

# Bolsa Floresta Programme, Brazil

## Case study Module 2

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### Ecosystems, poverty alleviation and conditional transfers

Guidance for practitioners

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Evidence from the international research community shows that careful management of nature results in benefits to people's wellbeing. Poor people especially depend more heavily on the quality of the ecosystems and have less access to substitutes when they are degraded. Making meaningful impacts in the way ecosystems are managed requires governments to step in and scale up, but the evidence also shows that empowered communities can make strong calls to enact and implement change at the local level. Positive incentives like payments for ecosystem services (PES) and other forms of conditional transfers can provide important signals to enact this behavioural change into positive actions. Carefully designed, these incentives can also contribute to the wellbeing of people, especially poor and vulnerable groups. New tools emerge that can help with scaling up and dealing with inevitable trade-offs, but more efforts are needed to bring this information closer to those making decisions. This case study accompanies a [Guidance for Practitioners](#) that helps to bridge this space by: 1) making evidence accessible, bringing the latest evidence from research on PES in theory and practice with documented case studies written for practitioners; and 2) supporting capacity building to 'train the trainers', through teaching modules which can be used to promote capacity building of practitioners.



The Bolsa Floresta Programme (BFP) is a state-level public policy that represents a hybrid of conditional transfers and payments for ecosystem services (PES). It involves a mix of direct cash rewards and community-based investments in income-generating activities, social empowerment and capacity building, and social infrastructure. The programme successfully combines multiple streams of funding from the public and private sector to make transfers at household and community level to conserve forests and improve people's wellbeing in sustainable development reserves in the Amazon. To join the programme, there are conditions: riverine participants should not deforest pristine forest, should send their children to school, and should live at the reserve for at least two years.

BFP is one of the oldest and largest programmes aimed at promoting environmental conservation and poverty alleviation in the world (Börner *et al.*, 2013; Viana, 2008). It began with a few communities in two protected areas and now involves an area of 10.9 million hectares, 583 communities and 16 protected areas. Created in 2007, and initially administered by the State Secretary of Environment, with the support of Idesam, a non-governmental organisation (NGO) from the Amazon, BFP has been implemented by the Sustainable Amazonas Foundation (FAS) since 2008. FAS, an NGO, was created through a partnership of Bradesco Bank and the Amazonas State government. The strategy behind having the programme implemented by FAS was to increase efficiency, efficacy and equity in delivering benefits to communities, as well as to create resilience in the light of possible changes in government partisan politics.

### Political support

The conceptual design of BFP was led by the State Secretary of Environment in 2006-2007. The programme was enacted formally in June 2007, as a part of a state law on climate change, which was Brazil's first state legislation on this theme (Viana and Santos, 2008). The design process included 13 multi-stakeholder workshops, attended by grassroots organisations, environmental NGOs, and research and government institutions from the Amazon. In addition, the design included a community public consultation and design-thinking workshop in the Uatumã Sustainable Development Reserve, in Amazonas. A participatory approach rather than a top-down approach was chosen for it to feel as close to reality as possible for the families and communities involved in the process, as well as due to budgetary limitations. The participatory approach was not only a result of a political claim by the communities involved, but was also perceived as a necessary condition for a model of sustainable development.

The benefits were associated with commitments for zero deforestation in pristine forest, the adoption of fire prevention practices, and the enrolment of children in school. The programme also encouraged participation in local associations. These commitments were based on public two-day participatory workshops, so as to fulfil the concept of free, prior and informed consent (Viana *et al.*, 2013). After well-informed information and discussion sections in these workshops, families were free to sign a written commitment to join the programme.

