widely covered in state and

¹ The Deforestation Alert System utilizes the same satellite data as the Brazilian government's "DETER" system, but is based on a different set of image classification algorithms. When the first Deforestation Alert System results were announced, the director of the Brazilian Government's environmental monitoring program declared his support saying "it's an opportunity for us to improve DETER." (Dalton Valeriano quoted in *Folha de São Paulo*, 11 September 2006).

national media (> 250 reports), and is readily available online (www.imazon.org.br) where it has been downloaded over 3000 times. The impact on decisionmakers has also been notable. Following release of the August 2007 bulletin that noted the emergence of an upward trend in deforestation in Mato Grosso, Brazil's Minister of the Environment, Marina Silva, announced that the causes of the problem would be analyzed by the federal and state governments and that the work of enforcement teams would be guided by the data.

To further enhance transparency, IMAZON has recently released a user-friendly, online, interactive web portal that features maps and data from the Deforestation Alert System, along with many other publicly available digital maps and spatial data sets for the Brazilian Amazon (<http://imazongeo.org.br/>).

Under this strategy, we have also sought to contribute to more effective enforcement of environmental laws by sharing information from the Deforestation Alert System with the state environment agency (SEMA) and the state prosecutor's office (MPE). Enforcement against illegal deforestation is clearly a state function, but civil society can provide a formidable assist with timely, high-quality, user-friendly information. In addition, ICV has developed an empirical model of deforestation risk for Mato Grosso that can help government agencies decide how to allocate finite resources more effectively, not only for enforcement, but also for the prevention of illegal deforestation.

ICV has also conducted an evaluation of each component of SEMA's deforestation prevention and control system, and elaborated recommendations that SEMA is incorporating into the development of a State Plan to Combat Deforestation. Legal compliance remains the weakest link in the deforestation control system, contributing to a persistent sense of impunity. There is a complex of administrative, civil, and criminal actions that can be taken against illegal deforestation, but historically violations have gone unpunished. In 2006, SEMA issued violation notices (*autuações*) for only 25% of the incidences of illegal deforestation in Mato Grosso. After violation notices are issued, the legal processes (*autos lavrados*) take over a year to resolve in 95% of the cases, and in 2005, none of the largest cases against illegal deforestation were upheld in court. To increase transparency and contribute to better legal compliance within the state's deforestation control system, the Law School at the Federal University of Mato Grosso (UFMT), with support from ICV and IMAZON, created a Center for the Study and Practice of Environmental Law that collects and analyzes data, reports research results, and documents and submits proposals for legal actions against the largest illegal deforesters to the appropriate state agencies.

Strategy 2: To develop and implement functional, credible market mechanisms that provide financial incentives for conservation and sustainable use of tropical forests.

Most deforestation in the Brazilian Amazon is the result of clearing for large cattle ranches, and the expansion of mechanized agriculture in the region pushes the cattle ranches further into the forest. Linkage between deforestation rates and the macro-economic signals that large landowners in the Amazon respond to is apparent and growing (Figure 5). To break this connection, positive incentives for forest conservation need to be promoted through institutions that will stimulate these principal agents of deforestation to maintain their forests rather than clear them. A core effort has been the development and implementation of the Registry of Social Environmental Responsibility (“*Cadastro de Compromisso Socioambiental*” – CCS), a collaboration between the Earth Alliance (*Aliança da Terra*), the Amazon Environmental Research Institute (*Instituto de Pesquisa Ambiental da Amazônia - IPAM*), and the Woods Hole Research Center (WHRC).

