AMAZALERT

A research project on impacts of climate change and land use change in Amazonia

Factsheet

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Land-use change in the Brazilian Amazon products, policies and initiatives

Major products directly or indirectly affecting land use and land-use change in the Brazilian Amazon include cattle, soy and sugar cane ethanol. While cattle are primarily produced for national consumption, soy and ethanol are, to an important extent, produced to satisfy international demand. At the same time, diverse policies and initiatives at national and international level aim at reducing negative impacts from the production of agricultural goods.

AT A GLANCE

- Cattle raising is responsible for an important share of direct land-use change in the Brazilian Amazon.
- Brazil is both the world's second largest producer and exporter of ethanol.
- In 2010, China imported 57 million tonnes of soybeans, making it the biggest soybean importer in the world. That same year, it imported 24% of Brazil's soy production.
- Brazils crop area is expected to increase by 9.7 million hectares between 2010 and 2020. Around 50% of this area may be used for soybean.

This fact sheet provides a brief overview of major products and policies as well as a limited number of initiatives that are known or expected to – directly or indirectly – impact land use in the Brazilian Amazon.

Cattle raising is a major driver of Amazon deforestation

Cattle raising is a major activity directly impacting land use in the Brazilian Amazon and is responsible for an important share of Amazon deforestation. The major share of the beef production is consumed in-country which limits the impact of international demand.

Besides national action, such as an increased enforcement of deforestation prohibitions, several international initiatives have emerged that aim at reducing negative impacts from cattle raising. One example is the Sustainable Agriculture Network (SAN) which developed the "Standard for Sustainable Cattle Production Systems" (SAN, 2010) of which the first certified cattle ranches are located in Mato Grosso state. The standard includes specific requirements for range and pasture management, animal welfare, and a reduction of the carbon footprint.

EU and U.S. policies boost Brazilian biofuel exports

Brazil is, after the U.S., the world's second largest producer of ethanol fuel, and was, until 2010, the world's largest exporter. The major biofuel produced in Brazil is sugar cane-based ethanol. It is not expected that sugar cane plantations will expand in the Amazon, due to biophysical reasons but also because the national land zoning for that product does not allow sugar cane plantation in the Amazon. However, if sugar cane plantations expand in other parts of Brazil, it is likely that

Brazil is the second largest ethanol producer worldwide. The photos above and below show sugar cane harvesting and a flexible ethanol/sugar mill in Brazil.

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cattle production will further expand towards the Amazon borders leading to indirect land-use change (iLUC). The EU and the U.S. are the largest importers of Brazilian ethanol. Regulations such as the EU's renewable energy directive (EU RED), the U.S. Renewable Fuel Standard 2 (RFS2) and California's Low-Carbon Fuel Standard (LCFS) trigger the import of Brazilian ethanol. Up to now none of these regulations, except for the RFS2, take iLUC into account. The EU RED, for instance, takes direct land use change into account and excludes biofuels from land that had high carbon stocks or was peatland in the past, from land with high biodiversity, as well as biomass from primary forests, protected natural areas and ecosystems included in lists of inter-governmental organizations ("sustainability criteria").

Several non-governmental production standards and initiatives for sugar cane exist. This includes, for instance, the Bonsucro Standard which also covers specific requirements of the EU RED and is one of several sustainability schemes recognized by the European Commission for the proof of compliance with the EU sustainability criteria. The European Committee for Standardization and the Roundtable of Sustainable Biofuels are examples for other existing initiatives.

China is the major importer of Brazilian soy

China is currently the world's biggest soybean importer (57 million tonnes in 2010). In 2010, Brazil exported 16.5 million tonnes of soybeans to China, which corresponds to 64% of its total exports and 24% of its total production (FAOSTAT). Brazil's total crop area is expected to increase by 9.7 million hectares between 2010 and 2020 of which 4 to 5 million hectares are projected to be used for soybean production (Dossa *et al.*, 2010). This suggests a potential increase of soy trade between the two countries.

Soy production is primarily expected to lead to indirect, rather than direct, land-use change in the Brazilian Amazon. One of the initiatives addressing negative impacts of soy production is the "soy moratorium", under which participating companies exclude the purchase of soy from land that was deforested after 2006. Another initiative is the Round Table on Responsible Soy (RTRS).

Dossa, D. et al., 2010: Projeções do Agronegócio Brasil 2009/10 a 2019/20. 2010, Ministério da Agricultura, Pecuária e Abastecimento (MAPA) and Assessoria de Gestão Estratégica (AGE) Brasilia. http://www.agricultura.gov.br/arq_editor/file/MAIS%20DESTAQUES/Proje%C3%A7%C3%B5es%20Agroneg%C3%B3cio%202009-2010%20a%202019-2020.pdf

EU Sustainability Schemes for biofuels: http://ec.europa.eu/energy/renewables/biofuels/sustainability_schemes_en.htm

SAN, 2010: Standard for Sustainable Cattle Production Systems. July 2010, SAN Secretariat, San José, Costa Rica. http://sanstandards.org/sitio/subsections/display/11

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