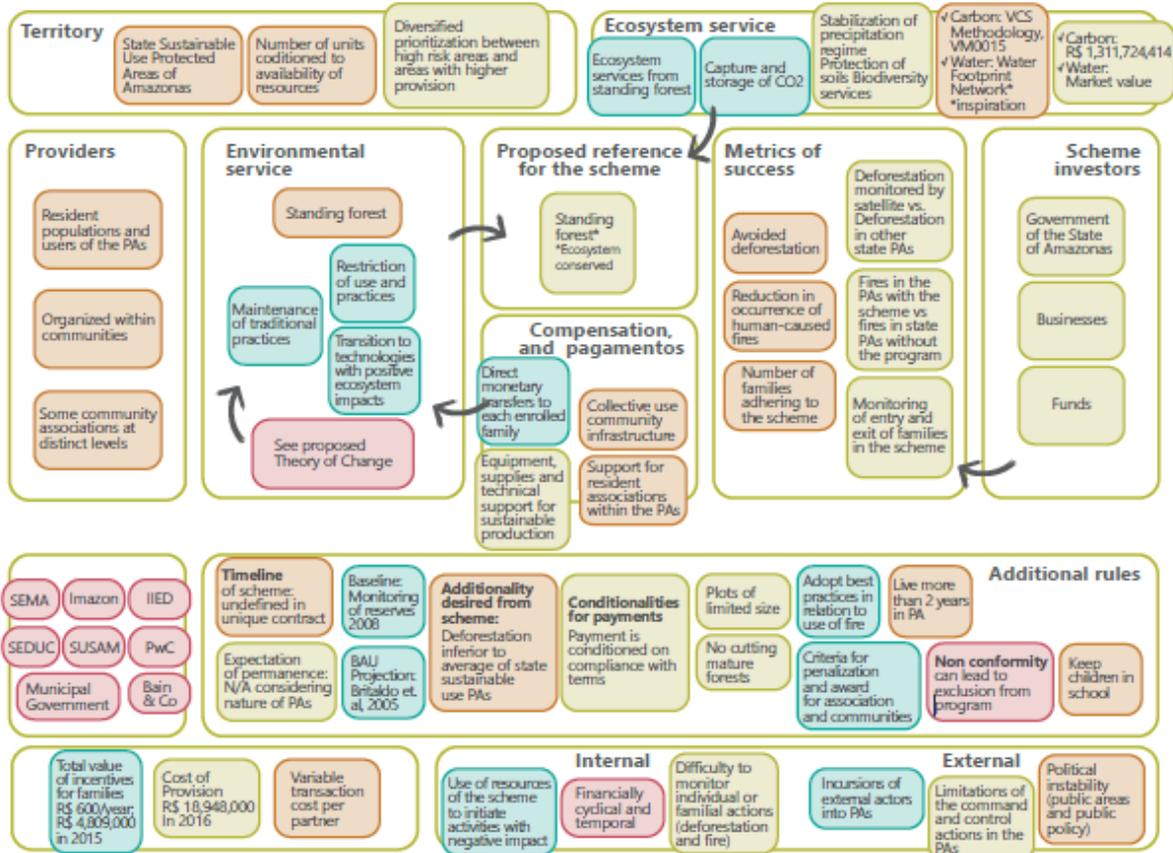
### Sustainable financing

The BFP funding source was initially designed to come from REDD+. The strategic plan was drafted in the period before the Copenhagen COP 15, which was expected to become a landmark in international funding for REDD+. However, this vision was frustrated, as COP 15, and others afterwards, failed to deliver the expected results, and international funding for REDD+ did not eventuate as expected. This led to a change in the funding strategy. Donations from government and business were then used as a bridge to larger REDD+ funding, and such donations had to be treated as a sinking fund and not as endowment, as originally conceived. Most funding for BFP came from donations without relationships with REDD+, except those from Marriott Hotels (US\$2 million) and the government of Norway through the Amazon Fund (BRL 19 million plus BRL 31 million), out of a total BRL 160 million invested by FAS in BFP and other associated programmes (education, health, entrepreneurship and innovative solutions).

## Institutional set-up

The design of the BFP follows a business approach, based around the business canvas model (see Figure 1). Some of the main components are presented in the next section, but for more information see FAS (2017).

Figure 1. Primary blocks of a PES-canvas, Bolsa Floresta



Source: FAS (2017).

