I. Introduction and Context
Country Context
Brazil has experienced remarkable growth since 2000, except in 2009 due to the financial crisis, with a slowdown in 2011 and 2012. While losing relative importance in the economy, the agricultural sector has grown significantly over the last few decades, and more than 25 percent over the last five years. Agriculture and livestock contribute to 8 percent of Gross Domestic Product (GDP), account for 30 percent of the country's exports and for 19 percent of its employment. Brazil ranks third among the world's major agricultural exporters, fourth for food products and second for bio-ethanol production. Brazil has now the world's largest cattle herd after India's. It is the world's largest exporter of poultry, sugar cane and ethanol. Much of that agricultural growth has taken place in the Cerrado biome, the Brazilian savanna-forest mosaic. Just 8% of all agricultural properties
(424,000 farms) in the country produce 85% of total output. Those farms are the main beneficiaries of agricultural policies on price regulation, quality control, rural credit, exports, innovation and environmental conservation.

Since 1992, when the country hosted the United Nations Conference on Environmental and Development, Brazil’s commitment with respect to climate change has been constant. To accomplish its goals, Brazil set ambitious national policies. On December 29, 2009 the Brazilian Government adopted the Law No. 12,187 which constitutes the National Policy on Climate Change (NPCC) of Brazil and sets a voluntary national greenhouse gas reduction target of between 36.1% and 38.9% of projected emissions by 2020. This implies a mitigation target to reduce the emissions of 1.2 billion of tCO2 equivalent.

Currently, Brazil emits the highest amount of GHG in the region (52% of Latin America’s emissions,) 60% of which come from agriculture and forestry activities. The success of initiatives to reduce the carbon footprint of the Brazilian economy depends on improvements in carbon emissions from these sectors. The effects of climate change have also economic consequences for Brazilian agriculture, with effects on income and viability of the production areas.

One of the main challenges for Brazil is to adopt production and processing technologies that emit fewer greenhouse gasses (GHG) without impeding further growth in the agricultural and livestock sector.

**Sectoral and Institutional Context**

The Cerrado biome, located in central Brazil, south and east of the Amazon region, covers almost one quarter, or 2.04 million km², of the country. It includes a mosaic of ecosystems with 23 types of vegetation consisting mostly of tropical savannas woodland, grasslands and forests. The Cerrado has been the stage for an unprecedented expansion of agricultural production in Brazil, primarily through cattle ranching on natural and planted pastures since the 1940s, and, since the 1970s, through mechanized commercial production of soybean, maize and cotton.

The Cerrado is a strategic biome both for economic and environmental reasons and also for food security. It covers a large area with significant carbon stocks, water resources and substantial biodiversity. The Center-West region has the largest portion of the land area occupied by rural properties (32% of the total) in Brazil and has the highest average area per property of all farms in the country (397.2 ha). There are also a large number of small and medium farms that use older production techniques and do not necessarily have access to innovative technology.

The Cerrado region now has a unique opportunity to develop new paradigms combining modern and sustainable agriculture with the conservation of natural resources and the promotion of human well-being.

Agriculture and livestock account for 25 percent of Brazil’s gross emissions. Fertilizer use, the mineralization of nitrogen in soil, the cultivation of wetland-irrigated rice, burning of sugar cane, and use of fossil fuel–powered agricultural equipment drive agricultural emissions. Livestock emissions mostly result from the digestive processes of beef cattle. As part of the NPCC, the Ministry of Agriculture, Livestock and Food Supply developed the "Sectoral Plan for Mitigation and Adaptation to Climate Change for the Consolidation of a Low Carbon Agriculture Economy", also known as the ABC Plan (Low Carbon Agriculture Plan). The overall objective of the ABC
Plan is to promote the reduction of GHG emissions or the increase of CO2 sequestration in agriculture by improving efficiency in the use of natural resources, increasing the resilience of production systems and rural communities and enabling adaptation of the agricultural sector to climate change.

To achieve this objective the ABC plan promotes six climate smart agriculture technologies: (i) recovery of degraded pasture land; (ii) implementation of integrated crop-livestock-forestry systems; (iii) adoption of no-tillage farming; (iv) biological fixation of nitrogen; (v) plantation of commercial forests, and (vi) treatment of animal waste. The main instrument of the ABC Plan is the provision of a differentiated credit line that can be accessed by farmers to convert their traditional agricultural practices to the above-mentioned technologies to minimize the impact of the emission of GHG and increase productivity.

There are however several impediments to the adoption of the climate smart technologies. There is a lack of information on the credit lines available within the Plan. Farmers perceive that low carbon production technologies cause a decrease of productivity and efficiency. There appears to be a lack of understanding among farmers of the technologies promoted in the ABC Plan as well as high upfront costs involved in adopting the low carbon and more environmentally friendly technologies. And there is a lack of training and technical assistance for farmers adopting the ABC plan promoted technologies. Moreover, small and medium rural producers have difficulties accessing the ABC Plan's credit lines. Financial intermediaries impose environmental standards for whose adoption there are limited financial resources. The resources made available through the ABC Plan are for rural credit and cannot be used for other purposes. Currently there is no other source of financing on a large enough scale to overcome the obstacles faced by small and medium-scale farmers in accessing the credit available in the ABC Plan.

