

CONFIDENTIAL  
INTERNAL USE  
PUBLIC UPON APPROVAL

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK  
MULTILATERAL INVESTMENT FUND

**PARAGUAY**

**PROMOTION OF THE CIRCULAR ECONOMY IN PARAGUAY**

**(PR-T1289)**

**DONORS MEMORANDUM**

This document was prepared by the project team consisting of: Luis Fernández Zang (INV/CPR) and Svante Persson (LAB/DIS), Project Team Co-Leaders; Marcia Silva Casseb (HUD/CPR), José Francisco Manjarres and Eduardo Bogado (WSA/CPR), Juan Alfredo Rihm (INE/WSA), Gabriela Aparicio (DSP/DVF), José Buzo (INO/SMC), Natalia Laguyás (LAB/IEN), Fazia Pusterla (CSC/CAR), Juan Pedeflous (FML/FOM) and Fabiana Machado (INE/WSA).

This document contains confidential information relating to one or more of the ten exceptions of the Access to Information Policy and will be initially treated as confidential and made available only to Bank employees. The document will be disclosed and made available to the public upon approval.

## CONTENTS

### EXECUTIVE SUMMARY

I.	THE PROBLEM.....	1
	A. Description of the problem .....	1
	B. Beneficiaries .....	4
II.	THE INNOVATION PROPOSAL.....	4
	A. Project description .....	4
	B. Project results, measurement, monitoring, and evaluation .....	10
III.	ALIGNMENT WITH THE IDB GROUP, SCALABILITY, AND PROJECT RISKS .....	11
	A. Alignment with the IDB Group.....	11
	B. Scalability.....	12
	C. Project and institutional risks .....	14
IV.	INSTRUMENTS AND PROPOSED BUDGET .....	14
V.	EXECUTING AGENCY AND IMPLEMENTATION STRUCTURE .....	15
	A. Description of the executing agency .....	15
	B. Implementation structure and mechanism .....	16
VI.	FULFILLMENT OF MILESTONES AND SPECIAL FIDUCIARY ARRANGEMENTS .....	16
VII.	ACCESS TO INFORMATION AND INTELLECTUAL PROPERTY.....	17

**PROJECT SUMMARY**  
**PROMOTION OF THE CIRCULAR ECONOMY IN PARAGUAY**  
**(PR-T1289)**

Paraguay has been urbanizing at an increasingly faster pace, which has made the Asunción Metropolitan Area (AMA) the main driver of the country's economic development and has sparked innovation, knowledge creation, and creativity. However, this urbanization brings mounting pressures on municipal solid waste management, which has adverse environmental, social, and economic impacts, especially for vulnerable groups, which are disproportionately affected.

Economic growth, population growth, migration to urban areas, and the production and consumption patterns associated with an unsustainable linear economic model exacerbate the impact of improper management of municipal solid waste, leading to soil degradation; greenhouse gas emissions; air, ground water, and surface water pollution; and health risks for vulnerable population groups, such as the residents of the Chacarita Alta and San Francisco neighborhoods of the AMA. The linear economic model has reached a turning point, as its environmental and social costs have created a pressing need to rethink the model and transition to a new one.

Inherent to the idea of a circular economy is a logical, smart, and inclusive approach to resources that requires harnessing the private sector's capacity for innovation to rethink the design of components and products and reuse, refurbish, and repurpose them to maximize their value, preserve environmental assets, create local jobs, and reduce health risks. The project will test a model that harnesses the innovation capacity and technologies of urban areas, and of the private sector and innovation ecosystem in particular, to develop and promote circular business models with and in the vulnerable neighborhoods of Chacarita Alta and San Francisco, with a view to improving economic opportunities and environmental and health conditions for their residents.

To achieve this, the project will work along three lines of action: (i) generation and dissemination of strategic information; (ii) fostering of circular business models; and (iii) a business environment that enables the circular economy. The project would impact all families living in Chacarita Alta and San Francisco, benefiting more than 7,700 residents. Its main outcomes would be: (i) 1,466 tons of waste from the two neighborhoods diverted from water sources and dumps through circular business models; (ii) 679 tons of greenhouse gas emissions avoided through circular business models; (iii) 1,453 households in the two neighborhoods helped with better access to and better quality of municipal solid waste management services through new circular business models; (iv) an increase of at least 5% in the real monthly income of trash collectors from the two neighborhoods; (v) 64 local green jobs created through circular models; and (vi) two circular business model solutions implemented with the neighborhoods and private firms.

The project fits within the framework of the IDB Group Country Strategy with Paraguay 2019-2023 (document GN-2958) and aligns with its pillars of productive diversification, productive and resilient infrastructure, and human capital and living conditions, and with its crosscutting issues of innovation and technology, climate change, and gender. At the operational level, this project has notable synergies with the Water and Sanitation Division's ["Comprehensive Sanitation Program for the Bay and Metropolitan Area of Asunción" \(operation PR-L1029\)](#) and the Housing and Urban Development Division's ["Improvement of Housing and Habitat" \(operation PR-L1082\)](#).

## **ANNEXES**

Annex I	Results Matrix
Annex II	Summary Budget
Annex III	iDelta

## **APPENDICES**

Proposed resolution

**INFORMATION AVAILABLE IN THE TECHNICAL DOCUMENTS SECTION OF THE IDB LAB  
PROJECT INFORMATION SYSTEM**

Annex IV	Itemized budget
Annex V	Diagnostic assessment of integrity and institutional capacity
Annex VI	Project status reports, fulfillment of milestones, and fiduciary agreements
Annex VII	Integrity review
Annex VIII	Procurement plan

## **ABBREVIATIONS**

AMA	Asunción Metropolitan Area
FECOPROD	Federación de Cooperativas de Producción
FMB	Fundación Moisés Bertoni para la Conservación de la Naturaleza
HUD	IDB Housing and Urban Development Division
MSW	Municipal solid waste
SDG	Sustainable Development Goals
UIP	Unión Industrial Paraguaya
UNDP	United Nations Development Programme
UNIDO	United Nations Industrial Development Organization
WSA	IDB Water and Sanitation Division

**PROMOTION OF THE CIRCULAR ECONOMY IN PARAGUAY  
(PR-T1289PROMOTION OF THE CIRCULAR ECONOMY IN PARAGUAY )PR-T1289  
EXECUTIVE SUMMARY**