## Systems and tools for effective implementation

**Laws and regulations:** This programme is part of the state public policy, instituted by the government of Amazonas in 2007. The main laws underpinning the programme are Law 3135 on Climate Change, Environmental Conservation and Sustainable Development of Amazonas, and Supplementary Law 53 concerning the State System for Protected Areas (SEUC). The laws determine environmental legislation at the state level and paved the way for forest-based environmental services linked to social justice and equality.

**Targeting and prioritisation:** In the BFP, areas with the following attributes are prioritised:

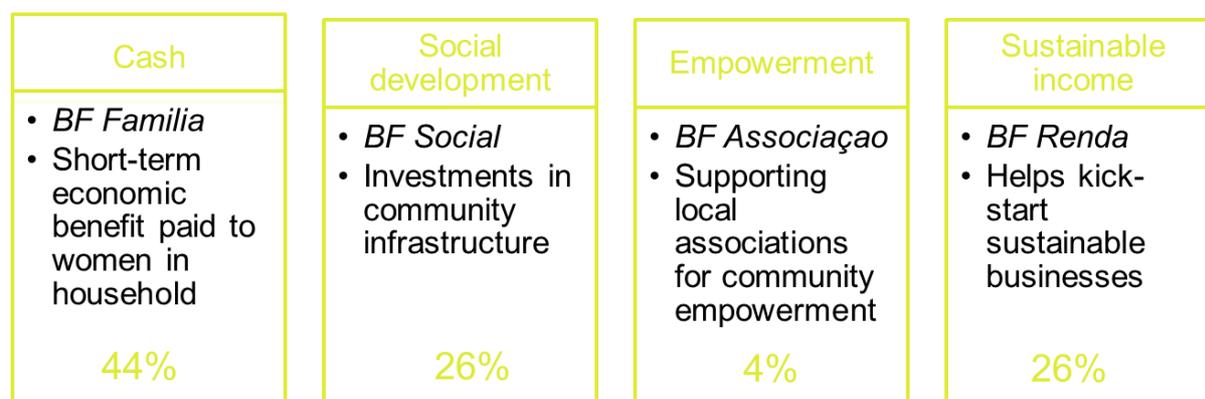
- Identification of relevant areas, focusing on sustainable use protected areas (PAs) as well as the presence of potential providers (forest guardians and riverine communities) for environmental services in the area
- Identification of critical areas by looking at the risk of reduction in provision, considering existing provision of ecosystem services, level of coverage by command and control structures, external pressure on the PAs with impacts on ecosystem conservation and occurrence of unsustainable activities in the territory, and
- Identification of potential areas by understanding needs of potential providers, including social vulnerability and access to public services, level of social organisation, willingness to conserve.

priority areas for PES schemes, also considering cost versus conservation impact (resident populations versus area of the PAs).

These attributes are rated numerically (eg 3 = high, 2 = medium, 1 = low; yes = 1, no = 0) and added to identify the areas with higher potential. FAS (2017) provides in-depth details on implementing these targeting strategies.

**Type of transfers:** The structure of BFP began with three components considered basic for quality of income (Figure 2): community infrastructure; cash rewards; and community empowerment. After 2008, following a series of workshops and consultations, the programme was reorganised, with additional components aimed at promoting sustainable income, supporting grassroots organisations and social investments (education, transportation, health and communication). These additional components are funded by the project, not as (government) public services. The relative weight of the incentive package was rearranged, with more emphasis on cash reward, in response to the community feedback. The consultation process also determined the stronger focus on women as main recipients of the cash, and proposed equal level of investments across different communities.

**Figure 2. Payment modalities in Bolsa Floresta**



**FAS management strategies:** Several factors appear to also help improve programme effectiveness:

- The development and use of cost indicators (for example, percentage overall implementation costs, number of days before purchasing air tickets controlled per individual staff) presented and discussed at length at quarterly FAS staff and board meetings lead to the creation of an institutional culture of cost reduction
- The use of indicators of key outcomes (for example, gender, percentage of women participating, percentage of projects fully implemented) presented and discussed at monthly (up to 2013) or quarterly (2014 onwards) internal management meetings at FAS, helped identify problems and develop solutions for improved efficacy
- Partnerships with other organisations (for example, state and municipal governments, NGOs, grassroots organisations) helped reduce costs of field journeys, demand of staff and improved outcomes, and
- When possible, bulk purchase of equipment and goods by FAS administration, which increases the bargaining power with suppliers and helps reduce costs.

