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BRAZILIAN AGRICULTURE AND GREENHOUSE GAS EMISSIONS

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Greenhouse gas emissions caused by deforestation of the Amazon can be zeroed from 2030 if the new Brazilian forest code is implemented in full. This is the main conclusion of the report Land Use Change in Brazil: 2000-2050, conducted by researchers associated with the project "reducing emissions from Deforestation and Forest Degradation (Redd-PAC)", funded by the International Climate Initiative, the German Government, with support from the Fundação de Amparo à Pesquisa do Estado de São Paulo (FAPESP). This project included the participation of researchers of the Institutes of Applied Economic Research (IPEA, acronym in Portuguese) and Analysis of Applied Systems International (Iiasa), of Austria, in addition to World Conservation Monitoring Centre of the United Nations Programme for the Environment.

The results of the study were presented on 7 October at the headquarters of FAPESP in São Paulo, and served as a parameter to the drawing up of the Brazilian Proposal for Reducing Greenhouse Gas Emissions (INDC), taken in September by President Dilma Rousseff at the United Nations Conference on Development Agenda Post-2015, in New York.

According to the study, with the gradual reduction of deforestation, more efforts should be directed towards combating the pollution generated by sectors such as industrial and energy. Without investment in renewable energies and in the modernization of production lines, for example, will be more difficult for Brazil to fulfill the promise to reduce their emissions in 37% by 2025 (compared to 2005) and 43% by 2030. The Brazilian goal will be presented by the Government during the 21st United Nations Conference on climate change (COP 21), which will take place between November 30 and December 11 this year, in Paris.

One of the projections provided by the study indicates that, in a scenario of full implementation of the forest code, with the restoration of areas of deforestation on the banks of the rivers and springs, will be reforested around of 11 million hectares in the country till 2030. With this procedure the emissions reductions from deforestation in Brazil can reach 110 million tons of carbon dioxide (CO2) in 2030. This tag represents a fall in emissions of 92% compared to 2000, when it attributed to deforestation about two-thirds of the CO2 released into the atmosphere across the country.

It is observed that Brazil doesn't need any more environmental legislation to curb deforestation. The question today is to enforce the forest code. Approved in 2012 May, the code seeks to combat illegal deforestation. Determines the restoration and maintenance of areas of permanent preservation (APPs, acronym in Portuguese), and the recovery of areas of legal reserves (LRS, acronym in Portuguese). Makes it compulsory the Rural Register Environmental (CAR, acronym in Portuguese), an instrument created to regulate and monitor the environmental farms.

Is designed in a reduction of 10 million hectares (ha) of grassland area between 2010 and 2030. This year the country is expected to have approximately a 230 million cattle herd occupying 30% less area for animal unit (AU) than in 2010, in which 200 million cattle were 200 million ha, extensive livestock, still prevalent in Brazil. This means changing the ability to support animal of a AU/ha, national average to 1.71 AU/ha, that is, modern livestock to be extensive. In the Amazon and in the Northeast, the support capacity is 0.5 au/there is, with productivity of 400 liters of milk/ha.

With these measures and the ABC Program – Low Carbon Agriculture – Brazil can reconcile modern agricultural production with environmental preservation. This condition allows the country to expand the use of the land, both for food production and for bioenergy, and without causing deforestation. In the case of the pastures, the expectation is that there will be reducing the area used, conform to apply the technologies to increase productivity and decrease emissions of greenhouse gas emissions, advocated by the ABC Program.

This program is the main line of financing to help Brazilian farmers to practice techniques less emitting greenhouse gases (GHG) in the atmosphere and, at the same time, increase the productivity of the sector, in other words, out of extensive livestock through Crop-Livestock Integration System-forest (LPF, acronym in Portuguese). This system, experiment level, allows you to keep up to five au/ha and produce of 2000 to 15000 liters of milk per ha per year. Unlike in the Northeast and Amazon, with extensive cattle the productivity is of 400 liters/ha/year, a capacity of 0.5 AU/ha. Trees

reduce temperature in two, three degrees, creating nice ambience animal spaces. According to Embrapa, the lack of shade can reduce by up to 20% the production of dairy cows, and as for fattening young animals can reach 450 kilograms in 60 months in wooded pastures, different from conventional pasture yield, where this gain is of 360 kg.

It supports the ABC Plan, whose goal is to promote the reduction of GHG emissions in agriculture, improving efficiency in the use of natural resources, increasing resilience of production systems and rural communities and enabling the adaptation of the agricultural sector to climate change.

The goal for the agricultural sector, as defined by the ABC Plan, is to reduce to 133.9 to 162.9 million tons of CO2 eq. by the adoption of several agricultural GHG mitigation techniques. For the Legal Amazon the reduction is estimated at 40.4 million tons of CO2 eq. per year, by the complete adoption of low carbon technologies in the areas occupied by man.

It should be stressed that this potential can only be achieved if major challenges and recurring problems faced in Legal Amazon, as lack of agrarian and environmental service shortages, deforestation, farming inputs chain insufficient, inadequate infrastructure, difficulty of access to rural credit, among others, are resolved.

Solving these obstacles requires great commitment of the public and private sectors and civil society, as well as should be considered in the strategic agenda of the Legal Amazon to the advancement of low-carbon farming, together with the reordering of the use and occupation of the soil.

Important element of this transformation is the rural producer, which mostly lacks information, knowledge, training and access to credit, and therefore continues to pursue an extensive livestock with low capacity animal support, of the order of 0.5 to 1.0 per animal; need to turn it on Integrated Crop-Livestock-forest (ILPF). Therefore, the challenge of expansion of a sustainable agriculture requires a considerable transformation. In this respect the Fundação Getúlio Vargas (FGV), through the ABC Observatory, held in Paragominas (PA), a case study on these issues.

Still, the ABC Program evolution has taken place in the Legal Amazon. The disbursement has increased considerably since the agricultural year 2011/12 by the year 2013/14 agricultural. In 2011/12 were closed 576 contracts, totaling 304 million R$; in 2012/13, the total amount disbursed amounted to 600 million in 2079 R$ contracts; and in 2013/14, the total amount disbursed was 642 million in 2658 R$

contracts. Comparing the agricultural year 2011/12 to 2013/14, the increase in the number of contracts of the ABC program in Legal Amazon was 405%, with 110% in total amount contracted.