A9f: GOVERNING FARM-FOREST INTERFACES: LESSONS FROM PRACTICE AND METHODOLOGICAL ADVANCES TO IMPROVE POLICY

Effective inclusion of family farmers in the forest sector of Peru requires a multi-sectoral approach

Valentina Robiglio[1]
[1]World Agroforestry Centre, Lima, Peru (v.robiglio@cgiar.org)

This paper seeks to identify the key ingredients of the transition towards agroforestry and sustainable land management (including small-scale forestry) by farmers living at the tropical forest-agriculture interface. It takes the case of Agroforestry Concessions (AC) in Peru, a promising legal mechanism in the last national Forest Law, that seeks to slow down deforestation in public forest land by formalising land and tree rights of encroaching smallholders, enabling their inclusion in the forest sector. The concession consists of a 40 years contract that commits the farmers to avoid deforestation and manage land sustainably. First, we map the multiple sectorial policies and institutional arrangements that regulate smallholders' land trees and production systems at the forest margin. Then we assess the coherence of their articulation in light of the challenges to comply with AC requirements and to manage or market forest products. We do so by analyzing data from a study of livelihoods and land and trees resources management by 120 potential beneficiaries of the Agroforestry Concession in 8 communities at the forest margin, complemented by focus group work on local governance and land cover and use dynamics, and on local actors' perceptions of risks and opportunities related to AC. We conclude that AC successful implementation depends on household level factors (such as farm size and composition), on the performance of the agricultural component of the farm, in particular on productivity, and ultimately on a set of complementary incentives, regulations and institutional arrangements from different sectors, besides, of course, the forestry one.

Jurisdictional approach of farm-forest interfaces in Paragominas, PA: a municipal strategy to guarantee agricultural sustainable intensification and forest conservation in Amazonian landscapes

René Poccard-Chapuis[1,2], Marie-Gabrielle Piketty[1,3], Jaqueline Peçanha[4], Isabel Drigo[5], Mario Oliveira Gomes[2], Pablo Pacheco[6]
[1]CIRAD, Montpellier, France; [2]Embrapa Oriental, Paragominas, Brasil; [3]Pontifica Universidad Javeriana, Bogota, Colombia; [4]Paragominas Municipal Government, Paragominas, Brasil; [5]Instituto de Manejo e Certificação Florestal e Agrícola, Piracicaba, Brasil; [6]WWF, Washington, USA (renepoccard@gmail.com; marie-gabrielle.piketty@cirad.fr; jaquelineadvambiental@gmail.com; isabel.drigo@gmail.com; mario.gomes@embrapa.br; pablo.pacheco@wwf.org)

In the Brazilian Amazon, since the last ten years, federal policies and value chains private commitments have been successful in reducing deforestation. However, the Amazonian landscapes are facing remaining challenges at the farm-forest interfaces such as halting forest degradation, restoring degraded lands, intensify and diversify land uses. Innovative local governance mechanisms are needed. This contribution will present a jurisdictional initiative in the Municipality of Paragominas (19342 km²), the first green municipality of the Brazilian Amazon. A geographic information system (GIS) has been developed, combining several data such as soils texture, slope, hydrographic and transport networks, land uses, forest cover including several level of degradation. It allowed to identify, for the whole municipality, land suitability for agricultural intensification and diversification, forest conservation and restoration and to support participative forward-looking scenarios. A municipal plan to reorganize land and forest uses has then been elaborated. Such plan allow to preserve or restore 9000 km² of forests and to reforest 3500 km² of land strategic for the production of ecosystems services. More 3500 km² of degraded forest could be converted into productive agricultural systems and 4200 km² of productive deforested areas could be intensified. Conversely to the classical opposition between production and conservation, this win-win strategy allows to build efficient landscapes and engage public and private actors. More, the GIS allows to monitor a large set of indicators that can be verified by third parties, such as certifying bodies, to transparently attest to the municipality's progress towards sustainability beyond the end of deforestation.