**ICT systems for inclusion:** The family (cash) component is paid through a Bradesco Bank debit card, directly to the account of individual families. This benefit is paid every month and accumulates in the beneficiary's account until collected when the family goes to town or to a remote Bradesco express ATM machine. All families visit the city at least two or three times per year, when they visit relatives, for education or medical purposes, and so on. The link to bank accounts reduces paperwork and the chances of mismanagement of resources, while promoting financial inclusion by encouraging the creation of bank accounts for the families in these remote locations.

**BFP's theory of change:** Based on four points:

1. Intermediate results that should be achieved by the providers in terms of changes in practices.
2. Direct results anticipated from rewards foreseen in the scheme.
3. Complementary actions to be realised by the leader of the scheme or partners.
4. Complementary actions outside the governability of the scheme.

FAS (2017) provides clear details on the specific components of this theory of change.

**Clear gender equity agenda:** Includes objectives, resources, indicators and monitoring. The programme has defined clear strategies for action, which include:

1. Control of cash resources by women.
2. Incentive for participation of women in participative planning workshops, leadership meetings and other processes of participatory management.
3. Incentivising leadership of women in projects that generate income and enterprise.
4. Educational actions on the rights of women.
5. Support for the creation and strengthening of clubs and associations of women.

**Ensuring transparency and feedback:** Transparency is a key element of the implementation strategy of FAS. The governance of the BFP includes a leadership meeting of 40 to 70 presidents and other leaders of grassroots organisations that represents the over 40 thousand beneficiaries of different areas. These are umbrella organisations (*associação mãe*), which are formally established and represent small community-level associations, mostly informal. These meetings take place twice a year, usually in Manaus (in 2012 they took place in Rio de Janeiro, at the Rio+20 meeting), lasting five days. These leadership meetings provide a unique space for open evaluation and discussion of the BFP, with a focus on challenges and solutions. These meetings also provide a unique space for the leaders to engage in direct debate with high-ranking governmental officials, thus empowering them to claim their rights. Finally, the leadership meetings provide an opportunity for sharing lessons and for developing new leaders. Since 2016, the leadership meetings have also been receiving 10 to 20 per cent of youth participants.

Once a year, the results of the BFP are discussed in seminars held at local universities (Federal University of Amazonas, Amazonas State University) or at FAS. These public seminars provide a space for multistakeholder interaction, especially with academia and NGOs, focusing on sharing knowledge and reducing partisan criticism of the BFP. Complete financial statements of FAS and the BFP are published in full on the web and registered with a public notary. This disclosure is preceded by an annual independent audit, which is reviewed and approved by the fiscal board and the board of administration of FAS. A detailed activity report (+100 pages) is published yearly and is also posted on the web for open access.

## Ability to demonstrate impact

**Significant disbursement of resources and communities involved:** The BFP invested a total of BRL 119,4 million (US\$37.3 million) from 2008–2016 (FAS, 2016). A total of 76 per cent of the investment was in direct benefits to communities. All management costs, including staff salaries, participatory planning workshops, logistics and other costs accounted for 24 per cent of costs. In addition to the four components of the BFP, FAS invested BRL 49.7 million in complementary programmes, focused on education, health, community-based tourism, environmental monitoring, scientific development and entrepreneurship, in the same period.