<b>Country:</b>	Paraguay		
<b>Executing agency:</b>	Fundación Moisés Bertoni para la Conservación de la Naturaleza (FMB)		
<b>Focus area:</b>	Inclusive cities		
<b>Coordination with other donors/IDB Group operations:</b>	<p>The project was originated and designed in close collaboration with the Housing and Urban Development and Water and Sanitation Divisions in light of its synergies with the following operations: <a href="#">“Comprehensive Sanitation Program for the Bay and Metropolitan Area of Asunción” (operation PR-L1029)</a> and <a href="#">“Improvement of Housing and Habitat” (operation PR-L1082)</a>, and especially their activities that pertain to improving solid waste management in the neighborhood of Chacarita Alta and the Bay of Asunción basin.</p> <p>The project team has also identified important synergies with the project “Asunción: Green City of the Americas,” financed by the United Nations Development Programme, as well as with the project “Support to Improve the Competitiveness of Micro, Small, and Medium-Sized Enterprises and the Business Environment in Paraguay,” financed by the European Union.</p>		
<b>Project beneficiaries:</b>	<p>Direct beneficiaries: 7,700 residents of the vulnerable neighborhoods of Chacarita Alta and San Francisco, including (i) 1,453 vulnerable households that benefit from new waste management models as a result of the circular business models created under the program; (ii) 4,358 residents acquainted with and trained in waste sorting and reuse practices; (iii) 176 trash collectors trained and equipped to improve their working conditions; (iv) 64 individuals who receive the green jobs created under the program; (v) the two private companies that will implement circular business models with the neighborhoods; and (vi) the six circular solution ventures supported by the project.</p>		
<b>Financing:</b>	Technical cooperation funding	US\$1,000,000	49.6%
	Counterpart contribution	US\$1,015,000	50.4%
	<b>Total project budget</b>	<b>US\$2,015,000</b>	
<b>Special contractual conditions:</b>	<p>Conditions precedent to the first disbursement: (a) the Project Coordinator will have been appointed; (b) the Schedule of Milestones will have been approved; and (c) the Financial Plan will have been approved.</p>		
<b>Environmental and social impact review:</b>	<p>This operation has been screened and classified in accordance with the requirements of the IDB Environment and Safeguards Compliance Policy (Operational Policy OP-703). Since its impacts and risks are limited, the proposed classification for the project is category “C.”</p>		
<b>Unit responsible for disbursements:</b>	Country Office in Paraguay (CSC/CPR)		

## I. THE PROBLEM

### A. Description of the problem

- 1.1 Paraguay has been urbanizing at an increasingly faster pace,<sup>1</sup> with the percentage of the population that resides in urban areas jumping from 35% in 1950 to 62.5% in 2020. This percentage is expected to increase to 64.4% by 2025.<sup>2</sup> At present, 5% of the country's land is home to 62.5% of its population. Paraguayan cities have also become the main drivers of economic development, as estimates indicate that the Asunción Metropolitan Area (AMA)<sup>3</sup> contributes 48%<sup>4</sup> of the country's GDP. Furthermore, cities are now known to be key hubs for innovation sharing, knowledge creation, creativity, and labor pools.
- 1.2 However, rapid urbanization brings a series of challenges,<sup>5</sup> including mounting pressures on municipal solid waste (MSW) management, which has adverse environmental and health impacts, especially for vulnerable groups, which are disproportionately affected by improper waste management.
- 1.3 "Progress and Challenges for Inclusive Recycling," a study prepared in 2017 by the Economist with the support of the IDB and other organizations, evaluated the integrated solid waste management models of 12 cities in Latin America and the Caribbean using 37 indicators designed to assess their organizational capacity, efficiency, and regulations. The AMA received the lowest score in those three categories.
- 1.4 The diagnostic assessment of the AMA prepared in 2014 as part of the IDB's Emerging and Sustainable Cities initiative indicated that "improper management of solid waste in the AMA is a driver of considerable environmental risk, with impacts that include pollution of the soil, the air, and surface and ground water, as well as health risks for residents of communities near open air dumps." The study shows that integrated waste management is a critical issue for the sustainability of the AMA, which is why it is classified as red.
- 1.5 The same diagnostic assessment finds that the coverage of municipal solid waste (MSW) collection in the AMA is "very poor" (68% versus the 90% considered sustainable) and that the service has serious quality issues. There are no waste reduction or waste sorting programs, nor is there any infrastructure for adequate final disposal. Households in the AMA that do not have access to waste collection services burn their trash<sup>6</sup> or dump it in ditches, uncultivated lands, the street, or streams.<sup>7</sup> There are also no programs for selective waste collection, so household

---

<sup>1</sup> <https://www.dgeec.gov.py/Publicaciones/Biblioteca/PoblacionenelParaguay/PP005.htm>

<sup>2</sup> [https://www.dgeec.gov.py/Publicaciones/datos/poblacion/Paraguay\\_Triptico%202018.pdf](https://www.dgeec.gov.py/Publicaciones/datos/poblacion/Paraguay_Triptico%202018.pdf)

<sup>3</sup> The AMA is the urban area comprising Asunción and neighboring cities, including Luque, Fernando de la Mora, San Lorenzo, Lambaré, Mariano Roque Alonso, Nemby, Capiatá, Limpio, San Antonio, and Villa Elisa.

<sup>4</sup> <http://ea.com.py/v2/asuncion-atrapada-en-la-compleja-trama-de-su-area-metropolitana/>

<sup>5</sup> Examples of these challenges include (i) access to basic services (water, electricity, environmental sanitation, public works, education, health, housing, and transportation); (ii) economic opportunities; and (iii) environmental conditions.

<sup>6</sup> One telling indicator is that 25.04% of households burn their waste, compared to the regional average of 4%.

<sup>7</sup> Continuous Household Survey 2017, carried out by the Department of Statistics, Surveys, and Censuses.



waste enters the transportation and disposal stream unsorted and contaminated, making it significantly harder to effectively sort at a later stage.

- 1.6 This diagnostic assessment also indicates that the two largest city dumps, where approximately 50% of the solid waste generated in the AMA is disposed of, do not meet the minimum requirements for sanitary landfills. Coverage indicators for waste collection and final disposal services are at an all-time low for the country. Only 12% of total waste consists of recycled materials that are diverted from the waste flow, cleaned, and sent to be transformed into new products (versus the 20% considered sustainable). This presents a challenge for the recycling industries (plastics, cardboard, glass, etc.) in a country that does not have enough raw materials to supply its industries.<sup>8</sup> It should be noted that this 12% comes from informal materials sorting operations carried out by informal workers.
- 1.7 MSW management indicators for low-income and vulnerable neighborhoods<sup>9</sup> in the AMA, such as Chacarita Alta<sup>10</sup> and San Francisco,<sup>11</sup> are worse than the national average and exacerbate the negative environmental and health impact of improper MSW management, disproportionately affecting these communities. Together, the two neighborhoods produce nearly 7,000 kilograms of MSW each day,<sup>12</sup> and coverage of waste collection services is 45% at best. The MSW collected in these neighborhoods is not transformed into new products but rather disposed of in unauthorized dumps. Meanwhile, the 55% that is not collected is thrown into nearby water sources,<sup>13</sup> buried near the neighborhoods, or burned by residents,<sup>14</sup> which results in severe soil, air, and ground and surface water pollution, as well as a negative impact on the health of those who live near the area. As a result of this situation, these communities are also missing out on a promising economic opportunity in MSW reuse and value recovery and the new green jobs that the circular economy could bring.
- 1.8 Population growth, economic growth, migration to urban areas, and the production and consumption patterns associated with the unsustainable, linear, “take-make-consume and dispose” economic model exacerbate the detrimental impact of improper MSW management. This linear economic model does not take into account the natural limitations of our planet, leading to soil degradation, pollution, and greenhouse gas emissions, and these harmful environmental effects have an economic and social fallout. This linear model has reached a turning point where

---

<sup>8</sup> During the design mission, the project team witnessed this challenge firsthand in meetings with the general managers of the country’s largest recycling industries.

