Ex-Ante Evaluation (for Japanese ODA Loan)

Private Sector Investment Finance Division,
Private Sector Partnership and Finance Department,
JICA

1. Name of the Project

Country: The Federative Republic of Brazil
Project: Project for Supporting the Sustainable Forest Products Industry
Loan Agreement: March 31, 2020
Borrower: Klabin S.A.

2. Background and Necessity of the Project

(1) Current State and Issues of the Forest Products Sector in Brazil

Global economic growth is putting the demand for forest products on an upward trend. According to the Pulp and Paper Products Council (PPPC), during the 10-year period between 2007 and 2017, the production of pulp and paper increased at an annual average rate of 2.28%, of which, the average annual growth rate for kraft paper, from which cardboard is made, was 2.6%. Further, it is expected to be 2.4% for the next seven years. Such growing demand is raising expectations for wood derived from planted forests, which negate the need to fell natural forests. At present, global annual planting stands at 279 million hectares. WWF estimates that an additional 250 million hectares of afforestation will be needed to meet the expected global demand in 2050. Building a sustainable forest products supply chain that supports both economic growth and environmental conservation is a key development challenge facing the global community.

Agriculture is a major industry in Brazil, accounting for 5% of its GDP and 24.2% of its total exports. Brazil's forest products are highly competitive in the global market, as they boast the highest productivity in the world due to the country's favorable climate and geological conditions. They constitute the fourth largest export item among agricultural and forestry products, accounting for 2.9% of the country's total exports. According to FAO, Brazil ranks second and eighth in the production of pulp and paper, respectively, making the paper and pulp sector a key industry for the country. On the downside, Brazil has been losing forests faster than any other country in the world, mainly due to forest conversion to farmland and pasture. FAO estimates that some 55 million hectares of forest area disappeared from the country from 1990 to 2010. The situation points to the need for the forest products industry to produce more added-value as a matter of urgency. It was under these circumstances that the Brazilian government developed a national afforestation program in 2018. The national program aims to increase the afforested area from the current level of 10 million

hectares to 13 million hectares by 2030. The program also has a mid-term target of disseminating forestry expertise and developing relevant human resources. Accordingly, expanding the forest area is a key issue for Brazil. Promoting forest management and building a sustainable forest products supply chain--both of which constitute a basis for such expansion--are also important not least in the context of enhancing the country's international competitiveness.

Klabin S.A. is a major supplier of pulp and paper in Brazil, constituting a vertically integrated supply chain covering everything from afforestation to the production and processing of pulp, paper and packaging. In 1998, the company's afforestation business and production processes were certified by the Forest Stewardship Council (FSC), the first of its kind in the Southern Hemisphere. All wood used by the company is either FSC-controlled wood or derived from FSC-certified forests. The company owns a large forest area amounting to some 500,000 hectares, over 40% of which are natural forests. Also, it eagerly works to conserve biodiversity in the surrounding areas. Additionally, Klabin S.A. provides technical and financial assistance for external wood suppliers so that they can earn an FSC certification. It also assists small farmers near its pulp and paper mill in improving their livelihoods (by, for example, providing fertilizers free of charge and eagerly purchasing their crops) and regenerating natural forests. Furthermore, the company offers local communities programs for developing human resources for the forest products industry. All these activities suggest that Klabin S.A. is a highly ethical corporate citizen that is committed to making the industry more sustainable and conserving the environment. By assisting the company in ramping up its supply chain, the Project will promote a sustainable forest products industry in Brazil, thereby contributing to the success of the national afforestation program and the protection of natural forests as well as to the development of human resources for the country's forest products industry.

(2) Japan's and JICA's Policy for the Forest Products Sector in Brazil and the Priority of the Project

Japan's Country Development Cooperation Policy for the Federative Republic of Brazil of April 2018 ("the Policy") states that the basic policy of Japan's ODA for Brazil (overall goal) is to support the country's sustainable development in Brazil and promote a mutually beneficial partnership between the two countries. To these ends, Japan's ODA will focus on sectors that support the stable supply of natural and food resources, according to the Policy. Japan's Rolling Plan for the Federative Republic of Brazil of April 2018 ("the Plan") states that Japan will provide assistance that will contribute to the prevention of deforestation and the protection of forests and the natural environment in the category of environmental conservation, which is identified as one of the development issues for the country. Accordingly, Japan is now providing

technical cooperation in monitoring illegal logging using Japan's satellite-imaging technology.

Under the Project, the production capacity of the company's mill will rise 60% in terms of total shipments of pulp and kraft paper. By encouraging the use of biofuels generated in the production process, the Project aims to significantly reduce CO2 emissions per ton of these products as compared with the existing mill. For this additional production capacity, Klabin S.A. will use raw materials (sourced from within and without the company) that are derived from forestry plantations that are 100% compliant with international standards. Klabin S.A. will scale up its mill and eagerly assist its external wood suppliers in earning international certifications and training their employees, thereby supporting a sustainable supply chain in the country's forest products industry. In light of the above, the Project is consistent with the Policy and the Plan.

The Project will help Brazil to develop the forest products industry--one of its key export sectors--through the use of plantation wood, which a renewable resource, and ramp up the industry's supply chain. It will also contribute to mitigating the impact of global climate change. Thus, the Project is expected to help achieve five of the SDGs: Goal 9 (Industry, Innovation, and Infrastructure), Goal 12 (Responsible Consumption and Production), Goal 13 (Climate Action), Goal 15 (Life on Land), and Goal 17 (Partnerships for the Goals).

(3) Other Donors' Activity

The Project will be co-financed with the IFC, IDB Invest, and private commercial banks as Sumitomo Mitsui Banking Corporation and Sumitomo Mitsui Trust Bank.