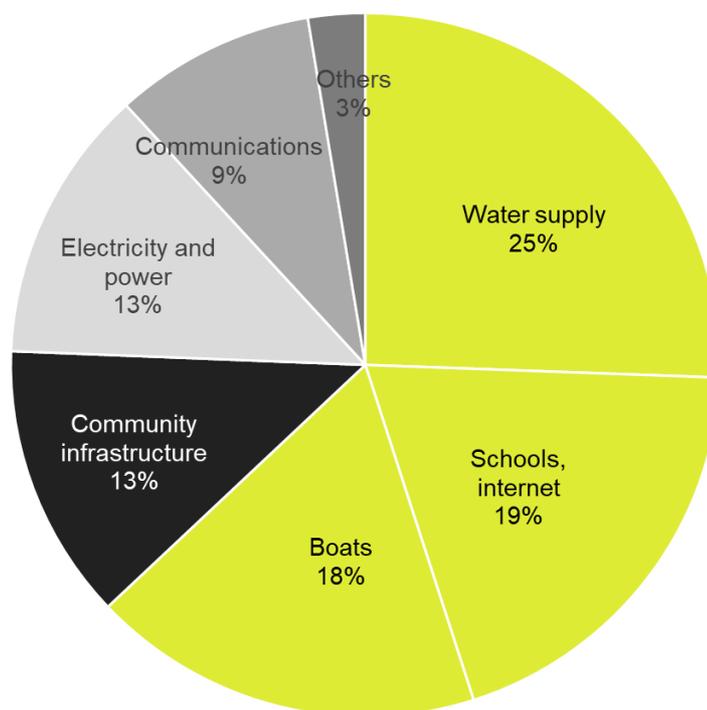
Allocation of funds to the four components of the BFP was slightly different from the original plan. The biggest difference was in the social investment component. This was due to shortage of funding from private philanthropy, especially since 2015. Funding for the income and association component, mostly from the Amazon Fund was very close to the estimate. The family component, with funds from the

Amazonas State government, Bradesco Bank, Coca Cola Brasil and other sources was slightly more than estimated.

**Participants' perceptions:** Cash is the preferred form of incentive. According to household surveys in RDS Juma, Uatumã and Rio Negro, most families (78 per cent) preferred an increase in the family (cash) component. Between 2011 and 2015, there was a significant increase (from 5 per cent to 15 per cent) of respondents who would have preferred to increase the income-generation component, and non-significant increases in options for the social and association components (Agustsson *et al.*, 2014).

The social component of BFP included investment in the construction and reconstruction of 67 schools, installation of 160 radio communication stations, 91 river ambulances, water supply, energy generation, boats and internet access, among others. The importance of these investments in social infrastructure, according to a 2015, poll indicated that the most relevant investments were drinking water supplies, schools, boats, energy and communication (see Figure 3).

**Figure 3. Most important investments for communities, as perceived by communities**



Source: Opinion survey conducted by Action Market Research in August 2015, with 994 beneficiaries of the Bolsa Floresta Programme in the Rio Negro, Juma, Uatumã, Madeira River and Puranga Conquista Protected Areas.

**Adapting incentives in response to changing context:** Most participants associated the benefits of BFP to the cash component. However, this perception decreased from 2011 (64 per cent) to 2015 (41.7 per cent). In contrast, perceptions about the benefits of other components increased from 2011 (32.5 per cent) to 2015 (47.8 per cent). This perception corroborates with the hypothesis set in the beginning of the programme, that cash benefits were important in the first years, while the benefits of income generation and social investments were not clearly perceived. As time passes and investment matures and yield results, the cash component has become relatively less important.