<sup>9</sup> Chacarita Alta and San Francisco are considered vulnerable informal settlements. See <https://www.mapadeasentamientos.org.py/static/informe-RAP.pdf>.

<sup>10</sup> Chacarita Alta is part of Chacarita, one of Asunción’s oldest neighborhoods. The approximately 3,600 residents of Chacarita Alta are spread across 15.6 hectares, which amounts to 34% of the greater Chacarita area.

<sup>11</sup> San Francisco is a neighborhood designed and built by Itaipú Binacional, and its construction was completed in late 2017. Its approximately 4,000 residents are spread across some 18 hectares.

<sup>12</sup> Capacity building and technical assistance to promote Paraguay’s participation in the carbon market (2011, Ministry of the Environment).

<sup>13</sup> According to a census of Chacarita Alta, 23% of its residents say they dispose of their trash in streams, ditches, and nearby water sources.

<sup>14</sup> Consultants’ report on the diagnostic assessment of Chacarita Alta, Asunción – Paraguay. (2019, Ministry of Urban Planning, Housing, and Habitat).

the social costs of pollution and natural resource depletion are catching up with it, which has created a pressing need to rethink the model and transition toward a circular economy.

- 1.9 ***Barriers to access addressed by the project.*** Improper MSW management and underutilization of waste in the AMA is driven by several factors, including: **(i)** lack of adequate information on the MSW produced (types, volume, value chain, and value chain actors) that could be used to: (a) identify circular business opportunities for the private sector; (b) raise user awareness of and create incentives for source separation of types of MSW for which value chains already exist; and (c) advocate for public policies based on updated data; **(ii)** lack of awareness of environmental and health problems arising from improper MSW management and underutilization of waste; **(iii)** a traditional linear production model and a lack of awareness in the private sector of the opportunities and potential of the circular economy; and **(iv)** a lack of coordination and collaboration between the private sector, the public sector, and civil society in their various efforts, initiatives, and opportunities for MSW management and waste recovery using the principles of the circular economy.
- 1.10 ***Special consideration: The gender gap in MSW management.*** The vast majority of informal trash collectors are women. In this group that is marginalized in and of itself, women are even more marginalized. By mainstreaming a gender approach to waste recovery and the circular economy more generally, the project can identify and address in its design and execution the disparities between men and women in terms of access, control over the benefits of resources, opportunities, products, and services. Projects to recover and extract value from waste can have a significant impact on promoting gender equality in a sector dominated by women. This project will mainstream gender by: (i) targeting women as a key demographic for behavioral change, particularly as regards management of household waste; (ii) improving recycling operations through capacity building, raising awareness, and providing equipment, financial assistance, and health insurance; and (iii) putting an end to the social stigma surrounding waste, which is particularly difficult for women.
- 1.11 ***Special consideration: The circular economy and climate change.*** To date, efforts to fight climate change have focused primarily on the crucial role of renewable energy and measures to promote energy efficiency. However, to achieve climate goals, the remaining 45% of emissions that stem from product manufacturing must also be addressed. The circular economy offers a systemic, cost-effective approach to addressing this challenge. The circular economy contributes to climate change mitigation because it reduces greenhouse gas emissions by: decreasing the amount of waste disposed of in sanitary landfills and open-air dumps; and slowing consumption of virgin materials and energy for goods production by substituting in recyclable materials. Evidence has shown that the circular economy framework can improve air quality, reduce water pollution, and protect biodiversity. Circular economy principles offer businesses a series of opportunities for innovation through which they can cut the costs of materials, better leverage assets, and respond to the evolving demands of customers. Taken together, this makes a convincing case for viewing the circular economy as a vehicle to not just environmental benefits, but economic and social ones as well.

## **B. Beneficiaries**

- 1.12 This project will impact all families from the neighborhoods of Chacarita Alta and San Francisco. Chacarita Alta is home to some 3,100 people, while San Francisco has a population of around 4,600. Average monthly income in these neighborhoods is around 2,008,154 guaraníes (approximately US\$340).<sup>15</sup> All told, 60% of households earn less than minimum wage. Of those that earn less than minimum wage, 34% are government employees, while 32% are self-employed. It should be noted that a high percentage of women identify as heads of household (52%). As regards public health, 72% of illnesses in these communities stem from poor air quality or dengue, caused by waste piling up in the streets or decaying in the neighborhoods' water sources or on nearby slopes. The project will indirectly benefit entrepreneurs, universities, and private companies that work with the communities of Chacarita Alta and San Francisco under the project framework and offer innovative circular economy business models that use the MSW from these neighborhoods.

## **II. THE INNOVATION PROPOSAL**

### **A. Project description**

- 2.1 **Objective.** The general objective of the project is to improve economic opportunities and environmental and health conditions in the vulnerable neighborhoods of Chacarita Alta and San Francisco in the Asunción Metropolitan Area (AMA) by boosting the circular economy. The specific objective is to test an intervention model that harnesses the innovation capacity and technologies of urban areas, and of the private sector and innovation ecosystem in particular, to develop and promote circular models with and in the vulnerable neighborhoods of Chacarita Alta and San Francisco.
- 2.2 **Unleashing the circular economy – an opportunity:** The Ellen MacArthur Foundation defines the circular economy as one that is “restorative by design and aims to keep products, components, and materials at their highest utility and value at all times.” At its core, the circular economy seeks to embrace biomimicry (the imitation of nature, in which everything is transformed and nothing is wasted). It seeks to gradually decouple value generation from the consumption of finite resources. This means that materials should be kept in circulation indefinitely, obtaining the most value from them before and after their disposal.
- 2.3 The keys to achieving this are using designs and technologies that minimize the waste created while a good or service is produced and rethinking production processes to incorporate waste and recycled materials as inputs for new products. Circular models emphasize maintaining assets instead of replacing them and prioritize sustainable resource use.
- 2.4 Cities like the AMA are an ideal environment for tapping innovation and iterating to address the challenges of these models. The goal of replacing linear products with products that are circular by design and creating other models to support the circular economy is a powerful incentive for developing linkages with new ideas

---

<sup>15</sup> This is 9% less than the current minimum wage.

