

INTER-AMERICAN DEVELOPMENT BANK
MULTILATERAL INVESTMENT FUND

MEXICO

**CREATION OF AN INCLUSIVE RECYCLING SYSTEM IN TORREÓN,
COAHUILA**

(ME-M1085)

DONORS MEMORANDUM

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PROJECT SUMMARY

CREATION OF AN INCLUSIVE RECYCLING SYSTEM FOR THE CITY OF TORREÓN, COAHUILA

(ME-M1085)

This project seeks to integrate Torreón's urban waste pickers¹ and small collection centers for recyclable materials into an inclusive recycling system in order to improve their income and working conditions. The model will also encourage waste separation at the source in Torreón's households and in the municipio's schools. The model is based on public-private co-creation and collaboration seeking an alignment of interests, responsibilities, and incentives. At the same time, it sets out to help increase the supply of recyclable materials for the national industry and influence Mexican politics in terms of the perceptions, opportunities, potential intervention models, and regulatory instruments needed to efficiently incorporate informal recyclers into the country's formal waste management systems.

The average monthly income of a waste picker is roughly US\$250. According to the CONEVAL's multidimensional methodology, urban waste pickers in Torreón may be classified as poor and highly vulnerable due to their social disadvantages. This project seeks to enhance the income of waste pickers/informal waste collectors and improve their working conditions by incorporating waste pickers and small collection centers into the recycling value chain on a fairer and more participatory basis. The project will benefit 1,800 waste pickers and 100 small collection centers directly, and 7,200 individuals indirectly.

This project is framed in the Regional Initiative for the Economic and Social Inclusion of Recyclers (IRR) (RG-M1179), a platform of strategic, multisector partnerships among the various recycling sector stakeholders (recyclers, recycling industry, consumer product companies, municipalities, knowledge institutions, and civil society entities). The IRR provides a forum for dialogue and action among the various stakeholders so as to achieve greater scale and impact with specific initiatives to disseminate good practices and effective models for the economic inclusion of recyclers.

¹ In Mexico and some Central American countries, informal collectors of recyclable materials are known as *pepenadores* and the activity is known as *pepena*. The term collector is used for purposes of this document.

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ABBREVIATIONS

CONEVAL	Consejo Nacional para la Evaluación de la Política de Desarrollo Social [National Council for the Evaluation of Social Development Policy]
INE/WSA	IDB Water and Sanitation Division
INEGI	National Institute of Geography and Statistics
IRR	Regional Initiative for the Economic and Social Inclusion of Recyclers
MCC	Master collection center
PASA	Promotora Ambiental de la Laguna S.A. de C.V.
PET	Polyethylene terephthalate
SSP	Strategic Sector Plan

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EXECUTIVE SUMMARY

Country and geographic location	Torreón, Coahuila, Mexico		
Executing agency:	Mundo Sustentable A.C.		
Access area:	Access to markets and capacities		
Agenda:	Incorporating small enterprises into the value chain		
Coordination with other donors/ Bank operations:	This project will be part of the Regional Initiative for the Economic and Social Inclusion of Recyclers. The initiative's partners include the Bank's Water and Sanitation Division, Fundación Avina, and The Coca-Cola Company, in addition to the MIF. Bonafont/Danone and Promotora Ambiental de la Laguna S.A. de C.V. (PASA) will contribute counterpart resources to the project.		
Direct beneficiaries:	1,800 urban informal recyclers (25% women and 75% men) and 100 small collection centers.		
Indirect beneficiaries:	Approximately 7,600 vulnerable individuals, through family members of the beneficiaries.		
Financing:	Technical cooperation operation:	US\$992,822	20%
	Investment:	-	
	Loan:	-	
	TOTAL MIF CONTRIBUTION	US\$992,822	
	Counterpart:	US\$3,960,960	80%
	TOTAL PROJECT BUDGET	US\$4,953,782	100%
Execution and disbursement period:	48 months for execution and 52 months for disbursements.		
Special contractual clauses:	The following will be conditions precedent to the first disbursement: (i) selection of a project coordinator; (ii) evidence, to the Bank's satisfaction, that the land for the Master Collection Center (MCC) is		

available; and (iii) commitment letter from the municipio undertaking to participate in the project. As a condition precedent to subsequent disbursements, all permits required under Mexican legislation will be obtained before the MCC is established.