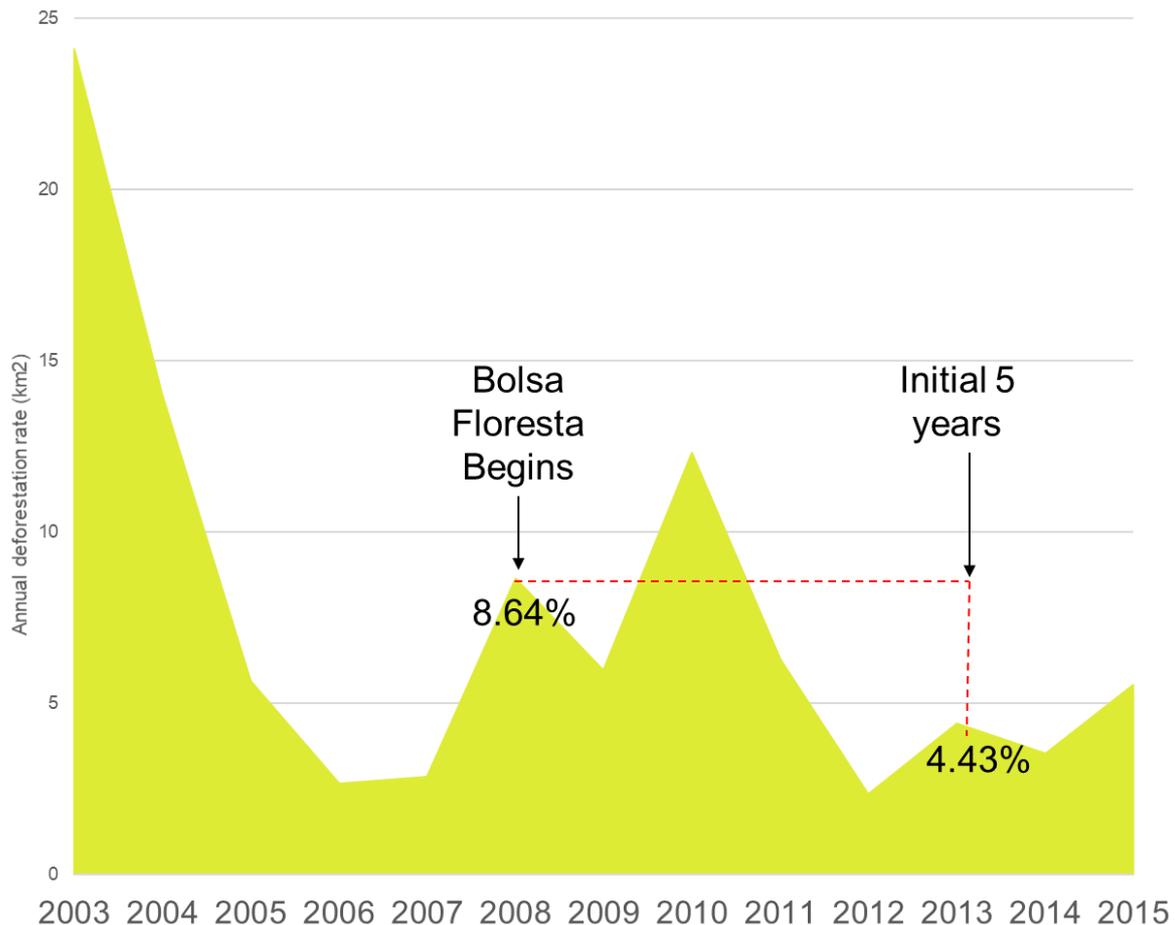
Cash payments are perceived very positively by beneficiaries and provide equitable distribution of benefits among families. Non-cash benefits present a challenge to secure equitable benefit-sharing among families, across and within different areas. The use of equity indicators to monitor implementation equity needs to receive greater attention in the implementation of the BFP. Drivers of inequity in non-cash benefits need to be analysed and solutions need to be developed to promote

greater equity. This includes a better understanding of the political divides, governance challenges and different interest groups across and within different areas.

**Impacts on the environment:** Perceptions of participants of the BFP indicate that there has been a change in their behaviour. Most (90 per cent) beneficiaries perceive that the BFP has contributed to environmental conservation, 80 per cent associate these results to reduction of deforestation and 76 per cent with reduction of forest fires. In 2015, most (79.8 per cent) participants considered that the programme had helped reduce deforestation.

Measuring the impact of the BFP on deforestation rates is complex. First, there are no appropriate control areas. Attempts to use federal protected areas as controls (Tersitsch, 2017) have a limitation, given that there are different governance and institutions in charge. Second, it is not appropriate to compare BFP and non-BFP protected areas, given the fact that some areas face very different deforestation pressures. Nevertheless, the data suggests that deforestation in the BFP areas has reduced over the years. Relative to an average five years before the beginning of the programme (2003–2007), deforestation was reduced by 28 per cent in the first five-year period (2008–2012) and another 37 per cent in the following period (2013–2015), totalling 54 per cent compared to the baseline (Figure 4).