BRAZIL’S INVESTMENT PLAN (BIP) FOR THE FOREST INVESTMENT PLAN (FIP)

The Strategic Climate Fund (SCF) provides financing for new ways of developing or up-scaling activities that seek to respond to a specific challenge related to climate change or to provide a sector response through directed programs. The Forest Investment Program (FIP) is one of those directed programs catalyzing policies and measures and mobilizing funds to facilitate the reduction of deforestation and forest degradation. The program aims at promoting more sustainable forest management, leading to reduced emissions and enhanced conservation of forest carbon stocks.

The Brazil Investment Plan (BIP) of the Forest Investment Program (FIP) was approved by the FIP Sub-Committee in May 2012. The BIP aims at promoting sustainable land use and improving management of the productive landscape in the Cerrado (Brazilian Savanna), the second largest biome in Brazil and South America. The BIP will contribute to reducing pressure on the remaining forests, reducing GHG emissions and increasing CO2 sequestration. The FIP subcommittee agreed to a range of funding of USD$50-70 million in FIP resources.

BIP’s specific objectives are (1) improving environmental management in areas previously anthropized and (2) producing and disseminating environmental information at the biome scale. BIP comprises coordinated actions by three Ministries: the Ministry of the Environment (MMA), the Ministry of Science, Technology & Innovation (MTCI, and the Ministry of Agriculture and Livestock and Food Supply (MAPA).
Each of the projects in the BIP will fund investments and activities that support actions of the various implementing agencies and their relationships with other entities. In addition to addressing the different aspects of interagency coordination, BIP will also contribute to resolving operational, regulatory and management challenges. Nature conservation, respect for traditional communities and the reduction of GHG emissions arising from land use changes in the Cerrado are challenges related to improving the use and management of land and natural resources in landholdings. The Cerrado has played a major role in the growth of food production and the challenge now is to ensure that agriculture can continue to develop while adopting more sustainable practices that preserve natural resources and reduce GHG emissions.

The BIP strategy mainly targets the following FIP investment areas: (i) investments outside the forest sector necessary to reduce the pressure on forests; and (ii) institutional capacity, forest management and information. As a complementary measure, BIP also focuses on the third FIP investment area by supporting mitigation actions related to forests, such as encouraging forest recovery of Legal Reserves (RLs) and Permanent Preservation Areas (APPs) in landholdings.

The BIP has two thematic areas and four projects, to be implemented as a coordinated set:
Theme 1 - : Management and Use of already anthropized areas – Access improvement for producers to resources on offer for Low Carbon Emission Agriculture Implementation of the Rural Environmental Cadastre in the entire biome, which include the following projects:

Project 1.1- Environmental regularization of rural lands (based on the Rural Environmental Registry, CAR) - Loan: US$32.5million - MDB: IBRD

Project 1.2- Sustainable production in areas previously converted to agricultural use based upon the Sector Plan for the Mitigation and Adaptation of Climate Change for a Low Carbon Emission Agriculture (ABC Plan) - Grant:US$10.72million - MDB: IDB and World Bank

Theme 2: Generation and Management of Forest Information - Generation and availability of spatially and temporally consistent environmental information - forest inventory, remote sensing monitoring and early warning system for forest fires, which include the following projects:

Project 2.1- Forest information to support public and private sectors in managing initiatives focused on conservation and valorization of forest resources - Grant:US$16.55million - MDB: IBRD

Project 2.2- Implementation of an early-warning system for preventing forest fires and a system for monitoring the vegetation cover - Grant:US$9.25million - MDB: IBRD

The proposed project has been renamed from Project 1.2: Sustainable production in areas previously converted to agricultural use based upon the Sector Plan for the Mitigation and Adaptation of Climate Change for a Low Carbon Emission Agriculture (ABC Plan).

Relationship to CAS

The objectives of the proposed Project are fully covered by the current World Bank Group’s Country Partnership Strategy, discussed by the Executive Directors on November 1, 2011 (CPS 2012-2015) (Report No 63731 BR), under the heading “Expanding Sustainable Agriculture”, specifically through “Supporting the adjustment of extension services and the leveraging of financing mechanisms to accelerate the shift to a low-carbon agriculture and livestock production, including scaling-up zero tillage agriculture and further combining increased livestock productivity with enhanced forest protection” and “Supporting the mapping of degraded areas across all Brazilian biomes and helping develop financial incentives to promote their rehabilitation, including for use in agricultural, forestry, ranching conservation, and environmental services”. It also supports
efforts at “Improving environmental management, biodiversity conservation and climate change mitigation.”

II. Proposed Development Objective(s)

Proposed Development Objective(s) (From PCN)

The development objective of the proposed Project is to improve the adoption of low carbon agricultural technologies in the Cerrado, under the ABC Plan, through the capacity building of rural technical assistance, financial agents, and farmers.