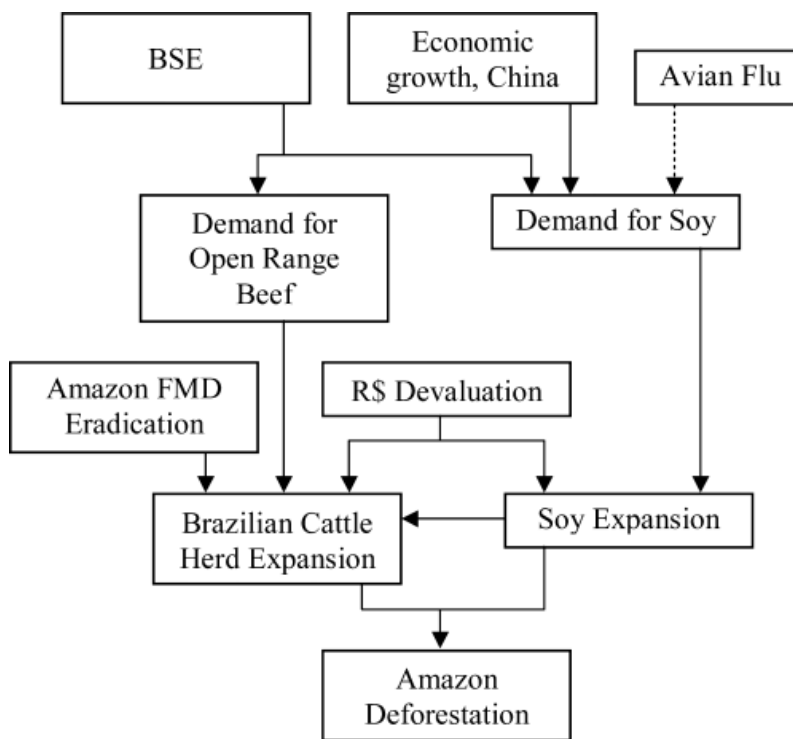


Figure 5: "Economic teleconnections": factors related to increased deforestation in the Brazilian Amazon (BSE = bovine spongiform encephalopathy; FMD = foot-and-mouth disease; R\$ = Brazilian Real). The dotted line represents suppressed expansion of soy associated with avian flu.

Source: Nepstad, D.C., C.M. Stickler, O. Almeida. 2006. *Globalization of the Amazon soy and beef industries: Opportunities for conservation. Conservation Biology* 20:1595-1603.

CCS is essentially a “best practices” registry for agricultural properties. Registrants commit to a set of principles and practices, receive diagnostic reports of their properties, and are provided with action plans that would bring them into compliance with existing regulations and with practices of sound land stewardship. There are well over 1 million hectares currently in CCS, including roughly 400,000 hectares of standing forest. Registration in CCS commits the owners of those properties to protect those forests, and these are properties that are otherwise producing cattle and soybeans at a major agroindustrial frontier.

CCS initially focused on the Xingu River Basin in Mato Grosso, but is rapidly expanding in response to growing demand among large landowners. The main goal is to congregate these landowners into a “pool” that differentiates them in the marketplace from those who are not committed to responsible social and environmental practices. The Zebu Cattle Association has entered into a cooperation agreement with the CCS to train their technicians to incorporate socio-environmental diagnoses and management plans into their on-farm activities so that their members can participate in CCS. The largest soy producing company in the region is already participating. Most importantly, buyers ranging from meat-packing companies to supermarket chains are expressing interest in developing CCS product lines.

Complementing CCS, Friends of the Earth – Brazilian Amazonia (*Amigos da Terra – Amazônia Brasileira*) has convened a tri-partite working group of environmental, social, and economic sector stakeholders to begin a long-term effort toward developing a national agricultural certification system in Brazil, generally along the lines of the Forest Stewardship Council for forestry. High-level participants, including Brazil’s former Minister of Agriculture (representing the economic sector), have leadership roles in the process. Although the initiative was sparked by the environmental sector, the economic sector has taken the most active role to date, with the understanding that “If we don’t create our own structure, we will have to swallow imported criteria.”² The working group has undertaken a review of standards from 12 current certification systems in Brazil as an initial basis for discussion intended to produce a minimum set of principles and criteria for a future umbrella agricultural certification seal.