**Environmental
and social
impact review:**

This operation has been preevaluated and classified as required under the Bank's Environment and Safeguards Compliance Policy (Operational Policy OP-703). In view of the project's limited impacts and risks, it is proposed as a category C operation.

**Unit responsible
for the
disbursements:**

MIF/CME

I. BACKGROUND AND RATIONALE

A. Diagnostic assessment of the problem to be addressed by the project

- 1.1 Reducing poverty and creating decent jobs in sufficient number continue to be a challenge for Mexico. Figures provided by the Consejo Nacional para la Evaluación de la Política de Desarrollo Social [National Council for the Evaluation of Social Development Policy] (CONEVAL), a government agency responsible for measuring poverty in Mexico, show that, in 2012, poverty affected close to 52 million people, or 46.2% of the country's total population.
- 1.2 Using data available from the National Institute of Geography and Statistics (INEGI) through the Encuesta Nacional de Ocupación y Empleo [National Occupation and Employment Survey] (ENOE), the Center for Multidisciplinary Analysis of the Universidad Nacional Autónoma de México (UNAM) pointed out that 54.5% of the employed population holds an informal job, which in a broad sense means that they lack social security and receive a lower income than they could through formal employment (Miranda, 2012).
- 1.3 It is estimated that, in Mexico, close to 800,000 people² are engaged in the informal collection of recyclables as a means of subsistence, both at final disposal sites (garbage dumps)³ and in the streets. In Mexico, as in other Latin American countries, it is likely that people turn to this activity due to a shortage of jobs and a lack of access to other employment opportunities. The project's area of intervention is the city of Torreón, in the State of Coahuila. According to the Population and Housing Census (INEGI 2010), the municipio of Torreón has approximately 640,000 inhabitants, representing 23.27% of the State's total population.
- 1.4 Torreón, like other urban areas in the north of Mexico, has experienced population growth and growth in certain sectors of its economy, but unfortunately also has growing inequalities. The poverty and vulnerability of this city's population confirms that the country's northern cities are those with the fastest rate of impoverishment (CONEVAL, 2010).
- 1.5 In Torreón, as in other Mexican cities, urban solid waste collection and disposal has gone from being a public service directly provided by the municipal government to being a public service provided by a private company under a concession agreement. In this case, the concession is in effect from 1994 to 2026 and has been granted to Promotora Ambiental de la Laguna S.A. de C.V. (PASA), a partner in this project. Pursuant to this municipal concession agreement, waste disposal takes place at a supervised sanitary landfill where there are no informal collectors. Approximately 650 tons of urban solid waste are deposited each day at this sanitary landfill.

² (<http://tvolucion.esmas.com/noticieros/iniciativa-mexico/127964/iniciativa-mexico---alfonso-martinez/#>)

³ Waste picking is not allowed at supervised sanitary landfills.

- 1.6 In 2012, with the support of *Iniciativa México* (a Mexican civil society organization), the NGO *Mundo Sustentable A.C.* conducted a research study on urban waste picking in Torreón, the first such study in Mexico. According to the results, there are approximately 2,200 urban informal recyclers. The study identified 177 collection centers, which were classified by the number of collectors selling to them as follows: 122 small (or mini-) centers, 44 medium-sized centers, and 11 large centers. Of these, only 25 (16 small, 4 medium-sized, and 5 large centers) are registered with the municipio.
- 1.7 While all of these stakeholders support themselves by the sale of recyclable materials, the collectors and mini-centers are not formally or fairly integrated into the recycling value chain in Torreón. In addition, the lack of such a linkage means that the business volume is not large enough to create a profitable local market; consequently, most of the reclaimed material is sold to other markets. The main reasons for this are the following: (i) waste pickers are not organized; (ii) the mini-centers' activities are informal and inefficient; (iii) neither the waste pickers nor the collection centers have sufficient space to stockpile recyclable materials in sufficient volume to make it a profitable business; (iv) the collectors and mini-centers do not manage the materials and the business efficiently and safely; (v) waste generating companies and schools do not actively participate in the city's recycling system; (vi) municipal public policy on solid waste management does not include/encourage recycling or the inclusion of waste pickers; (vii) the applicable legislation does not include regulations or other instruments to ensure that its provisions are properly enforced; (viii) the collectors and mini-centers do not have access to market information, which is limited; and (ix) equipment and working capital financing is inaccessible.
- 1.8 The study's authors also analyzed the nature of the waste involved, concluding that informal recyclers collect roughly 55% of the PET⁴ and aluminum, and 85% of the paper and cardboard, generated in Torreón households. The rest of the materials continues to arrive at the sanitary landfill in garbage trucks, shortening the landfill's useful life and squandering an opportunity to create a business based on recyclable materials. On average, each informal recycler in Torreón collects 10 kg of PET, 17 kg of cardboard and paper, 1.75 kg of aluminum, and 5.3 kg of scrap metal per day. Eighty-six percent of informal recyclers collect PET, 72% cardboard and paper, 22% aluminum, and 26% scrap metal. This translates into a daily average income of approximately US\$9.60 from the sale of these materials.
- 1.9 In Torreón, the relative volume of recycled materials is high (45% of the PET and aluminum and 70% of the paper and cardboard), higher even than in some European or North American cities. The difference is that recycling in Torreón is mostly done under highly informal circumstances, with all the negative consequences this entails, particularly for those who are most vulnerable.