3. Project Description

(1) Project Objective

The Project is designed to promote the sustainable forest products industry of the Federative Republic of Brazil and thereby help mitigate the impact of global climate change by assisting Klabin S.A. in boosting the production capacity of its paper and pulp mill in Parana State and introducing equipment designed to reduce its environmental impact.

(2) Project Site/Target Area

Ortigueira, Parana State, Brazil

(3) Project Component

The Project will finance the work to scale up Klabin's pulp and paper mill in the city of

Ortigueira, Parana State in southern Brazil. The scale-up, implemented in two phases, will involve adding kraft paper production lines and related facilities, including equipment designed to reduce environmental impact, such as a biomass power generator.

(4) Schedule

The work started in 2019. The first and second phases will be completed in 2021 and 2023, respectively.

(5) Environmental and Social Consideration/ Cross-Cutting Issues/ Gender Classification

1) Environmental and Social Consideration

① Category: A

② Reason for Categorization: The Project constitutes a large-scale project in the sector of industrial development as defined by the JICA Guidelines for Environmental and Social Considerations of April 2010.

③ Environmental Permit: The environmental impact assessment (EIA) report for the Project was approved by the Environmental Agency of Parana State in July 2019.

④ Anti-Pollution Measures: The Project will address possible air, water, and noise pollution associated with the work through such measures as sprinkling of water, appropriate operation and management of equipment, and careful selection of construction equipment so as to meet the domestic emission/discharge standards and environmental standards in Brazil. Due to the careful design of the mill equipment, the air quality after the scaled-up mill is put to use is expected to meet the domestic emission/discharge standards and environmental standards even in light of the cumulative impact from both the scaled-up and existing portions of the mill. The effluent and thermal discharge from the mill will be treated by on-site sewage treatment facilities and cooling towers, respectively, so as to meet Brazil's domestic discharge standards before releasing them to the river. Thus, the release of the treated water will likely have no significant impact. The noise levels are expected to meet the standards, due to the careful design of the mill equipment. The distances between the mill and other facilities in its vicinity will mean a significant attenuation effect. Planned mitigation measures against possible increases in dust, noise, and accidents associated with the vehicle traffic after the scaled-up portion is put to use include (i) setting routes that will discourage the vehicles concerned from entering the built-up areas; (ii) having prior consultation with the community over the routes and time restrictions; (iii) using water sprinkler trucks or water sprinkling equipment along the affected roads;

and (iv) setting up bumpers and other on-road equipment. In accordance with the waste management program, most of the solid waste generated during the work will be reused, while a small portion of it will be treated in the landfill owned by the borrower. Industrial waste will be landfilled by professional waste service providers. Solid waste generated after the scaled-up portion is put into service will be reused in the production process or used for agricultural or construction materials.

⑤ Natural Environment: Because the project area is not situated in or near any sensitive area such as a national park, the adverse impact on the natural environment is expected to be minimal. For the raw material, the company plans to procure only wood derived from forests certified by the Forest Stewardship Council® or FSC-controlled wood that comes from the forests it owns or neighboring forest businesses.

⑥ Social Environment: Since the Project concerns a scaling up work within the premises of the existing mill, it will not involve involuntary land acquisition or resettlement. No particular opposition was raised against the implementation of the Project in the public consultation process.

⑦ Other / Monitoring: Under the Project, the borrower and business operators under contract to the borrower will monitor air quality, water quality, solid waste, and noise.

2) Gender Classification: [Not applicable]■GI (gender mainstreaming needs survey and analysis project)

<Reasons for Classification> The Project confirmed gender mainstreaming needs but stopped short of including any specific activity that would contribute to gender equality.

3) Cross-Cutting Issues: None in particular

(6) Other Important Issues

The Project will be co-financed with the IFC, IDB Invest, and private commercial banks as Sumitomo Mitsui Banking Corporation and Sumitomo Mitsui Trust Bank.

4. Targeted Outcomes

(1) Quantitative Effects

The Project will measure such items as the capacity of producing kraft paper and pulp (in tons per year), the usage percentage of wood derived from plantations that are planned and managed in accordance with international environmental standards, CO^2 emissions from the production process (in kilograms per ton of production), Installed capacity of renewable energy (MW), and increased employment during operation (person) .

(2) Qualitative Effects

The Project is expected to help mitigate the impact of global climate change.

5. External Factors and Risk Control

None in particular

6. Lessons Learned from Past Projects

In the Sugar Mill Project, an ODA loan project for Myanmar, sugar cane farmers in the vicinity of the mill switched to crops that fetched higher prices. This caused an insufficient supply of the raw material, resulting in a lower operation rate of the mill. The lesson learned from the above is that three factors are key to sustained project outcomes: (i) accurate forecasts of agricultural product prices, (ii) an appropriate siting of the mill, and (iii) a careful assessment of farmers' attitudes. Klabin S.A. plans to procure 70-80% of the wood it will use from the forests it owns, thus ensuring the stable supply of wood. Consideration is also given to siting factors. For example, plantations will be sited within a certain distance from the project site. There are no significant concerns in this regard.

7. Evaluation Results

The Project is expected to help achieve five of the SDGs: Goal 9 (Industry, Innovation, and Infrastructure), Goal 12 (Responsible Consumption and Production), Goal 13 (Climate Action), Goal 15 (Life on Land), and Goal 17 (Partnerships for the Goals). Thus, the Project, which takes advantage of the Private-Sector Investment Finance Scheme, is highly relevant.

8. Plan for Future Evaluation

(1) Indicators to be used

As shown in Section 4 above.

(2) Timing

2 years after the completion of Phase II (subject to change)

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