Another market mechanism that could provide an incentive for forest conservation is “Legal Reserve” compensation. Regardless of financial incentives, Brazil’s Forest Code requires private landowners to maintain a substantial percentage of their property under forest cover (Box 1). The percentage varies according to region and biome, and

² Roberto Rodrigues, *Gazeta Mercantil*, 16 February 2007

for Amazon forest was raised by presidential decree from 50 to 80% in 1996 (but may be reduced to 50% under an approved, federal or state ecological-economic zoning plan). Historically, the legal reserve requirement has been widely ignored, but increased market demand for good environmental practices in the production of agricultural commodities, along with the state's increased emphasis on enforcement, has triggered renewed interest among rural landowners in "regularizing" their status. Together with SEMA and the Public Prosecutor's Office, the Socio-Environmental Institute (*Instituto Socioambiental – ISA*) has been working to help private landowners find ways to comply with the forest code, with an emphasis on compensation of the legal reserve, in which landowners with insufficient forest cover could contract with landowners with "excess" forest cover to use that excess as a means of meeting their own legal obligation. ISA is developing a manual for "regularization" of rural properties and conducting a survey of the status of landholdings in a region under severe deforestation pressure to determine the feasibility of implementing a trading/compensation system. Together with IPAM and ICV, ISA is also developing two zoning plans for micro-basins of the Xingu River that could facilitate compensation. In many cases, the cost of such compensation is likely to be much less than the alternative of reforestation. And, from a climate change perspective, the amount of carbon retained by maintaining standing forest that would otherwise be cleared is much larger than the carbon accumulation that would accrue from reforestation.

Strategy 3: To contribute to the development of public policies that will "scale-up" the incentives for conservation and sustainable use of tropical forests.

The environmental services provided by forests, and the need for fair and equitable sharing of the costs of conservation, are widely recognized, but coherent policies for addressing the vast challenge that this market failure presents are sorely lacking. Opportunities to scale up incentives for tropical forest conservation are now clearly on the horizon. The good news is that, while historically deforestation has been ~1/4 of the greenhouse gas emission problem (Table 1), tropical forest conservation can now make a substantial contribution toward reducing emissions. Amazonian deforestation can be reduced by 70% at an opportunity cost of less than \$10 per ton of carbon (Figure 6).

In collaboration with other NGOs, IPAM developed the concept of "Compensated Reduction" under which tropical countries that elect to reduce their national level of deforestation below an agreed baseline would receive *post facto* compensation, and commit themselves to stabilizing and/or further reducing deforestation in the future (Figure 7). Brazil is the country most prepared to implement a Compensated Reduction program because there is excellent monitoring capacity, civil society is engaged in the issues, and the government is increasingly committed to reducing deforestation.

Compensation for reducing emissions from deforestation could be based on a cap-and-trade market mechanism for carbon credits linked to the market for certified fossil fuel emission reductions. This proposal has achieved remarkable traction internationally, beginning in 2005 with the support of the “Coalition of Rainforest Nations,” which includes 15 developing countries but, at the time this report was written, did not include Brazil and Indonesia – the countries responsible for the lion’s share of deforestation. Historically, Brazil has had the best deforestation monitoring system in the world but did not express willingness to discuss deforestation within the United Nations Framework Convention on Climate Change (UNFCCC) prior to 2006. However, in a series of major policy initiatives, beginning at the Conference of Parties meeting in Nairobi in December, 2006, the Brazilian Government has now “recognized the need for positive financial incentives for the full implementation of actions to secure the reduction of emissions from deforestation” according to Minister of the Environment Marina Silva speaking at the United Nations in New York on September 23, 2007 (www.amazon.org.br). Brazil’s importance to an international process aimed at reducing emissions from deforestation is paramount; its absence would be akin to the absence of US participation in the Kyoto Protocol itself.