- and solutions from the innovation ecosystems that have rapidly grown in recent years.
- 2.5 A report by the World Economic Forum<sup>16</sup> estimates that a shift toward circular economic models could generate US\$1 trillion for Latin America from savings on materials alone, create more than 100,000 new jobs, and prevent up to 100 million tons of waste by 2025. These figures and the social, economic, and environmental costs of the linear economy have drawn the attention of governments, private firms, and the public.
  - 2.6 The circular economy offers an opportunity for an inclusive, resource-smart future. It is an opportunity for the region to move from incremental change to a transformative one and mount the ambitious response needed to achieve the Sustainable Development Goals and adapt to a world with limited resources.
  - 2.7 **Evidence on the impact of the circular economy:** A study conducted by the Economist Intelligence Unit in 2017 estimates that the different strategies for transitioning to a circular economy can yield net benefits that include a 0.8%-7% increase in GDP, job growth of 0.2%-3%, and a 70%-85% reduction in carbon emissions.<sup>17</sup> With its cutting-edge regulations and adoption of the world's first strategies and policies for a transition toward a circular model, the European Union has put itself at the forefront of this issue, as the first international institution that has set specific targets and goals in the short and medium term. Its efforts include the Circular Economy Action Plan for Europe,<sup>18</sup> a package of 54 measures adopted in late 2015 and implemented in its entirety in less than four years. The European Commission<sup>19</sup> indicates that the plan has created hundreds of jobs and millions of euros in benefits.
  - 2.8 **Lessons learned from IDB Lab projects:** The IDB has supported the Regional Initiative for Inclusive Recycling since 2011. The objective of the initiative is to help create structures of opportunity (systemic conditions) in the region to make the recycling of materials feasible and sustainable. The project team has identified valuable lessons learned from this program and other IDB Lab projects on the circular economy, such as Making Maceió More Inclusive with Circular Economy Models (operation BR-T1342), including the following: (i) public-private coordination is key; (ii) strengthening the capacity of recyclers is essential; (iii) it is important to integrate recyclers into the value chain for waste; (iv) consideration should be given to opportunities for creating greater value and aligning incentives through business models based on interactions between products and services; (v) resource use should be traced and optimized, and ties between value chain actors should be strengthened through the use of digital platforms and information technologies; (vi) efforts should be made to ensure that the most vulnerable groups have a say in solution design; and (vii) implementing collection and recycling

---

<sup>16</sup> [http://www3.weforum.org/docs/WEF\\_ENV\\_TowardsCircularEconomy\\_Report\\_2014.pdf](http://www3.weforum.org/docs/WEF_ENV_TowardsCircularEconomy_Report_2014.pdf)

<sup>17</sup> Progress and Challenges for Inclusive Recycling: An Assessment of 12 Latin American and Caribbean Cities. The Economist Intelligence Unit (2017).

<sup>18</sup> [https://ec.europa.eu/commission/priorities/jobs-growth-and-investment/towards-circular-economy\\_es](https://ec.europa.eu/commission/priorities/jobs-growth-and-investment/towards-circular-economy_es)

<sup>19</sup> [https://www.miteco.gob.es/es/calidad-y-evaluacion-ambiental/temas/economia-circular/informecomevolucionplandeaccion\\_tcm30-425899.pdf](https://www.miteco.gob.es/es/calidad-y-evaluacion-ambiental/temas/economia-circular/informecomevolucionplandeaccion_tcm30-425899.pdf)

activities is not enough; efforts must be made to ensure a market for those products exists.

- 2.9 **Innovation:** This project is the first on this topic in Paraguay and will promote a series of abilities, services, and models grounded in a concept that is practically nonexistent in the country and still at a very early stage in the region. It is innovative in that it will test an intervention model that harnesses the innovation capacity and technologies of urban areas, and of the private sector and innovation ecosystem in particular, to develop and promote circular models in vulnerable neighborhoods such as Chacarita Alta and San Francisco and with the participation of those communities. The intervention model will be highly replicable in other vulnerable neighborhoods of the AMA and could be scaled not only nationwide but also regionwide, in cities that have similar challenges and opportunities. Though there are circular economy initiatives in Latin America and the Caribbean, the proposed intervention model's approach is unparalleled in the region, as it seeks to improve the quality of life of vulnerable, low-income communities by fostering a circular economy driven by waste from those same communities.
- 2.10 **Knowledge:** This project seeks to answer such questions as: What business opportunities does the circular economy offer for the private sector? What are the dynamics of job creation and job elimination that emerge when circular models are promoted? What is the best strategy for bringing innovation and technology to vulnerable communities? What are the best indicators for measuring the effectiveness of interventions in the circular economy? What is the role of the circular economy in reducing carbon emissions? What is the best strategy for involving vulnerable populations in the circular economy?
- 2.11 During project execution, due consideration will be given to the obstacles identified in Section I (The Problem). Accordingly, its work will follow three lines of action: (1) generation and dissemination of strategic information; (2) fostering of circular business models; and (3) a business environment that enables the circular economy.
- 2.12 **Component I: Generation and dissemination of strategic public/private information (IDB Lab: US\$118,000, counterpart contribution: US\$137,000).** The objective of this component will be to generate and disseminate relevant strategic information on the MSW in the AMA, which will be used to: (a) identify opportunities for circular business models for entrepreneurs and other private sector actors in value chains for the MSW produced in the AMA; (b) raise awareness of environmental and health issues; and (c) advocate for public policies that foster the circular economy, based on updated data on the MSW in the AMA. This component includes the following activities:
- An update of the study profiling solid waste in the AMA<sup>20</sup> and the profiling of the structure<sup>21</sup> of the value chain for solid waste management in the AMA.

---

<sup>20</sup> This will provide updated information on the volume of MSW, including the most common and abundant types of waste as well as the rarest but most hazardous and difficult to process.

<sup>21</sup> Priority will be given to waste that is found in high volumes or has high environmental impact, and the various actors in the value chain (production, source separation, collection, final disposal, transformation into new products, manufacturing, and exports) will be identified.

- A communication and outreach strategy<sup>22</sup> to disseminate information obtained from that study.
  - Baseline studies for project results indicators.
- 2.13 The expected results of this component are: (i) a study that profiles and maps the value chain for MSW; (ii) 12,000 residents<sup>23</sup> of the AMA educated through the outreach campaign; and (iii) a baseline study.
- 2.14 **Component II: Fostering of circular business models (IDB Lab: US\$520,000, counterpart contribution: US\$723,000).** The objective of this component is to foster and pilot circular business models in the Chacarita Alta and San Francisco neighborhoods of the AMA.
- 2.15 The circular models fostered and piloted in the neighborhoods will be based on reuse of waste from the neighborhoods and will include, but will not be limited to, the following circular business models: (i) *circular supply chain models*: using renewable energy or recyclable materials instead of nonrenewable resources; (ii) *resource recovery models*: obtaining energy or resources from waste; (iii) *models to prolong product life*: upgrading, repairing, and reselling to extend the useful life of waste; (iv) *sharing platform models*: encouraging collaboration between users so they can share use of a product; and (v) *"product as a service" models*: models in which customers "rent" the product, use it, and return it.
- 2.16 This IDB Lab project, and its activities in the Chacarita Alta neighborhood in particular, has been designed in close collaboration with the Water and Sanitation Division (WSA) and the Housing and Urban Development Division (HUD) to develop linkages with their respective portfolio operations: ["Comprehensive Sanitation Program for the Bay and Metropolitan Area of Asunción" \(operation PR-L1029\)](#) and ["Housing and Habitat Improvement Program" \(operation PR-L1082\)](#).<sup>24</sup> The WSA and the HUD have said that IDB Lab will have a key role in coordinating the resources<sup>24</sup> from those two operations, adding value by developing connections with private sector innovation in order to promote the circular economy with and in the Chacarita Alta neighborhood.
- 2.17 The project will coordinate activities in the San Francisco neighborhood with the United Nations Development Programme (UNDP) and Itaipú Binacional.<sup>25</sup> These organizations are spearheading activities to commission a recovery plant that can process six tons of waste per day for waste recovery and engage the neighborhood in collaborative design for waste reuse. The UNDP and Itaipú Binacional have expressed interest in IDB Lab's proposal to support their activities with open innovation methods and connections so neighborhood residents and the private sector can collaboratively create circular solutions.