**Figure 4. Annual deforestation rate in priority areas benefited by FAS**



Source: Adapted from Tersitsch (2017).

Forest fires have also reduced in BFP areas. There were 775 fires in 2016, down from 1,473 in 2015 in all BFP areas. In terms of improvements in livelihoods, most participants considered that their lives had improved since the beginning of the programme. This assessment improved from 2011 (54 per cent) to 2015 (78 per cent). Negative changes decreased from 9.6 per cent to 3.2 per cent in the same period.

There were several other positive impacts of the BFP and the associated FAS programmes. In the RDS Rio Negro, for example, the incidence of diarrhoea in children from 0 to 6 years of age reduced from 41.5 per cent to 13.6 per cent in 2013 and 2016 respectively – a 67 per cent reduction.

## Lessons

The BFP needs to focus on several challenges, including ensuring the equity of non-cash components and the detailed monitoring of the social, environmental and economic impacts of the programme. In addition, the programme needs to secure long-term funding, beyond current sources. New opportunities may emerge within the framework of the Paris Agreement and the Amazonas legislation on ecosystem services. The programme has a strong gender component, with clear monitoring of indicators to measure progress that show how control of cash, active support to engage in economic activities, and empowerment through dialogue all contribute to the reduction of inequality associated with gender.

An important lesson of the BFP is that using a simple message as a reference for the scheme ('standing forest') acts as a common denominator and improves the coherence of the programme. This helps to amalgamate resources from the scheme investors into a single budget with a common objective. This in turn helps to avoid duplication of efforts, double counting, and reduces the risk of negative spillovers. The programme was peer-reviewed in 2012-13, but requires continuous independent evaluations which can be expensive, and for which collaborations with academic and research institutions are key.

Based on the FAS experience implementing the BFP, there are five essential elements to build an environment of trust for PES schemes:

- i. Effective spaces for dialogue
- ii. Valuing positive leadership
- iii. Aligning expectations
- iv. Shared agenda with short-term impacts (to show effectiveness), and
- v. Presence, proximity, availability and connections.

The lessons learned from the BFP could be used more widely to help the design and improvement of similar programmes in other areas. These lessons learned are also useful to implement other programmes for community-based sustainable development goals (SDGs), including adaptation to climate change in Amazonia and other similar regions. FAS recently launched a toolkit (FAS, 2017) on implementing PES in the Amazon: [www.sdsn-amazonia.org/en-toolkit](http://www.sdsn-amazonia.org/en-toolkit)

## References

- Agustsson, K, Garibjana, A, Rojas, E and Vatn, A (2014) An assessment of the Forest Allowance Programme in the Juma Sustainable Development Reserve in Brazil. *International Forestry Review* 16, 87-102.
- Börner, J, Wunder, S, Reimer, F, Bakkegaard, RK, Viana, V, Tezza, J, Pinto, T, Lima, L and Marostica, S (2013) Promoting forest stewardship in the Bolsa Floresta Programme: local livelihood strategies and preliminary impacts. CIFOR, Rio de Janeiro.
- FAS (2016) Relatório de Atividades 2016.
- FAS (2017) Designing innovative schemes for payments for environmental services. Inter-American Development Bank, Washington DC.
- Tersitsch, C (2017) The impact of public policies on deforestation in the Brazilian Amazon. Universitäts- und Landesbibliothek, Bonn.
- Viana, V (2008) Bolsa Floresta (Forest Conservation Allowance): an innovative mechanism to promote health in traditional communities in the Amazon. *Estudos Avançados* 22.
- Viana, V, Tezza, J, Salviati, V, Ribenboim, G, Megid, T and Santos, C (2013) Programa Bolsa Floresta no estado do Amazonas. In: Pagiola, S, Carrascosa von Glehn, H and Taffarello, D. (eds). *Experiências de Pagamentos por Serviços Ambientais no Brasil*. Secretaria de Meio Ambiente, São Paulo.