Key Results (From PCN)

The long term objective of the proposed project is to contribute to reduce emissions and increase carbon sequestration in private landholdings in the Cerrado by improving the adoption by the private sector in agriculture of low carbon techniques that form part of Brazil’s Low Carbon Agriculture (ABC) Plan. Together with the three other projects to be co-financed with FIP resources (see above), it is expected that the proposed project will help to reduce deforestation and forest degradation, increase carbon sequestration and raise framer productivity in the Cerrado. The proposed project will implement a cost-effective methodology to increase the rate of technological adoption by medium and large farmers, while leveraging significant funding from the ABC credit line (approximately BRL 3 billion in 2012).

The PDO indicator is the rate of adoption of climate smart technologies (measured by the increase in the weighted percentage of ha with climate smart technologies compared to the total ha owned by the farmers) by farmers and agricultural enterprises that have undergone capacity building and training programs financed under the project. To measure this indicator, farmers and enterprises participating in capacity building will provide information on the technologies they use at the onset of the capacity building programs and one or two years after the end of the programs.

Project results would the measured against the following indicators:

- Number of technical assistance providers, producers and financial agents trained in climate smart technologies
- Percentage of farmers participating in the capacity building program that gain access to resources and other assistance services provided under the ABC Plan
- ha of restored pasture land;
- ha of Crop-Livestock-Forest integration;
- ha of no-tillage system;
- ha of biological nitrogen fixation;
- ha of planted forests.

III. Preliminary Description

Concept Description

The proposed US$10.62 million grant is part of the Brazil Investment Plan (BIP) and will support the Ministry of Agriculture, Livestock and Food Supply (MAPA) to promote the six climate smart agriculture technologies supported by the ABC Plan, with focus in the Cerrado biome: (i) recovery of degraded pasture land; (ii) implementation of integrated crop-livestock-forestry systems; (iii) adoption of no-tillage farming; (iv) biological fixation of nitrogen; (v) plantation of commercial forests, and (vi) treatment of animal waste, through capacity building.
Priority areas. Considering the absence of co-financing, the project will need to be very selective in the choice of States and the target population. The project will be carried out in States and Municipalities where the farmers and agribusiness are judged to be most ready for adoption of climate smart technologies (areas known for innovation and early adoption of technologies). During project preparation a number of criteria to measure “adoption readiness” will be developed. The criteria will include the presence of farmer organizations, enterprises and leaders with a vision for a more sustainable agriculture and livestock as well as the capacity of the implementing agency to carry out the capacity building programs. The selection criteria will not necessarily focus on degrees of probable impact on climate change or on social objectives. The main aim of prioritizing areas is to have successful adoption with the hope that these early examples will stimulate producers and enterprises in other geographical areas to adopt the new technologies.

Participant producers. As small farmers can ill afford the risk of adopting unknown practices, the project will initially focus on the innovators and early adopters (medium and large producers) whom the project will accompany in the adoption of the new technologies. Small producers will adopt these technologies once they prove to be cost-efficient and profitable.

The proposed project has three components:

a. Component 1: Dissemination of the ABC Plan and producer capacity building (US$7 million) – the project will finance publicity campaigns, info-training courses, technical events and participation in rural fairs addressing potentially interested producers (in particular innovators and early adopters), farmers’ associations, entrepreneurs, financial intermediaries and suppliers of agriculture-related technical services. These activities will provide information on the ABC Plan, its modus operandi, requirements and procedures (including those related to rural land environmental registration), recommendations for accessing credit and on the new technologies. The component will also draw up business models and assist producers with the development of business plans and credit applications incorporating climate smart technologies. Under this component the project may co-finance the establishment of small demonstration fields on innovators’ land in priority areas and provide producers or farmer organizations with technical assistance in the early adoption of the technologies. This close implementation follow-up of early adoption will provide useful feedback and generate lessons on the costs (and possible difficulties) producers face when adopting the technologies as well as on the short-term benefits.

b. Component 2: Support to providers of services and inputs (US$2.62 million) – the project will finance the training of professionals, technical staff and other practitioners involved in agricultural production in the climate smart technologies eligible under the ABC Plan, and in the operational aspects of the plan. The implementing agency with the assistance of EMBRAPA (the Brazil Agricultural Research Agency) will develop a series of courses for some 2000 technicians and field instructors on ABC technologies. These technicians, employed by diverse agencies, will provide extension services to interested producers on the ABC technologies and will be trained in the presentation of credit applications. Training will also be provided on environmental regularization of rural landholdings, including the benefits of adhering to the Rural Environmental Cadastre (CAR). The component will also support the establishment of technical modules for training professionals, technical staff and producers.

c. Component 3: Implementation and management of the Project (US$1 million). The project will support activities related to the management and implementation of the Project. MAPA will be
the main responsible agency to supervise technical and financial aspects of the project, and monitor project indicators. A project Director will be responsible for overall project implementation. MAPA delegated the technical training part of the project implementation to SENAR. Part of MAPA’s strategy is to benefit from SENAR’s operational capacity, technology and pedagogical experience to conduct the capacity building of rural extension technicians, farmers and financial agents on agricultural low carbon technologies. SENAR will also be responsible for the procurement and financial management of the project.

IV. Safeguard Policies that might apply

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VI. Contact point

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