---

<sup>22</sup> Outreach products will be developed to educate and raise awareness about the social and environmental problems with the linear economic model and the need to transition to a circular economy model.

<sup>23</sup> Including the public sector, civil society, and the private sector.

<sup>24</sup> Combined, the two operations have approximately US\$950,000 in funds to improve waste management.

<sup>25</sup> <https://www.itaipu.gov.py/es>

- 2.18 A diagnostic assessment will be prepared for each neighborhood, which will be used to coordinate project resources and activities, both internally with IDB operations and with other organizations' projects<sup>26</sup> with which the proposal can create synergies. These studies will include a profile of waste in the neighborhoods with a view to fostering circular business models so that waste can be reused.
- 2.19 According to the Ellen MacArthur Foundation, two key issues for transitioning to circular economy models are collaboration and innovation. Parting from this premise, to foster circular models in these neighborhoods, open innovation events will be held with the objective of harnessing the private sector's innovation capacity to call for circular solutions based on the waste identified in the neighborhoods. These events will be carried out in collaboration with universities,<sup>27</sup> incubators and accelerators, technology and innovation centers (including coordination with the Competitiveness, Technology, and Innovation Division (CTI) for the science and technology community), entrepreneur networks, and private sector firms.<sup>28</sup>
- 2.20 The evaluation criteria for open innovation events will take into account such issues as: (i) the solution's innovative merit; (ii) whether the solution involves waste that has a high environmental impact on the neighborhood; (iii) whether the solution involves waste for which there is no clear market demand; and (iv) gender, diversity, and climate change. Events and mentoring programs will be coordinated with the project "Support to Improve the Competitiveness of Micro, Small, and Medium-Sized Enterprises and the Business Environment in Paraguay,"<sup>29</sup> particularly with the Circular Opportunities Program<sup>30</sup> executed by the United Nations Industrial Development Organization (UNIDO) and Unión Industrial Paraguaya (UIP) with financing from the European Union. The project will also link solutions with the Angel Investment Network,<sup>31</sup> accelerators, and venture capital funds in the IDB Lab network to help arrange access to financing for circular solutions. The project team has been in contact with Closed Loop Partners,<sup>32</sup> which has expressed interest in possibly supporting the acceleration of circular solutions.
- 2.21 At the same time, the open innovation events will be supplemented with support<sup>33</sup> for implementing circular businesses in the neighborhoods and/or prototyping new products that fit within the circular business models described in paragraph 2.18. During the analysis mission, the project team identified the following specific

---

<sup>26</sup> (i) UNDP project "Asunción Green City of the Americas – Pathways to Sustainability;" (ii) the "MiPyme Compíte" project financed by the European Union in partnership with Unión Industrial Paraguaya (UIP), Federación de Cooperativas de Producción (FECOPROD), the Ministry of Commerce and Trade, the World Bank, and the United Nations Industrial Development Organization (UNIDO); and (iii) the San Francisco Neighborhood Improvement Project, financed by Itaipú Binacional.

<sup>27</sup> The Engineering Department of the National University of Asunción has expressed interest in investigating circular solutions aimed at solving problems faced by the Paraguayan industrial sector, using its highly specialized labs and human resources.

<sup>28</sup> Nestlé, Coca Cola, and AB InBev have also shown early interest in this activity.

<sup>29</sup> <https://open.unido.org/api/documents/15556751/download/ProDoc%20180298.pdf>

<sup>30</sup> <http://oportunidadescirculares.org/>

<sup>31</sup> <https://www.inversionangel.co/>

<sup>32</sup> Closed Loop Partners ([www.closedlooppartners.com](http://www.closedlooppartners.com)) is a New York based investment firm founded in 2014 comprised of venture capital, growth equity, private equity, and project finance as well as an innovation center focused on researching and developing solutions for the circular economy.

<sup>33</sup> Cofinancing, mentoring programs, acceleration, and links with IDB Lab accelerator networks.



- opportunities: (i) **Tetra Pak** Paraguay has expressed interest in reusing Tetra Pak waste that is not currently being reused. For example: plastic and aluminum from Tetra Paks could be used as raw material to produce sheeting that can be used as an alternative to traditional zinc sheeting<sup>34</sup> used for roofs of low-income homes. The company has also expressed interest in exploring the use of plastic waste to make plastic wood and aluminum waste for construction profiles;<sup>35</sup> (ii) **Nestlé** Paraguay has expressed interest in redesigning its coffee pods to make them reusable to replace disposable pods. It has also expressed interest in exploring how to reuse the waste generated from its products;<sup>36</sup> (iii) **AB InBev** Paraguay has expressed interest in designing circular products and solutions to ensure that the packaging of its drinks are 100% circular (for example, biodegradable labels); and (iv) the **UNDP** has expressed interest in testing a digital platform that could be used to link supply and demand for waste and transformed products as well as offer a platform for residents to share use of products. The UNDP is also interested in piloting a maker space or maker lab<sup>37</sup> in these neighborhoods for transforming waste into new products/services and is even considering an associated trademark so those products could be traced back to the neighborhoods. Support could also be provided for the implementation and prototyping of solutions that come out of open innovation events and meet the criteria described above.
- 2.22 The expected results of this component are: (i) two diagnostic assessment studies for the coordination and profiling of waste for the Chacarita Alta and San Francisco neighborhoods; (ii) two open innovation events conducted with the neighborhoods to call for proposals for circular business solutions; (iii) six circular business solutions supported with seed capital and mentoring programs, with teams led by women proposing at least 50% of the proposed solutions; (iv) at least two circular business models launched and implemented with the neighborhoods; (v) one adapted, operational digital platform for waste management with a shared use model, including a marketplace; (vi) 176 trash collectors from the neighborhoods (at least 50% of whom are women) trained and equipped; and (vii) 4,358 people in the intervention neighborhoods (at least 50% of whom are women) acquainted with and trained in environmental issues.
- 2.23 **Component III: A business environment that enables the circular economy. (IDB Lab: US\$146,000; counterpart contribution: US\$45,000)** The objective of this component is to foster public-private coordination to create conditions that enable the development of a circular economy in Paraguay. This component involves the following activities:
- Formation of a circular economy steering group.<sup>38</sup>

---

<sup>34</sup> Which is imported from abroad.

<sup>35</sup> These products could be used for the same dwellings that HUD plans to build in Chacarita Alta as part of operation PR-L1082, and the raw materials would be the neighborhood's own waste.

<sup>36</sup> Coffee containers, cereal boxes, and cans for condensed milk.

<sup>37</sup> Like [Precious Plastics' open source model](#).