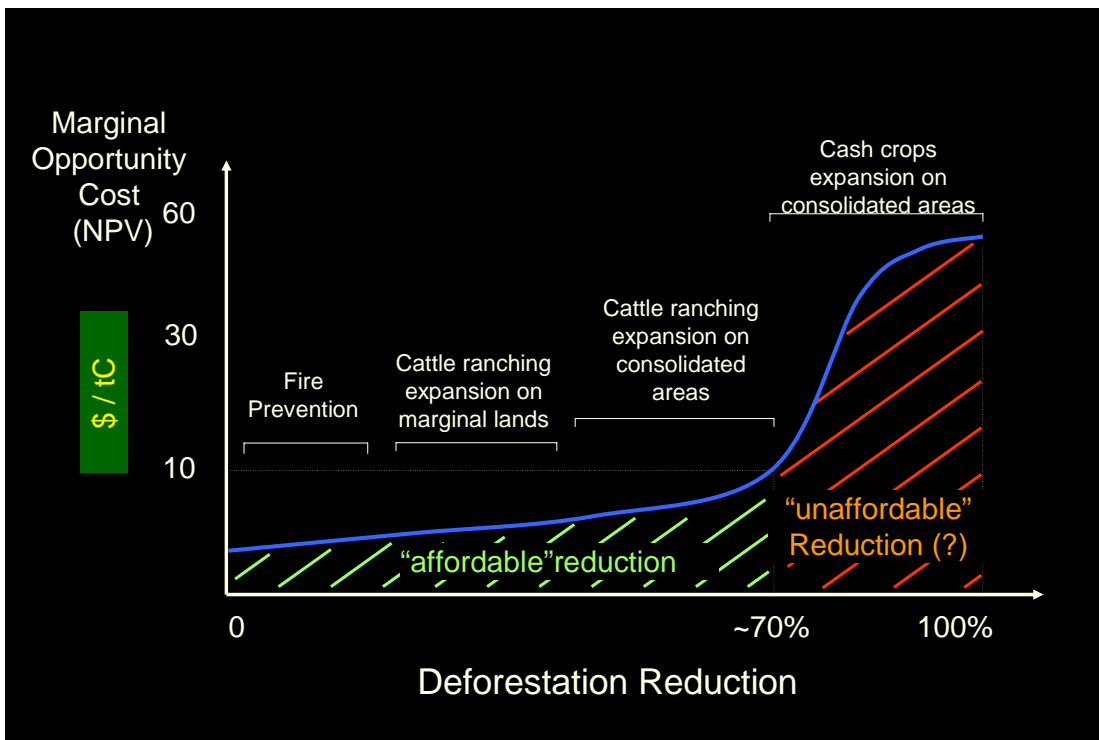


Figure 6: The carbon supply curve for reducing emissions from deforestation in the Brazilian Amazon. *Source: IPAM*

Skeptics of compensated reduction of emissions from deforestation argue that it is difficult to monitor tropical deforestation and estimate carbon storage in tropical forests. They also point out that guarantees of permanent carbon storage in forests are doubtful; that “leakage” of deforestation from one area to another is likely; and that “avoided deforestation” could be used as a cheap alternative to reducing industrial emissions from developed countries. While these objections are important to address, they are not insurmountable. Brazil and a few other countries already have good monitoring systems and estimates of forest carbon stocks. Permanent carbon storage of any type is not guaranteed, and emission reductions need not be permanent to be useful; in fact, carbon can be rented rather than bought. Leakage may be substantial within countries, but is likely to be less substantial between countries; hence a national-level compensation system seems most apt. Finally, reduced emissions from deforestation should be an addition to, not a substitute for, fossil fuel emission reductions.