Turning words into actions: analyzing forest interventions and their effects on land use and welfare in rural settlements in Acre and Northwestern Mato Grosso, Brazil / *Transformando palavras em ações: analisando intervenções florestais e seus efeitos no uso do solo e bem-estar em assentamentos rurais no Acre e noroeste do Mato Grosso, Brasil*

Mayte Benicio Rizek[1], Amy E. Duchelle[2], Peter H. May[3]
[1]Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brasil; [2]Center For International Forestry Research (CIFOR), Bogor, Indonesia; [3]Universidade Federal Rural do Rio de Janeiro, Rio de Janeiro, Brasil (mayte.cifor@gmail.com; a.duchelle@cgiar.org; peterhmay@gmail.com)

Os estados amazônicos comportam 81% da área destinada para a reforma agrária no Brasil. Se estes assentamentos rurais teriam potencial de formar bolsões de baixa concentração de terra e gestão sustentável dos recursos florestais, a realidade aponta um contexto de desigualdade, informalidade e invisibilidade, levando ao fracasso, migração e a reconcentração da terra em sistemas de agropecuária extensiva com alto impacto ambiental e baixa rentabilidade. Para reverter a trajetória de desmatamento em assentamentos rurais o Brasil tem contado com apoio financeiro internacional para a implementação de intervenções florestais, definidas por iniciativas introduzidas ou apoiadas por entidade não comunitária que busca influenciar direta ou indiretamente a maneira como comunidades gerenciam suas florestas. Parte de um estudo comparativo global do CIFOR, este estudo identificaintervenções florestaise avalia seus efeitos no uso do solo e bem-estar com dados empíricosidênticos coletados em assentamentos com delineamento antes/depois e com/sem intervenção florestal. Os resultados indicam que as intervenções do Acre melhoraram o bem-estar familiar, mas não foram capazes de conter o desmatamento. Já nos assentamentos do Mato Grosso observou-se uma redução do desmatamento, aparentemente sem afetar o bem-estar familiar. Em todos os casos o desmatamento está associado com a área de floresta, apontando um custo de oportunidade com relação ao potencial de desenvolvimento de base florestal. Ou seja, mesmo para um País tropical relativamente capaz, como é o caso brasileiro no período estudado, o desenvolvimento de base florestal enfrenta desafios para se estabelecer como o uso do solo mais atraente, especialmente no contexto dos assentamentos rurais.

Cerrado Biome: agricultural production and territorial dimension of environmental preservation areas registered in the Brazilian rural environmental registry

Gisele Freitas Vilela[1], André R. Farias[1], Fernando A. de Pádua Paim[1], Gustavo Spadotti A. Castro[1], Osvaldo Tadatomo Oshiro[1], Carlos A. de Carvalho[1]
[1]Embrapa Territorial, Campinas, Brasil (gisele.vilela@embrapa.br; andre.farias@embrapa.br; fernando.paim@embrapa.br; gustavo.castro@embrapa.br; osvaldo.oshiro@embrapa.br; carlos-alberto.carvalho@embrapa.br)

In this study we analyzed the territorial occupation of the Brazilian Cerrado biome considering the areas within rural properties that are dedicated to environmental preservation – such as Permanent Preservation Areas (APP), Legal Reserves (RL), and additional vegetation areas –, ADPs, and areas occupied with agriculture,

production, and the gross value of the main agricultural products (soybean, maize, cotton, coffee, sugarcane, citrus and beans). With the aim of making the physical boundary of the Cerrado biome compatible with the country's political-administrative structure, all microregions featuring at least 25% of Cerrado areas within their coverage were considered, which amounted to a total of 234.9 million hectares under 132 microregions and 1,394 municipalities. This Cerrado clipping encompasses 1,047,898 rural properties registered under SICAR (in January 2019), amounting to a total of 166 million hectares or 70.7% of the total Cerrado area. These rural properties preserve 66.9 million hectares of ADPs and 40.2% of their land, which accounts for 28.4% of the Cerrado study area. The gross value of the selected agricultural products – soybean, maize and cotton – accounts for more than 50% of the total produced in Brazil. The agricultural production in this territory, when compared against the country's total production is: soybean (55%), maize (58%) and cotton (98%). The areas planted with soybean, maize and cotton cover 28.7 million hectares. In this study we verified that the implementation of the Brazilian Forest Code is ensuring the preservation of ¼ of the Cerrado biome in this very important agribusiness region.

A multi-faceted approach to overcoming obstacles to the uptake of sustainable agricultural practices - outcomes of the low carbon agriculture project

Luis Tadeu Assad[1], Gracie Verde Selva[1]
[1]*Instituto Brasileiro de Desenvolvimento e Sustentabilidade, Brasilia, Brasil (assadmar@iabs.org.br; t-gracie@iabs.org.br)*