<sup>38</sup> Its members will include key stakeholders from the private sector, public sector, and civil society, such as the Ministry of Environment and Sustainable Development; the Chamber of Sustainable Industries; multinational and national firms such as CORESA, Cartones Yaguareté, and Fábrica Paraguaya de Vidrios; industrial unions such as the UIP; civil society organizations; and other relevant public institutions for promoting a circular economy.



- Missions for exchange of experiences with key public- and private-sector stakeholders to look at successful cases of waste transformation and/or innovation centers<sup>39</sup> for circular solutions and knowledge transfer.
- Creation of public-private cross-sectoral forums for dialogue and coordinating public policy actions to create favorable conditions for the circular economy.
- Participation in events, conferences, and trade shows on topics related to the circular economy<sup>40</sup> where the products/services and models created at open innovation events and the models prototyped and launched in the neighborhoods as part of Component II will be showcased.
- Development of knowledge products, including case studies on circular business models created in the Chacarita Alta and San Francisco neighborhoods and products addressing the questions identified in paragraph 2.6, “Knowledge.”

2.24 The expected results of this component are: (i) a steering group for the circular economy in Paraguay whose members include at least 15 representatives from the public sector, private sector, and civil society, with at least 50% from private firms committed to supporting solutions based on circular models; (ii) two missions for exchange of experiences; (iii) support for the adaptation, modification, or creation of three public policies aimed at creating conditions that enable the circular economy in Paraguay; and (iv) three knowledge products including case studies on the neighborhoods and the knowledge questions on the topic (set forth in paragraph 2.6 – Knowledge).

## **B. Project results, measurement, monitoring, and evaluation**

2.25 The following are the main outcome indicators: (i) 1,466 tons<sup>41,42</sup> of waste produced in the Chacarita Alta and San Francisco neighborhoods diverted from water sources and dumps for reuse through the creation of new circular business models; (ii) 679 tons<sup>43</sup> of greenhouse gas emissions avoided through new circular models in the Chacarita Alta and San Francisco neighborhoods; (iii) 1,453 households in the vulnerable neighborhoods of Chacarita Alta and San Francisco helped by enhanced access to and better quality of waste

---

<sup>39</sup> The Center for the Circular Economy at Closed Loop Partners has expressed that it is open to this activity.

<sup>40</sup> One such event will be the regional Circular Economy Forum that will be hosted by Paraguay for the first time in late 2020, in conjunction with the project “Support to Improve the Competitiveness of Micro, Small, and Medium-Sized Enterprises and the Business Environment in Paraguay” financed by the European Union and executed by UNIDO, UIP, FECOPROD, the Ministry of Industry and Trade, and the World Bank.

<sup>41</sup> Cumulative result over 36 months. In Year 3 of the project, 708 tons of waste should be recovered and transformed through new circular business models created under the project. Estimates from 2017 indicate that 359 tons of waste (e.g. plastics, cardboard, glass) was recovered in the neighborhoods and inserted into recycling flows.

<sup>42</sup> Figure calculated from current data on waste generation in the neighborhood, the percentage of waste that is potentially “reusable,” and the preliminary profile of that waste.

<sup>43</sup> Figure calculated from the estimated average ratio between one ton of waste that is burned or disposed of in dumps.

management services<sup>44</sup> using new circular business models generated under the project; (iv) an increase of at least 5% to the real monthly income of waste recovery workers in the Chacarita Alta and San Francisco neighborhoods; (v) at least 64 new green jobs<sup>45</sup> created by the circular models; and (vi) at least two circular business model solutions implemented/adopted<sup>46</sup> with the neighborhoods and private businesses.

- 2.26 As regards **monitoring and evaluation**, a baseline study will be prepared to construct an indicator dashboard and an indicator monitoring and tracking system (included in the budget). In addition to the IDB Lab semiannual reports (project supervision reports), there will be a final evaluation of the project, its main lessons learned will be documented, and knowledge will be shared with key public- and private-sector stakeholders.

### **III. ALIGNMENT WITH THE IDB GROUP, SCALABILITY, AND PROJECT RISKS**

#### **A. Alignment with the IDB Group**

- 3.1 The project is aligned with the Update to the Institutional Strategy (document GN-2933-5), which identifies the need to promote development through the private sector and stimulate innovation for social inclusion with a focus on crosscutting issues such as gender, climate change, and environmental sustainability for inclusive and sustainable growth.
- 3.2 The IDB Group Country Strategy with Paraguay 2019-2023 seeks to support the productive transformation of Paraguay under criteria of sustainability, equity, and economic and social inclusion. The project is aligned with the strategic pillars, contributing also to the challenges relating to sustainability of natural capital, urban development, innovation and technology, and gender and diversity.
- 3.3 The project also contributes to the following Sustainable Development Goals (SDGs): (i) SDG 9: Industry, Innovation and Infrastructure; (ii) SDG 12: Responsible Consumption and Production; (iii) SDG 5: Gender Equality; (iv) SDG 13: Climate Action; and (v) SDG 10: Reduced Inequalities, which promotes aid to landlocked developing countries.
- 3.4 The project contributes to the IDB Lab knowledge agenda by generating lessons learned on how to promote the circular economy to improve quality of life of poor and vulnerable residents of urban areas. It is also aligned to the thematic area of Inclusive Cities, which identifies the circular economy as an opportunity where private sector innovation in cities can contribute to improving residents' quality of life. IDB Lab's nonfinancial additionality in this project is extremely important, because of its connections with the innovation and entrepreneurship ecosystems in the country and in the region, as well as its capacity for coordination with the public and private sectors. IDB Lab will also support knowledge in the areas of

---

<sup>44</sup> Improvements to access and quality will come from new circular business models created under the project, which includes all opportunities involving MSW in the neighborhoods and its entire life cycle (creation, separation, collection, transport, and reuse/transformation/value recovery).

<sup>45</sup> Green jobs are understood as any job created at any point of the value chain for waste recovery, reuse, or transformation.

<sup>46</sup> This refers to the new circular business models implemented in the neighborhoods.

- behavioral economics, climate change, gender, and targeting vulnerable populations.
- 3.5 The project's notable synergies with the IDB Group include: its ties with HUD operation, "Comprehensive Transformation of the La Chacarita Alta Neighborhood in the Asunción Metropolitan Area, Paraguay," and its Component II in particular, with the carrying out activities and environmental education and awareness workshops to promote the adoption of waste reuse and value-recovery practices in the neighborhoods; and its ties with WSA operation "Comprehensive Sanitation Program for the Bay and Metropolitan Area of Asunción," particularly Component I, "Bay of Asunción sanitary sewerage service improvement project," which would be supported through the procurement and installation of MSW bins on public roads, infrastructure for collecting and transporting trash to a MSW management center, and the development of a comprehensive management plan for the Bay of Asunción basin.
- 3.6 Knowledge Management Division: The project team will include specialists from the Behavioral Economics unit who will collaborate on behavioral change management activities linked to the nudges<sup>47</sup> that will be used in the Chacarita Alta and San Francisco neighborhoods. The project will explore the possibility of preparing a behavioral economics diagnostic assessment of the neighborhoods to analyze potential interventions in the area of behavioral economics. This would make it possible to glean important lessons learned related to behavior and incentives linked to waste management and recovery using circular business models in vulnerable communities.
- 3.7 During the mission, the project team identified important synergies and opportunities with IDB Invest. In coordination with the IDB Invest Portfolio Supervision Officer in Paraguay, the project can create value for the IDB Invest active portfolio by providing services so that clients can adopt circular models. In addition, in coordination with the Investment Officers<sup>48</sup> in Paraguay, during the mission the project team identified some opportunities<sup>49</sup> for new businesses linked to expansion of the private sector to adopt circular models.

