BERACA

Ecosystem Services Valuation in Suppliers from Anajas and Braganca (Para, Brazil) when it comes to Avoided Deforestation

EXECUTIVE SUMMARY

Beraca is a Brazilian business with expertise in the development of technologies, solutions and high-performance raw materials for the pharmaceutical and cosmetic industries. Beraca's activities hold a strong relationship with natural capital, since it operates with elements from the Brazilian biodiversity as raw materials for its products. Since 2000, it has been developing the Sociobiodiversity Valuation Program (Programa de Valorização da Sociobiodiversidade), in order to guide the business relationship with partners and raw material suppliers.

Seeking to incorporate the ecosystem service topic into the Sociobiodiversity Valuation Program, rather than addressing it in an isolated manner, Beraca decided to strengthen its management system, assessing its processes to collect and organize data about its chain that included aspects of ecosystem services. In this context, the study was designed to enhance the management system, including ecosystem services as an important factor when making decisions whether to extend, add or remove areas to buy raw materials from suppliers, particularly in the communities.

In the pilot project, Beraca decided to assess performance in a retroactive year (2017) in two communities in Para State (PA), since they had data available. The survey on global climate regulation was conducted in communities located in the cities of Anajas-PA and Braganca-PA.

According to the study, in Braganca region, where the avoided deforestation area accounted for 24 hectares, there were 4,392,88 tCO$_2$e of avoided emissions, and externality was valued at approximately BRL 1,42 million. In Anajas, the area accounting for avoided deforestation was 123.3 hectares, and 515.78 tCO$_2$e of avoided emissions; externality was valued at approximately BRL 167,5 thousand. As both communities work with harvest and sale of non-timber products, the deforestation rate adopted was zero. Although Braganca has a smaller area, it showed greater deforestation and avoided emissions than Anajas, where the area is larger. This is due to higher deforestation pressure in Braganca region and, thus, the impact of conservation projects is greater, even though the areas involved are smaller.

Despite being a pilot study, it was possible to compare the impacts in communities with rather diverse realities and, by calculating avoided emissions because of avoided deforestation, assess the contribution given by the Sociobiodiversity Valuation Program to keep the standing forest.

This study also allows to understand the impacts when deciding whether to work with a certain product in a given community, considering the risks of that area suffering higher or lower pressure for deforesting or losing biodiversity due to preference for one or a few species. Considering places where neighboring areas feel high pressure for deforestation, one option to avoid advancements in deforestation in the community areas is to extend the variety of raw material species bought. By extending the variety of harvested products supplied, the community can improve the financial productivity in the preserved area, and the gains are more likely to be well distributed throughout the year, when compared to agricultural crops.

Reporting of Environmental Dependencies, Impacts and Externalities
Responsible for completing: Adriana André

Project drivers

Objectives: Assess risks and opportunities

Description: Enhance the management system, including ecosystem services as an important factor in making decisions whether to extend, add or remove areas to buy raw materials from suppliers, particularly in the communities.

Project scope

Object of the project analysis: Corporate

Description: Supply biodiversity raw materials, using two chains

Geographic area: Anajas and Braganca (Para State, Brazil)

Step(s) of the value chain included: Upstream (suppliers)

Type of approach: Retroactive

Time horizon: 2017

Ecosystem services: Global climate regulation

Global climate regulation

Role played by ecosystems in carbon and nitrogen biogeochemical cycles, thus influencing emissions of important greenhouse gases, such as CO_2, CH_4 and N_2O.

Method(s) used: Replacement Cost Method (RCM)

Results

Externality: Braganca – PA BRL 1.42 million; Anajas – PA BRL 167.5 thousand

Data used	Type of data
Avoided deforestation	
Biome phytophysiognomy and land use: Lowland Dense Ombrophilous Forest	Secondary
Area of avoided deforestation, in ha: Braganca: 24, Anajas: 123.3	Primary
Deforestation rate considered as baseline: Braganca: 81.85% and Anajas: 2.55%	Secondary
Deforestation rate with the project: 0% in both communities	Primary
Avoided emissions, in tCO_2e: Braganca: 4,392.88 and Anajas: 515.78	Secondary

Further information

Exchange rate used to convert the Social Cost of Carbon (SCC) into Brazilian Reais: BRL 3.72 (Oct 16, 2018)

Assumptions made in valuation estimates: the value of the Social Cost of Carbon (SCC) used was BRL 324.76 (US$ 87.30, as proposed by Nordhaus (2017) for 2020, with a discount rate of 3.00% per year).

Adjustments or derivation applied to the methods and tools adopted: N/A

Other pieces of information: For the study purposes, we considered extractive activity areas, which do not require deforestation for production. In Braganca, the pressure for deforestation is higher. If there were no incentives to keep the forest cover, it would probably be converted into pastureland or manioc cropland. In Anajas region, the pressure for deforestation is lower, and the main activities associated with degradation are the harvest of timber and palm heart.

Explanatory notes: The impact considered was for the length of a year. Data on deforestation was collected from the Project to Monitor Deforestation in Legal Amazon using Satellites (PRODES - Projeto de Monitoramento do Desmatamento na Amazônia Legal por Satélite), and the size of the areas considers Beraca's organic project.

Analysis of the results

The study allowed to compare the impact on two communities with diverse realities, analyzing emissions avoided because of avoided deforestation. We were able to assess the positive impacts of the Sociobiodiversity Valuation Program, as well as bring new elements that contribute to the selection of suppliers, products and projects, in order to reduce risks of deforestation, protect and extend biodiversity, and ensure supply of raw materials.
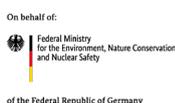
Ecosystem service management

Use of Valuation of Ecosystem Services Results: Environmental management systems; Assess social and environmental impact; and Assess risks.

Description: The study assesses how the Sociobiodiversity Valuation Program contributes to keep the standing forest, showing how important it is to develop such activities.

In the Sociobiodiversity Valuation Program, through the Environmental Management System, social and environmental issues have been monitored. Based on that pilot project, we started monitoring the internal purchase system, which will be able to use social and environmental information in a more straightforward and practical way for decision making related to purchases of raw materials and selection of suppliers (community), considering impacts on the chain and supply risks. This is a mid-term project and this study contributes to its initial stage for selecting indicators to add to the system.