Reducing carbon emissions from the agricultural sector is a key component of Brazil's national climate strategy. Low-carbon agricultural practices include many forest-centric activities including forest restoration and management. The implementation of low-carbon agricultural technologies by small and medium sized land holders faces many barriers including insufficient knowledge of available technologies, access to technical support and a lack of incentives for farmers to invest the necessary time and energy. The low-carbon agriculture project was implemented with the aim of promoting sustainable rural development in the Brazilian Amazon and Atlantic Forest biomes. It reached over 3000 small and medium sized private land-holders, supporting the implementation of sustainable agricultural practices such as integrated crop-livestock-forestry systems. The Project, the result of technical cooperation between the British Government, the Ministry of Agriculture and the Inter-American Development Bank and executed by IABS, utilised a three-prong approach. First the project provided access to information, through demonstration units, field days and the distribution of educational and technical materials. Second it offered rural producers a financial incentive for the implementation of one or more of four low-carbon agricultural practices promoted by the Project, prioritizing those with a forest component. Third the project provided training opportunities to local technical assistance agents that supported land-owners throughout implementation. This presentation will explore some of the results of the project in promoting sustainable rural development. It offers insights on how to combine governance interventions at national, state and local levels to achieve environmental and socio-economic development goals at the farm-forest interface.

Relationship between farmers and the forest within Machadinho D'Oeste/RO's settlement project: using fauna as a bioindicator

Angelo Mansur Mendes[1], José Roberto Miranda[1], José Paulo Franzin[1], Bruno Scarazatti[1], Fernando Antonio de Pádua Paim[1], Jaudete Daltio[1], Gisele Freitas Vilela[1]
[1]*Embrapa Territorial, Campinas, Brasil (angelo.mansur@embrapa.br; jose-roberto.miranda@embrapa.br; jose.franzin@embrapa.br; bruno.scarazatti@embrapa.br; fernando.paim@embrapa.br; jaudete.daltio@embrapa.br; gisele.vilela@embrapa.br)*

Monitoring farms in a settlement project in Amazônia for a period of 100 years is an initiative that produces a series of data on soil use and occupation dynamics by small farmers. These data enable producing sustainability indicators, which offer elements for understanding the consequences of the articulations among local strategies and public policies which aim to strengthen small farming in Amazônia. The aim of this study was to analyze the data collected in the survey carried out in 2018, 36 years after the settlement of the farmers in PA Machadinho D'Oeste-RO, using fauna as an ecological indicator. The survey was carried out in 414 lots. Their farmers were interviewed regarding their visual perception of the fauna: frequency of spotting (often; regularly; occasionally; once; and never); predation (animal attacks on crops or livestock); accidents (harmful effects on health); and consumption (fishing and hunting). The data collected enabled analyzing the distance between the forests and the lots, and also separating the forest's indirect effects through the fauna as positive (food security) or negative (accidents and predation).

Quality management of agroforestry products focusing on cultivated mountain ginseng

Tae Hoon Kim[1], Mi Sun Park[1]
[1]*Seoul National University, Pyeongchang, Republic of Korea (switch-thkim@snu.ac.kr; mpark@snu.ac.kr)*

Forest farming is the most common type of agroforestry in the Republic of Korea. Agroforestry products are recognized as cleaner products comparing with other agricultural products in the Korean market. Accompanied with positive market perception, demand on agroforestry products is expected to increase. This paper focused on cultivated mountain ginseng as a non-timber forest product. It aims to scrutinize the current status of producing cultivated mountain ginseng and policies for improving production of cultivated mountain ginseng in the Republic of Korea. Policy instruments for supporting production of cultivated mountain ginseng were analyzed. Policy instruments include regulatory, economic, informational, organizational and planning instruments. In particular, traceability scheme of cultivated mountain ginseng as an innovative policy instrument was introduced. This study indicates combination of multiple policy instruments for supporting cultivated mountain ginseng producers and consumers in the Republic of Korea. Base on the research results, this research suggests policy recommendation to reduce institutional barriers and facilitate agroforestry activities in the Republic of Korea.

Facilitating women's participation to improve management of the forest farm interface: participatory lessons from Northern Ghana and Southern Burkina Faso

Peter Cronkleton[1]
[1]*CIFOR, Lima, Peru (p.cronkleton@cgiar.org)*

In the Sahelian landscapes of Southern Burkina Faso and Northern Ghana, the integration of agriculture, forestry, and livestock within the natural resource management systems used by smallholder households makes it difficult to separate agricultural land use from forest and tree use. Women play integral roles in these systems, particularly in the management of trees. However, customary systems of land and tree tenure differentially constrain women's access to resources, while national policies do not acknowledge or support their roles as resource managers. In such context, multi-stakeholder dialogues could be an effective strategy for assisting policy makers to better understand these complex production systems. However ensuring that such fora include the perspective of both male and female managers is crucial and creating conditions in which women can share their resource management knowledge and experience is