## **B. Scalability**

- 3.8 The project offers great scalability potential, both for the model as a whole and for some of the solutions tested by the model. It could be scaled up in the AMA<sup>50</sup> or in other urban areas in Paraguay, or it could be replicated and scaled in other urban areas in Latin America and the Caribbean where environmental, social, and economic conditions of vulnerable communities could be improved by fostering the circular economy.

---

<sup>47</sup> In behavioral economics, nudges are small pushes (changes) in the environment that are easy and cost-effective to implement but can have a significant positive impact on a desired behavior.

<sup>48</sup> Corporate and Financial Institutions Division.

<sup>49</sup> Industries such as Cartones Yaguareté, CORESA, and Tetra Pak have expressed interest in building capacities related to the circular economy.

<sup>50</sup> A study on informal settlements (<https://www.mapadeasentamientos.org.py/static/informe-RAP.pdf>) reports that there are 405 informal settlements like Chacarita Alta and San Francisco, which are home to some 38,179 families.

- 3.9 In Asunción alone, an estimated 700 tons of waste end up in dumps each day. Estimates indicate that 65% of that waste is organic, so 35% (some 245 tons per day) could possibly be reused. This amounts to 88,200 tons per year in Asunción alone. In Year 3, the project should recover approximately 708 tons of waste from neighborhoods involved in the intervention model, which amounts to less than 1% of the potential market for reusable waste in Asunción, without including the rest of the AMA or Paraguay's other large urban areas, such as Ciudad del Este and Encarnación.
- 3.10 This project will provide an opportunity to test and evaluate the intervention model in vulnerable communities, connecting with the circular economy as a proposal to not just improve environmental conditions, but also create better socioeconomic conditions for residents through waste recovery. Once the model has been proven, it could be replicated and scaled by the WSA and the HUD in their interventions in various vulnerable communities. Organizations like Itaipú Binacional, the UNDP, and the European Union could do the same. Once tested and evaluated, the model, in the hands of the IDB and other partners, could be highly replicable in urban areas in Latin America and the Caribbean that face the same challenges and opportunities. Private firms, and multinational enterprises in particular, with ambitious institutional objectives and targets<sup>51</sup> for shifting to a circular economy, could replicate these intervention models to achieve scale in other Paraguayan cities and other cities in the region where they have a presence.
- 3.11 Another project line that could be replicated is the creation and adoption of circular economy solutions through open innovation processes. The methodology for carrying out these processes and for collaborative creation of specific solutions to local problems can be disseminated, implemented, and adapted in other vulnerable urban communities with similar characteristics.
- 3.12 In addition, the project seeks to promote information and data from several actors in the value chains for waste reuse. This entails not only tracking data but also making them available. This will build credibility with actors in the value chain and facilitate government supervision of environmental, health, social, and economic results. In addition, it will help investors and entrepreneurs evaluate the efficiency of the system and showcase opportunities.
- 3.13 Once lessons learned have been captured from the pilots, the experiences can be repeated with similar actors to replicate and scale the results achieved in other areas of the country. Lastly, with an educated public, a motivated private sector, and the right public policies developed by consensus between the Paraguayan Chamber of Sustainable Industries and the Ministry of Environment and Sustainable Development, the sector framework agreements for incentives and shared responsibility arrangements for promoting market demand for circular solutions and facilitating replicability and scalability of productive, sustainable MSW management models can be scaled countrywide.

---

<sup>51</sup> Such companies as Nestlé, AB InBev, Tetra Pak, Coca Cola, and other multinationals have indicated that they have clear institutional targets for shifting to circular business models by 2025 or 2030.

### **C. Project and institutional risks**

- 3.14 The main internal risks are: (i) the large number of public and private stakeholders in the project could hinder coordination; (ii) residents of the two neighborhoods might not embrace opportunities to reuse waste with circular models; and (iii) the innovation ecosystem may not develop a critical mass for calls for circular solutions. **Mitigation measures:** (i) In combination with the public-private coordination expertise of Fundación Moisés Bertoni para la Conservación de la Naturaleza (FMB), an external advisory group, public-private cross-sectoral coordination roundtables, and technical partnerships will be formed to ensure continuity of actions; (ii) both the FMB and the IDB have social capital in the two neighborhoods due to past projects, and specific project activities, such as communication, outreach, and the inclusion of behavioral economics specialists, should mitigate the risks; and (iii) partnerships formed with various actors and the IDB's networks in the innovation ecosystem should mitigate the possibility of a lack of local critical mass.
- 3.15 External risks include: (i) public or private entities may not carry out investments or basic infrastructure works needed for the model to work; (ii) the legislative and regulatory framework may not adapt or change in ways that enable the circular economy or other cutting-edge technologies; and (iii) there may be no market demand for certain types of waste. **Mitigation measures:** (i) Coordination efforts and partnerships with several public and private actors could mitigate the impact of certain actors not making investments; (ii) though the adaptation or modification of the regulatory framework could accelerate implementation of a circular economy, project objectives can be achieved without those regulatory changes; as for technology, use of already existing technologies can be phased in; and (iii) efforts will first focus on waste for which there is a high probability of market demand, while types of waste for which there is no clear market demand will be part of the challenges for the innovation ecosystem.

## **IV. INSTRUMENTS AND PROPOSED BUDGET**

- 4.1 The total cost of the project is US\$2,015,000. Of that amount, US\$1,000,000 (49.6%) will be contributed by IDB Lab in the form of nonreimbursable technical cooperation funding, while US\$1,015,000 (50.4%) will be from the counterpart contribution, at least 50% of which will be in cash.

Project components	IDB Lab (US\$)	Counterpart contribution (in kind, US\$)	Counterpart contribution (cash, US\$)	Total (US\$)
Component 1: Generation and dissemination of strategic public/private information	118,000	97,000	40,000	255,000
Component 2: Development of circular business models	520,000	162,500	560,500	1,243,000
Component 3: A business environment that enables the circular economy	146,000	20,000	25,000	191,000
Coordination and execution	159,000	97,000	13,000	269,000
Final evaluation	30,000	-	-	30,000
Audit	12,000	-	-	12,000
Contingencies	15,000	-	-	15,000
<b>Total financing</b>	<b>1,000,000</b>	<b>376,500</b>	<b>638,500</b>	<b>2,015,000</b>

## V. EXECUTING AGENCY AND IMPLEMENTATION STRUCTURE

### A. Description of the executing agency

- 5.1 Fundación Moisés Bertoni para la Conservación de la Naturaleza (FMB) (<https://www.mbertoni.org.py/index.php>) will be the executing agency for this project and will sign a memorandum of understanding with the Bank. The FMB is a private nonprofit organization that aims to improve quality of life through the preservation of biodiversity, environmental conservation, and the promotion of sustainable development to benefit the current and future generations. The FMB is known as a leader and key stakeholder<sup>52</sup> in environmental issues and, in particular, greenhouse gas emission reduction in Paraguay, as a pioneer in developing carbon capture credits and creating social enterprises with circular business models.<sup>53</sup> The FMB has a close relationship with Sistema B Paraguay, the Angel Investment Network, and Club de Ejecutivos, and it is a member of Sistema B Paraguay's board.<sup>54</sup> Through its sale of carbon credits and its equity participation in companies<sup>55</sup> such as Lican, FMB has enough financial capacity to operate its fixed structure independently of donations and technical cooperation funding.

