

SPECIAL PANEL:

How to make incentive mechanisms work: Lessons from the Bolsa Floresta Programme in the Amazonas

Chair: Virgilio Viana (*Amazonas Sustainable Foundation (Fundação Amazonas Sustentável, FAS)*) virgilio.viana2@fas-amazonas.org

Panel Abstract:

Amazonas Sustainable Foundation (Fundação Amazonas Sustentável, FAS) is an innovative institutional framework that was created through a partnership of public (Amazonas State Government) and private sector (Bradesco Bank). FAS also has the support of Coca-Cola, the Amazon Fund (BNDES), Marriott International, Samsung, among others. 90% of FAS' financial resources come from the private sector.

FAS is responsible for implementing the Bolsa Floresta Programme. The goal of this programme is to reward traditional populations for maintaining environmental services provided by rainforests through investments in life quality improvement and in making forests worth more standing than cut.

The Bolsa Floresta Programme is comprised of 4 components: (i) support for sustainable income generation, (ii) investments in education, health and transportation, (iii) promotion of communitarian empowerment by supporting grass root organizations, (iv) cash reward for those who make a commitment for zero deforestation.

The Bolsa Floresta Programme is currently the largest programme of payment for environmental services in the world. More than 10 million hectares of forest and 33 thousand people have already been benefited in 15 conservation units.

The Juma Project, in the Juma reserve, was the first one in the world to achieve the "gold status" under the CCB Standard for REDD+ projects in 2008. The same project was also awarded the "best monitoring and evaluation methodology" of REDD+ in 2010 and the "best lessons learnt" in 2012, both by the Rainforest Alliance.

This panel describes the results of recent research conducted on the Bolsa Floresta programme, identifying lessons that can be applied in other REDD+ efforts in developing regions.

"Land use, deforestation pressures and compliance under the Bolsa Floresta Program in Amazonas"¹

Riyong Bakkegaard (*Center for International Forestry Research (CIFOR)*) - rkim@life.ku.dk

Abstract:

Payments as incentives for avoiding deforestation to mitigate climate change have gained increasing consideration as a means to achieve REDD+ (Reduced Emissions from Deforestation and Degradation) in

¹ Note: this study is also presented in the special panel on REDD+ experience in the Amazon, on Monday, June 18 at 9:00 – 10:30 am.

developing countries. Particular attention is focused on preparing tropical, forest-rich countries for REDD+ implementation, which aims to pay local landholders to avoid clearing forests. The Amazon Basin has been a priority area for initiation of pilot REDD+ activities, and Brazil, which houses the largest tract of Amazonian forests, has been significantly engaged in these activities. In one of the first studies of its kind, research on who exactly is participating in pilot REDD+ projects in the Brazilian Amazon was conducted to highlight the current issues and successes that these initiatives face.

The study was conducted in two Sustainable Development Reserves in the state of Amazonas, Juma and Uatuma, which are both involved in a payment program called the Bolsa Floresta (Forest Allowance) Program. Furthermore, the Juma Reserve represents one of the first credited REDD+ programs in the Brazilian Amazon. Families in these reserves receive village level assistance in the form of infrastructure, but most publicized is its incentive payment of US\$30 per month per family who commit to zero deforestation of mature forest. Juma reserve is traversed by a road which connects the main town in the reserve to a large regional city, where access to the Uatuma reserve is solely by river. Current deforestation rates (2010) were measured at <1% in both reserves, but by 2050, these figures are expected to increase to around 70-75% in each. Pressures for land clearing threaten the integrity of the Sustainable Development Reserves, and the Bolsa Floresta Program aims to meet this heavy pressure through community empowerment, including creation of community infrastructure (e.g., schools, transport) and providing means to develop small-scale businesses.

As part of the Center for International Forestry Research's Global Comparative Study on REDD+, a survey was conducted including 340 households both inside and outside Juma and Uatuma Reserves from February to April 2011. Of these households, 244 were inside the reserves and eligible to receive Bolsa Floresta payments. Preliminary socio-economic analysis of respondents showed that small-scale agriculture remains the prominent livelihood within the reserves, contributing 37% (Juma) and 33% (Uatuma) of the total annual cash and subsistence income. Interestingly, outside Uatuma, agricultural incomes contributed to 30% of the total and only 12% outside Juma. Forest income was the second most prominent livelihood inside Juma and Uatuma comprising 30% and 29% of total incomes respectively, compared to 12% and 23% outside the respective reserves. Households outside Juma also earned most from livestock and animal product income (41% of total income), and held the largest share of livestock assets (64% of total assets).

