



Quantification of the Global Climate Regulation Ecosystem Service Provided with Native Areas' Voluntary Preservation Actions and Compliance with the Brazilian Legislation

EXECUTIVE SUMMARY

Formed by four major business divisions – commodities, agribusiness, logistics and energy – AMAGGI operates in agricultural production and soybean seed production, grain origination, processing and trade, raw materials, energy, port management and river transportation. As one of the top agribusiness companies worldwide, the nature of AMAGGI activities, particularly in this segment, requires a very close relationship with natural capital, influencing in factors such as land use, consumption of energy resources, and greenhouse gas emission.

Considering the Brazilian representativeness in the agribusiness sector, AMAGGI understands it is important to quantify externalities resulting from native forests' preservation actions – whether taken voluntarily or to comply with legal requirements – that generate positive impacts in terms of global climate regulation. The company understands that preservation, even though mandatory, benefits society and this feature should be seen as a competitive advantage in the international trade.

In this context, an analysis was run to calculate the total native area – encompassing areas of permanent preservation, legal reserves and surplus – in 2015 at AMAGGI properties located in the States of Mato Grosso and Amazonas, which are formed

by the Cerrado (Savanna) and Amazon biomes. Those areas are consolidated with vegetation in primary state, and less than 1% has areas being recovered.

By preserving the areas covered in the scope of the study, in a year the emissions avoided accounted for about 57,000 tons of carbon equivalent. To value this externality, the Social Cost of Carbon (SCC) was used – accounting for the estimated costs of likely impacts caused by adding a ton of carbon to the atmosphere – and the result was around BRL 7 million in the year. In other words, this is the approximate value of what would otherwise be spent to compensate for harmful impacts of climate change on society in case those areas were deforested.

The results will be incorporated into AMAGGI Greenhouse Gas Emissions Management Program, which consolidates the strategy to mitigate emissions, the climate change adaptation plans and environmental preservation actions.

The result of the study will be used to communicate and engage with key stakeholders, qualify collaborators for sustainability, engage C-level executives, manage risks and assess positive and negative socio-environmental impacts, guided by AMAGGI Socio-Environmental Management.



Reporting of Dependencies, Impacts and Externalities

Responsible for completing: Cecilia Korber Gonçalves

Project drivers

Goals: Communicate internally or externally; Understand the business relationship with ecosystem services.

Description: Understand and assess the importance of natural capital to AMAGGI business, and also communicate this information to society, especially the maintenance and recovery of all native vegetation areas and their corresponding biomass stocks at the company properties, which demonstrates its commitment and socio-environmental responsibility.

We understand that, besides legal obligation to preserve those areas, it is important to the industry and to the country that the quantification of the ecosystem service provided by nature through preservation actions is widely communicated, because this is one of our differentiators, as a country, since we are one of the greatest producers in agribusiness, performing activities that may impact global climate regulation.

Project scope

Object of the Project Analysis: Corporate.

Description: An analysis was run to calculate the total native area (Permanent Preservation Area - PPA, Legal Reserve – LR, and surplus) at AMAGGI properties located in the States of Mato Grosso and Amazonas, which are formed by the Cerrado (Savanna) and Amazon biomes. Those areas are consolidated with vegetation in primary state; less than 1% has areas being recovered, which was considered secondary state for the study purposes. The analysis was conducted in 2015 and Prodes base line deforestation rate was used for Mato Grosso (MT) and Amazonas (AM) States.

Geographic Area: Approximately: 42,000 ha of Cerrado in MT; 54,000 ha of the Amazon biome in MT and 3,000 ha of the Amazon biome in AM.

Step(s) of the Value Chain Included: Own operations.

Type of Approach: Retroactive.

Time Horizon: 2015.

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 CO₂, CH₄, and N₂O.

Method(s) Used: Replacement Cost Method (RCM).

Results:

Externality: About BRL 7 million in 2015

Data Used:

Type of Data:

Avoided Deforestation

Biome phytophysiology and land use: Cerrado and Amazon biomes – potential land use: perennial agriculture

Primary data

Area of avoided deforestation, in ha: 100,867

Primary data

Deforestation rate considered as base line: 0.16% for MT; 0.04% for AM

Secondary data (Prodes)

Deforestation rate with the project: 0.00%

Primary data

Avoided emissions, in tCO₂e: 56.874

Primary data

Further Information

Exchange rate used to convert the Social Cost of Carbon (SCC), in Brazilian Reais: 3,35.

Assumptions adopted in the valuation estimates: Since there is a great proportion of primary vegetation, a 5% reduction factor was used from primary vegetation to secondary vegetation.

Adjustments or derivation applied to the methods and tools used: The analysis was not limited to avoided deforestation in surplus areas exceeding legal requirements, but it also included all the benefits of preserving the total area of native forest (PPA, LR and surplus preservation areas).

Others: According to the commitments made by Brazil in COP21, we presented the economic valuation of the benefits generated from the preservation of the company forest areas for business continuity, considering the climate regulation service provided to society. Actions that seek alignment with AMAGGI Vision: to mitigate negative impacts that contribute to climate change and to be seen as a reference business in sustainable development.

Analysis of the results

We presented the economic valuation of the benefits produced by preserving AMAGGI forest areas, considering the climate regulation service provided to society.

According to this study, in 2015 alone, about BRL 7 million were spared from being spent in compensation for harmful impacts caused by climate change on society, because those forests were preserved, and the emission of about 57,000 tCO₂e was avoided.

It is important to AMAGGI and to the country to quantify and communicate the benefits generated to the society other than meeting legal requirements.

This is aligned with the company vision: to be a reference company in sustainable development, with its socio-environmental policy of managing greenhouse gas emissions and with the commitments made by Brazil in COP21 in Paris and ratified in 2016.

Management of ecosystem services

Use of ecosystem service valuation results: Social and environmental impact assessment.

Description: The results will be incorporated into AMAGGI Greenhouse Gas Emissions Management Program, which consolidates the strategy to mitigate emissions, the climate change adaptation plans and environmental preservation actions.

The result of the study will be used to communicate and engage with key stakeholders, qualify collaborators for sustainability, engage C-level executives, manage risks and assess positive and negative socio-environmental impacts, guided by AMAGGI Socio-Environmental Management.

From the next cycle on, we will include information related to vegetation recovery areas to quantify the positive externality annually produced with these actions.

Realização



Por ordem do



da República Federal da Alemanha



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