<sup>52</sup> <http://archivo.seam.gov.py/sites/default/files/6-%20Identificaci%C3%B3n%20de%20fuentes%20de%20financiamiento%20REDD+.pdf>: "The main actors in this category are the following civil society and nongovernmental organizations: Fundación Moisés Bertoni, Guyra Paraguay, World Wildlife Fund (WWF) Paraguay, Wildlife Conservation Society (WCS) Paraguay, and Fondo de Conservación de Bosques Tropicales Paraguay."

<sup>53</sup> Lican ([www.licanfood.com](http://www.licanfood.com)) is a social enterprise founded upon on a circular model that specializes in the processing of bovine blood from slaughterhouses to produce plasma and hemoglobin to manufacture balanced foods for monogastric animals. It collects and processes 14 million liters of blood each year, which otherwise would have ended up polluting watercourses.

<sup>54</sup> <https://www.clubdeejecutivos.org.py/>

<sup>55</sup> The FMB has two private reserves in eastern Paraguay (Mbaracayú and Tapytá) with a combined total 64,000 hectares of continuous forest. The FMB is a pioneer in the sale of forest carbon credits under an emissions offset framework, having carried out one of the first experimental transactions in 1991 for a value of US\$2 million. The FMB administers the economic resources of the two reserves through trusts and has a business model that prioritizes financial sustainability through responsible investing and the creation of social enterprises.

- 5.2 The FMB has proven experience in public-private coordination for various projects, including working with vulnerable groups and conducting awareness campaigns on waste management, environmental education, and cultural and behavioral change management. The FMB has a history of working with the San Francisco neighborhood since it executed the social component of the “San Francisco neighborhood” project,<sup>56</sup> in which it implemented activities under a change management strategy to ensure integration and peaceful coexistence of neighborhood residents during the transition process.
- 5.3 The FMB has worked with several international donors, including IDB Lab,<sup>57</sup> the European Union, the United States Agency for International Development (USAID), and the Andean Development Corporation (CAF). The FMB has the administrative and management infrastructure required to establish the technical team necessary to provide the technical assistance for achieving the project’s objectives. It will create a project execution unit within its institutional structure, which will have a General Coordinator and will report directly to the Executive Director. For the project, the FMB will have strategic partnerships with the UIP and the Engineering Department of the National University of Asunción to jointly foster the development of competitive and productive circular models. It will also seek to collaborate with Closed Loop Partners, an international firm specializing in the design, development, and financing of circular solutions, to transfer know-how to Paraguay. The FMB has received international awards such as the BBVA Foundation’s Biodiversity Conservation Award<sup>58</sup> and the 2018 Zayed Future Energy Prize for the Mbaracayú Forest Reserve Educational Center.<sup>59</sup>

## **B. Implementation structure and mechanism**

- 5.4 The FMB will establish a project execution unit and the necessary structure to carry out project activities and manage the project resources efficiently and effectively. The execution unit will be accountable to IDB Lab for project advances.
- 5.5 External advisory group: A forum for public-private and cross-sectoral coordination to coordinate actions and exchange experiences with such organizations as the Chamber of Sustainable Industries of Paraguay, the Ministry of Environment and Sustainable Development, the Ministry of Industry and Trade, Sistema B Paraguay, and the UIP. IDB Lab can participate in this group as an observer.

## **VI. FULFILLMENT OF MILESTONES AND SPECIAL FIDUCIARY ARRANGEMENTS**

- 6.1 **Results-based disbursement and fiduciary arrangements.** The institutional assessment performed found that the FMB is a civil association organized under private law with its own administrative and financial management policies, as well as its own procurement policies. From an organizational point of view, it has the

---

<sup>56</sup> <https://www.barriosanfrancisco.gov.py/es/node/338>

<sup>57</sup> The FMB was the local partner of the One Drop Foundation for execution of technical cooperation operation PR-T1234 “Developing a Market for the Water and Sanitation Sector in Paraguay.”

<sup>58</sup> <https://www.biophilia-fbbva.es/en/noticias/the-bbva-foundation-awards-recognize-the-conservation-of-western-iberia-the-protection-of-paraguays-subtropical-forests-and-the-informative-labors-of-quercus-magazine/>

<sup>59</sup> <https://www.thenational.ae/uae/environment/meet-the-2018-zayed-future-energy-prize-winners-1.695607>

- financial, fiduciary, and coordination capacity to successfully carry out the project. The executing agency will agree to the standard IDB Lab arrangements concerning results-based disbursements, procurement, and financial management.
- 6.2 Disbursements: Disbursements will be subject to specific technical conditions (for the first and any subsequent disbursements) and submission to the Bank's satisfaction of: (i) the disbursement request form, and (ii) financial planning. The executing agency will provide supporting documentation for the use of funds in the formats provided by IDB Lab. It will also provide evidence that the milestones agreed upon with the Bank have been fulfilled.
- 6.3 Procurement: Once the memorandum of understanding has been signed, the executing agency will send to IDB Lab the procurement policies that will apply to the project, which will be guided by transparency, economy, and efficiency. Except as otherwise determined by the Bank during execution, the executing agency's policies will be used for procurements. An annual procurement plan indicating the necessary procurements for project execution and fulfillment of milestones will be submitted annually, together with the annual work plan. IDB Lab will perform an ex ante review of the technical aspects of procurement as it deems necessary, especially for those procurements considered critical.
- 6.4 Financial statements and reviews of contribution use: The executing agency will prepare its annual financial statements and make them available to the Bank. The Bank may use contribution funds to review the financial statements and the use of resources allocated to the project, to verify financial and procurement practices.

## **VII. ACCESS TO INFORMATION AND INTELLECTUAL PROPERTY**

- 7.1 **Access to information.** In accordance with the Bank's Access to Information Policy, this document is available to the public.
- 7.2 **Intellectual property.** All of the work and results obtained during this project will be the intellectual property of the IDB. The Bank will provide the executing agency with a free, non-exclusive license that includes the rights to disseminate, reproduce, and publish any product in any medium. Any dissemination, reproduction, and publication will indicate that it has been financed by IDB Lab. To this end, any use of the name or logo of the Inter-American Development Bank or IDB Lab by the executing agency for any purpose requires prior written authorization from the Bank.