These results highlight that, based on potential pressures from outside the reserves, long-term compliance for avoiding deforestation is central to ensuring the integrity and success of the Bolsa Floresta Program. Currently, reserve rules allow for the annual opening of small agricultural areas (up to 4ha in Juma; 3ha in Uatuma), with any clearing of mature forest requiring permission from the state environmental protection agency. However, stricter Bolsa Floresta requirements forbid clearing of mature forest and penalties for non-compliance can result in expulsion. Results showed that compliance in the reserves is generally high, with only 3 households inside the reserves reporting forest clearing above the allowed annual limit. However, the mean forest cover on individual lots was 79% inside Uatuma and 57% outside, and 52% inside Juma and 74% outside. Indeed, the total land cleared (12,95 ha, $p < 0.01$) and total area of land owned (239,56 ha, $p < 0.01$) was significantly higher for households outside Juma Reserve, reflecting the reserve's close proximity to cattle ranching areas in Brazil's arc of deforestation. The lower figures for forest cover inside Juma could be a result of scale, as smallholders would need to clear more forest area relative to total area in order to obtain necessary income, compared to large land owners. With drivers of deforestation so close to reserve boundaries, and the important role of agricultural and livestock income sources, the question remains whether the program of community empowerment and incentive payments will be enough to deter land conversion to more profitable uses.

“Assessing preferences for compensation packages using the discrete choice method: the case of the Bolsa Floresta Program in Amazonas, Brazil”

Essam Mohammed (*International Institute for Environment and Development (IIED)*) - essam.mohammed@iied.org

Abstract:

Natural ecosystems, including forest ecosystems, continue to be degraded or converted at an alarming rate. To complement or substitute regulatory approaches to ecosystem management, market-based instruments such as ‘payments for ecosystem services’ (PES) have been introduced and are constantly gaining popularity. One of the prominent PES schemes in the world is the Bolsa Floresta Program (BFP) in the State of Amazonas, Brazil. The BFP was established by the Government of the State of Amazonas through its Secretariat for Environment and Sustainable Development in 2006 and is implemented by the Amazonas Sustainable Foundation. The BFP, which is a voluntary program to reduce deforestation and promote sustainable development by rewarding the communities for changing their land use behaviour has four main components: the Bolsa Floresta Income (supports sustainable production of non-timber products); Bolsa Floresta Social (supports community infrastructure improvements); Bolsa Floresta Family (provides direct cash payment equivalent to R\$50 for each household) and Bolsa Floresta Association (provides support to build local institutional capacity). A study was conducted to assess the preferences of the participant communities for different payment packages with varying combinations of the bolsas relative to the status quo option using the discrete choice method. The objective of this study was to help make informed decisions about possible adjustments to the payment packages in accordance with the preferences and desires of the public. A total of 463 households were randomly selected and surveyed in three reserves: Uatumã (151), Juma (156) and Rio Negro (156). About sixty eight percent of responses were regarded reliable. The questionnaire survey presented five alternatives (status quo plus four hypothetical alternatives) with different combinations of the Bolsa Floresta packages. The respondents were asked to choose their most preferred alternative. It was found that the majority of the respondents (about eighty percent) in the three communities chose an alternative which offered a 20% increase in direct cash payments to households as their most preferred alternative. On the other hand, the fourth alternative which offered a reduction in bolsa floresta income and social by 14% and a significant increase in bolsa floresta association was the least preferred alternative. While the subjects overwhelmingly voted in favour of higher cash payments (bolsa familia) in the discrete choice section, the majority of respondents who were subjected to open question stated that they would like to see an increase in items that fall under the Bolsa Floresta Social category.

“From Zona Franca Verde to Bolsa Floresta: Valuing forest conservation and human work in the Amazon region”

Laura Rival (*Oxford University*) - laura.rival@anthro.ox.ac.uk

Abstract:

This paper analyses the ways in which various actors construct natural capital and the ‘added-value’ of nature when transformed by human work in their debates about the benefits of Bolsa Floresta.