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UNDER 2 MOU APPENDIX: MATO GROSSO

STATE CHARACTERIZATION

The state of Mato Grosso is located in the Central-West region of Brazil, bordering the states of Pará and Amazonas to the north, Mato Grosso do Sul to the south, Goiás and Tocantins to the East and Rondônia and Bolivia to the West. It is the third largest state in the country by area, with an area of 903,000 square kilometers and a population of three million, two hundred thousand inhabitants. The state territory is composed of three biomes: Pantanal, Cerrado and Amazon. It contains a considerable number of protected areas, divided into 70 indigenous lands, 23 federal conservation units, 46 state conservation units and 35 municipal conservation units. In the three biomes, it is possible to find different types of vegetation, as the plant physiognomy varies from forest fragments to meadows, with great variation in their carbon stocks.

The economic base of Mato Grosso has historically been seated in agriculture developed in large properties. In the last three decades, the state has shown extraordinary growth in the agricultural sector, through the expansion of cultivated areas, increasing production and productivity. This performance is the result of a significant transformation of the technical base, formerly supported by traditional systems, which has been changed to production systems supported by technology. The process of farming modernization in Mato Grosso in the recent decades has been accompanied by the concentration of land ownership for formation of large grain and livestock farms (MATO GROSSO, 2006).

In deforested areas of the Amazon biome identified by PRODES, the main land use (53.68%) is for livestock (clean pasture), followed by annual agriculture (17.97%) and secondary vegetation (15.01%), according to data from TerraClass 2012. The State has been succeeding in reducing deforestation rates without adversely impact the production of its main commodities. A noteworthy fact is that such reduction has occurred even with the GDP growth and the improvement of agricultural production. The Gross Domestic Product of Mato Grosso totaled R\$ 80.8 billion, outpacing the country's GDP growth. Much of the positive development came from the field. Agribusiness is currently responsible for 50.5% of the state GDP.

This is particularly important in Mato Grosso, as it stands out in the national and international scene as a major exporter of commodities, including soybeans, cotton, corn, sugar and beef, among others. Therefore, one of the state's main challenges is to value and strengthen the forest sector, in order to sustain low rates of deforestation, while ensuring the good



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performance of agricultural production as well. Despite having historically high deforestation rates, Mato Grosso has been the Amazonian state that most reduced deforestation in its territory in recent years.

Mato Grosso has achieved drastic reductions in deforestation in its territory, which has dropped from 11,814 km² in 2004 to 1,048 km² in 2014, a decrease of more than 90% in deforestation in the Amazon biome.

For the 2006-2010 period, set by the State Government as the first period in its Action Plan for Prevention and Control of Deforestation and Burning of the State of Mato Grosso - PPCDQ / MT, the goal was to reduce 64% of deforestation in the forest, and the State achieved a reduction of 68.28%. For the second commitment period, from 2011 to 2015, the target reduction of deforestation was of 75%, and a reduction of 80% was achieved. For the third period, 2016-2020, the target is to reduce deforestation in 80%.

Comparing deforestation data from period 2006-2014 to the historical average (765,700,00 ha), Mato Grosso shows a reduction of 5.266 million hectares in deforested area. This verified deforestation reduction prevented the emission of 1,932,622,000 ton CO₂, or 1.9 Gt CO₂ into the atmosphere. The volume of reduced emissions is greater than the reduction of any State of the Amazon and higher than the vast majority of Annex I countries of the Kyoto Protocol.

EMISSION PROFILE IN MATO GROSSO

According to data from the Greenhouse Gases Emission Estimate System (Sistema de Estimativas de Emissões de Gases de Efeito Estufa – SEEG), the Climate Observatory (Table 1), based on the national inventory, emissions of greenhouse gases are concentrated in rural areas in Mato Grosso, mainly in the sectors of Agriculture and Land Use Change. In 2014, emissions totaled 145,349,679 tons CO₂ eq, 83,572,169 tons CO₂ eq (57.49% of total emissions) from Land Use Change sector, and 49,374,392 tons CO₂ eq (33.97% of total emissions) from agriculture, ie 91.46% of the emissions in Mato Grosso are in the field.

Table 1- Gross CO2 eq Emissions in Mato Grosso

Reference Year - 2014

Activities in Mato Grosso	ton of CO2 eq emissions
Agriculture	49.374.392
Land Use Change	83.572.169
Waste	1.225.585
Energy	10.830.923
Industrial processes	346.610
Total emissions	145.349.679

SPECIFIC ACTIONS AND COMMITMENTS

According to Table 1, it is clear that an effective strategy for reducing greenhouse gases in Mato Grosso should primarily focus on actions efforts in rural areas.

TARGETS FOR 2020:

The Action Plan for Prevention and Control of Deforestation and Burning of the State of Mato Grosso - PPCDQ / MT, in its second phase, established reduction targets for the periods 2011-2015 and 2016-2020, which are:

- 2011-2015: reduction target of 75% (period average) in relation to the revised baseline (average of the rates from 2001 to 2010), i.e. 5.715km². It is estimated that the state should reach an average deforestation of 1,428 square kilometers in this period.
- 2016-2020: 80% reduction target (period average) relative to the baseline, keeping the period 2001-2010 as a reference (5,715 km²). It is estimated that the State should reach an average deforestation of 1,143 square kilometers in this period.
- Eliminate illegal deforestation by 2020.

GOVERNANCE INSTRUMENTS

Mato Grosso has developed pioneering solutions in order to improve its environmental governance over the past few years. Thus, we highlight the creation of the environmental licensing system for rural properties (Sistema de Licenciamento de Propriedades Rurais) and the



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rural environmental registry (Cadastro Ambiental Rural), in addition to the State Environmental Code, the State Conservation Unit System, the Forestry Policy, the State Policy on Water Resources, the State Policy on Solid Waste and the Action Plan for Prevention and Control of Deforestation and Burning of the State of Mato Grosso - PPCDQ / MT. In 2013, the State of Mato Grosso enacted Law nº 9.878, drafted within the Mato Grosso Forum on Climate Change, creating the "REDD+ State System". Civil society may also take part in public management through the REDD+ State System Management Board (Decree nº 2.694/2014), a directive and deliberative body that aims to promote the management, coordination, monitoring and evaluation of the REDD+ State System.

MONITORING

The Environmental State Agency, SEMA / MT, has been quantifying deforestation in Mato Grosso since 1992, for the three biomes: Amazon, Cerrado and Pantanal.

The National Institute for Space Research - INPE also has a deforestation monitoring system in the Amazon, disseminating the annual deforestation data for the forest area only. At present, the most current data available in the State are those released by INPE.

Both SEMA and INPE use images of orbital sensors and Geographic Information Systems - GIS to quantify the annual increase of deforestation.

INPE disseminates annual reports on deforestation rates for the entire Amazon on its website (<http://www.obt.inpe.br/amazonia/prodes>). These reports are also presented in a disaggregated way, by State, by year, by deforestation increment and by extent of deforestation, as well as consultations by municipality.

SEMA / MT uses the Amazon Near Real-Time Deforestation Detection System – DETER, a system operated by INPE, which is intended to carry out a quick survey on the change in forest cover using the MODIS data, with a spatial resolution of 250 meters. The information subsidizes environmental compliance inspection actions in order to combat deforestation and forest degradation.

Data from deforestation rates generated by SEMA / MT, covering all state biomes, are being updated and should be consolidated until December 2016. SEMA has used Landsat 8 images, with a spatial resolution of 30 meters.