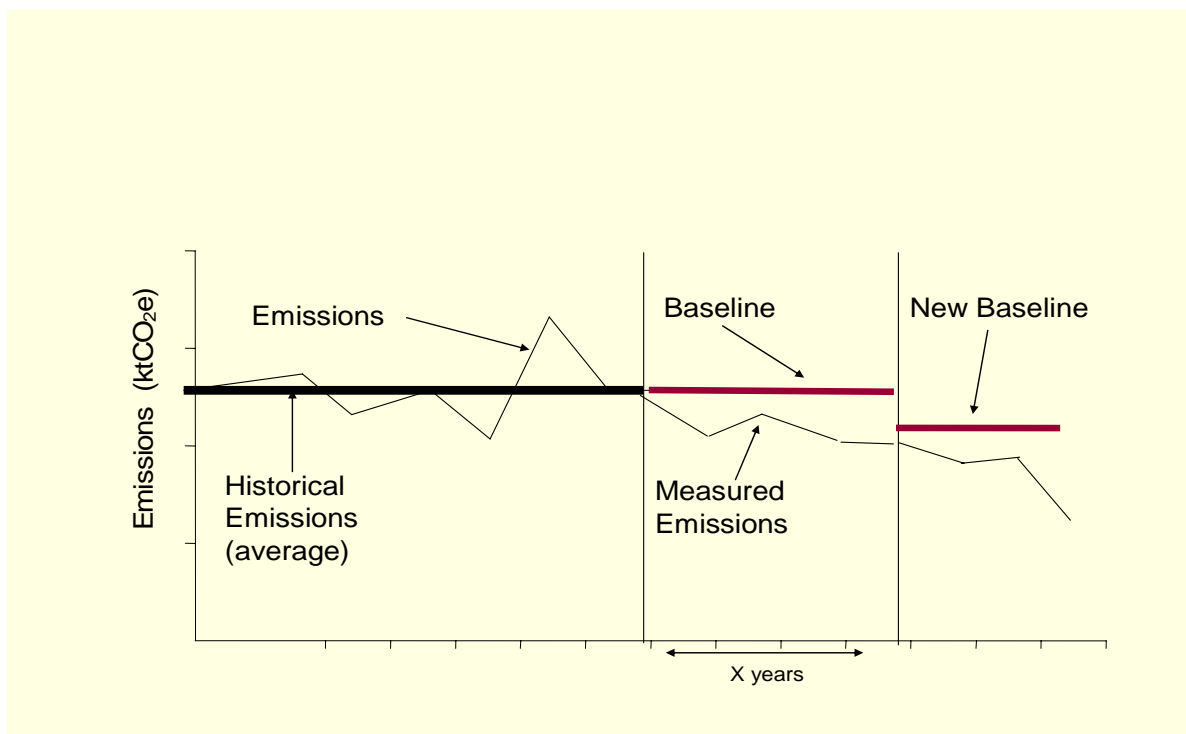


Figure 7: A baseline scenario for Compensated Reduction of emissions from deforestation. Developing countries that elect to reduce their national deforestation rates below an historical baseline could receive compensation through trading in international carbon markets. Reductions would be credited *post facto*, after robust verification. Source: IPAM

The World Bank's Forest Carbon Partnership Facility (FCPF) is a promising effort aiming to initiate a national-level system of compensation for reduced emissions from deforestation. FCPF includes a donor-supported "readiness fund" to help tropical forest countries develop the capacity required to plan for and monitor deforestation reductions, along with a "carbon fund" for investment in the purchase of what could be tradeable certified emission reductions, analogous to those issued through the Clean Development Mechanism (CDM).

Within Brazil, there are now a burgeoning number of initiatives aimed at reducing deforestation through some form of environmental service payments (Table 2). These include initiatives emerging from civil society, along with separate initiatives of the Lula administration, the national Congress, and the Amazonian states. For example, the proposal for a Pact for the Valorization of the Forest and the End of Deforestation in Amazonia, recently launched by civil society organizations, would establish targets for reducing deforestation at the state level, and implement financial mechanisms to support this effort. ICV has evaluated the potential for application of the proposed Pact in the state of Mato Grosso.

A critical role of the organizations involved in the development of the strategies proposed here is to provide decisionmakers with the information and analysis they need to move this process forward.

Table 2. Deforestation reduction initiatives involving payments for environmental services (Brazil).