⁴ Polyethylene terephthalate is a type of plastic very commonly used in beverage containers and textiles.

- 1.10 Pursuant to Article 115 of the Mexican Constitution, the municipios are responsible for cleaning the cities and for managing solid waste. Yet the current recycling system has, for the most part, developed on the margins of the formal waste collection and recycling systems.
- 1.11 Under the current model, mini-centers located throughout the city purchase recyclable materials from waste pickers and sell them to other large centers. In turn, these centers sell the materials, particularly PET, for transformation outside Mexico. The relationship between the mini-centers and the larger centers is generally governed by disadvantageous business terms for the mini-center. A frequent complaint from the mini-centers is that large collection centers withhold their payment for long periods, while they (the mini-centers) pay the waste pickers in cash on the spot.

B. Project beneficiaries

- 1.12 The project will benefit 1,800⁵ informal recyclers, 100 small collection centers directly, and 7,200 individuals indirectly.⁶ Ninety-three percent of the beneficiaries reside in Torreón. The most common age groups are 31-50 (37%) and 51-60 (27%), that is, working-age individuals. Despite the presence of both young and elderly people among informal recyclers, the dominant age data reflect the consequences of the formal labor market's contraction, which has made informal recycling an income-generating alternative. Twenty-eight percent report not having completed primary school, while 24% have only a primary-school education, 18% are illiterate, and 20% did not complete secondary school. The average monthly income of an informal recycler is roughly US\$250. According to the CONEVAL's multidimensional methodology, urban waste pickers in Torreón may be classified as poor and vulnerable due to their social disadvantages. Torreón's waste pickers identify the following needs as priorities: 33% list food, 24% list scholarships for their children's studies, 24% list higher income, and 19% list social security. In addition, most of Torreón's residents do not have a negative perception of informal recycling: 82% of the population believes that this work is important and a majority is in favor of incorporating it into the formal waste collection systems.
- 1.13 Small collection centers are family businesses. The materials collected in largest quantity are PET and cardboard, followed by scrap metal, copper, and aluminum. Occasionally, the large collection centers pick up the materials at the mini-centers and apply a transportation discount to the purchase price. The mini-centers registered with the municipio (16 of an identified total of 122) complain of unfair

⁵ Based on surveys currently underway, it is assumed that 2% of collectors will have no interest in being involved in the project.

⁶ This figure is obtained by considering that each family has an average of four members (INEGI 2011) and by assuming that each collector comes from a different family and each mini-center is operated by one family.

competition by centers that operate without an official permit and thus pay no taxes and are not subject to annual renewal of the municipal permit.