<i>Initiative</i>	<i>Objective</i>	<i>Current Status / Date initiative launched</i>	<i>Stakeholders Involved</i>
Compensated Reduction of Deforestation (CR)	Compensation, via the carbon market, of developing countries for voluntary reduction of emissions from deforestation from their territories, below an historic emissions baseline.	Under debate in the UNFCCC/ COP 9, 2003.	Brazilian NGOs (led by IPAM) with support from the Alliance of Forest Peoples and some of the Amazon States.
Brazilian proposal for positive incentives.	Provide "positive incentives" to developing countries that, voluntarily, achieve net reductions in GHG emissions from deforestation, below an historic emissions baseline.	Under debate in the UNFCCC/ COP 12, 2006.	Brazilian Federal Government.
Pact for the Valorization of the Forest and the End of Deforestation in Amazonia.	Establish an agreement within the Legal Amazon to achieve a zero deforestation rate by 2015, according to a regime of state-level targets for rate reductions.	A proposal for the pact was launched in October 2007 and it is currently being refined. There is an ongoing effort within the National Congress to allocate financial resources for activities described in the proposed Pact.	Amazonian States, traditional and indigenous peoples, NGOs, and rural producers.
Congressional action against climate change and deforestation.	Implementation of the Climate Working Group of the Congressional Environmental Front to study and discuss how Brazil can reduce its emissions. The group is examining what public policies would be most effective for reaching this objective.	Studies of proposed climate change legislation in the US Congress and British Parliament.	Members of the Climate Change Working Group of the Congressional Environmental Front.
	Creation of a Special Commission for Climate Change to promote debate and create the foundations of a national climate change policy. Reducing deforestation was considered the most effective measure that the country should take to contribute to mitigation of global climate change and was selected as the priority issue by the Commission.	Discussion of deforestation reduction policies in the Amazon. Discussion of the basis for a national climate change policy (March 2007)	Special Commission on Climate Change, with the support of Brazilian NGOs, research institutions, and social movements.
The Amazonas Initiative	President of Congressional Environmental Front submitted a bill in favor of emission reduction target (4% below 1990).	Bill passed by the House of Representatives Commission and is under consideration in the Senate.	National Congress Initiative
State Plan for Reducing Deforestation in Mato Grosso	An independent proposal by the State of Amazonas to create a compensation mechanism for environmental services, including compensated reduction of deforestation.	A state climate change law was passed to implement the initiative.	The state government of Amazonas, with support of NGOs, social movements, and academic institutions.
	Plan to control deforestation based on compensation of property owners for environmental services, including forest conservation. The plan includes strengthening monitoring and deforestation control, increasing the area of conservation units in the state, and incentives for forest management.	The plan has been discussed within the state government and locally. The plan could be launched in the coming months.	The state government of Mato Grosso, with the support of environmental NGOs and agroindustry.

Next Steps

The efforts we have described in this report are built upon strong links between our organizations and collaborating state and federal agencies in Brazil, and they are characterized by integration across scales, ranging from individual landholdings, to watersheds, to state, regional, national, and international policy issues. We aim to continue these efforts, and to foster additional innovative approaches to reduce deforestation. Below we list some of the emergent opportunities for achieving and consolidating deforestation reductions in the Brazilian Amazon during the next few years:

1. Adaptation of strategies 1 and 2 beyond Mato Grosso, including:
 - a. Implementing the Deforestation Alert System and data dissemination efforts in other Amazonian states;
 - b. Expansion of the Registry of Social Environmental Responsibility (CCS) to other Amazonian states.
2. Evaluation of Mato Grosso's integrated monitoring and environmental licensing system (SIMLAM) to develop specific recommendations that will enable it to achieve 90% registration of rural properties in Mato Grosso by 2010.
3. Development and implementation of State Plans for the Prevention and Control of Deforestation, consistent with the Plan of the Federal Government.
4. Achieving a scientific consensus on appropriate baselines for calculating the reduction of emissions from deforestation, and on that basis defining compensation for actual reductions in deforestation (Figure 7).
5. Capacity building, to enable key stakeholders from federal and state governments, the private sector, and regional social movements, to understand and engage with the intersection between climate change and tropical forest conservation.

This is a short list, and certainly there are other opportunities at present, and still others that likely will emerge during the coming years. Tropical forests, the people who live in and around them, and the global climate, all stand to benefit from a world in which it makes more sense to conserve the forests than to destroy them. That world is still within our grasp, but time is running out.