C. Contribution to the MIF mandate, access framework, and IDB strategy

- 1.14 The project supports enhancing the income of informal recyclers by fostering partnership-building, providing them training, and linking them to the recycling market on a proactive and equitable basis. All of the project's activities are aimed at reducing the beneficiary group's vulnerability, thus directly contributing to the MIF mandate of poverty reduction and support for economic growth.
- 1.15 **Link to the Agenda.** The project will contribute to the outcomes and knowledge outputs of the "Incorporating small enterprises into the value chain" agenda. This agenda's impact is to create better economic opportunities for low-income and vulnerable populations by cultivating economic inclusion in value chains, with a particular focus on the recycling market. The agenda's outcome is to test and systematize methodologies aimed at creating business opportunities (in this case, for recyclers) and reduce the barriers preventing them from effectively becoming part of the recycling chain. This project will contribute directly to this objective by creating a comprehensive waste management methodology that will coordinate the efforts of public and private actors to allow informal recyclers and mini-centers to capitalize on economic opportunities, improve their working conditions, and increase their incomes.
- 1.16 The project will contribute to the agenda's outcome indicators as follows: (i) 1,800 waste pickers with higher income; (ii) 100 microenterprises (small collection centers) formally linked to the recycling market; (iii) a systematized methodology for linking recyclers to the recycling market with coordination of public and private actors; and (iv) two strategic partners (PASA and Bonafont) actively involved in promoting and supporting the linkage of primary recyclers to the formal recycling sector.
- 1.17 This project is framed in the Regional Initiative for the Economic and Social Inclusion of Recyclers (IRR) (RG-M1179), a platform for strategic, multisector partnerships among the various recycling sector stakeholders (recyclers, recycling industry, consumer product companies, municipalities, knowledge institutions, and civil society entities). The IRR provides a forum for dialogue and action among the various stakeholders so as to achieve greater scale and impact with specific initiatives to disseminate good practices and effective models for the economic inclusion of recyclers. This initiative is a joint effort created by the MIF and Fundación AVINA, with technical and financial support from the Bank's Water and Sanitation Division (INE/WSA) through the AquaFund.
- 1.18 The IRR seeks to bring about systemic change in: (i) the social and economic conditions of informal recyclers and their families; (ii) public policies, by improving municipal capacities to work with informal recyclers and to develop inclusive waste management systems, while strengthening the regulatory framework and creating laws for enforcing rules and policies in the sector; and

- (iii) the private sector, in various aspects ranging from including recyclers in the value chains and encouraging greater market responsibility and transparency to facilitating the traceability of recycled materials used as inputs. This project is aligned with the IRR's objectives, and Torreón has the necessary elements to test a model with high potential for success and, therefore, being replicated or scaled.
- 1.19 In addition to a project in execution in Chile: Inclusive recycling: government, businesses, and waste pickers (CH-M1055), the IRR's activities and achievements to date include: (1) training for the Implementation of programs for separation at source in local governments in Piura, Peru;⁷ (2) Support for formalization and strengthening of the Red Nica [Nica Network], Nicaragua;⁸ and (3) technical assistance to provide support to the relevant Government of Colombia authorities and other actors for including the recycling population in a national policy of recyclable solid waste management. Moreover, work is underway on an Operating guide for recycler formalization at dumping sites⁹ and an Operating guide for gender mainstreaming.¹⁰
- 1.20 **Collaboration with the IDB Group.** This project is framed within the country strategy, since a Strategic Sector Plan (SSP) for integrated solid waste management in Mexico is currently being prepared by INE/WSA. In the area of solid waste, the Bank has a specialized group and a long-term program. The Bank has worked on the solid waste issue in 22 Latin American countries, with Mexico joining the list in 2013 through the aforementioned SSP. Interest in the issue of solid waste is widespread due to the number of public- and private-sector actors involved, as confirmed during the public consultations conducted by the Bank's Country Office in Mexico for the design of the aforementioned SSP.

II. PROJECT OBJECTIVES AND COMPONENTS

A. Objectives

- 2.1 The project's expected impact is higher income and better working conditions for waste pickers. The expected outcome is that waste pickers and mini-centers in

⁷ Training was provided to technical experts and decision-makers in 64 municipios, including 29 mayors and 135 government officials. The Piura Declaration was signed as a public commitment to fulfill the national legislative requirements for integrated solid waste management (ISWM), including the implementation of selective collection programs with the inclusion of formalized recyclers.

⁸ The network is comprised of seven formally organized recycler cooperatives in La Chureca – Managua; Bluefields; La Centroamérica – Managua; Ciudad Sandino; Ometepe; Esteli; and Matagalpa. A Meeting of Central American Leaders was held on 21-22 September 2012, involving recyclers from Costa Rica, Nicaragua, Guatemala, El Salvador, Honduras, Panama, and the Dominican Republic.

⁹ This is a tool for implementing inclusion plans in solid waste management projects (conversion of dumps into sanitary landfills), and includes a discussion of viable alternatives for including, rehabilitating, and compensating affected informal-sector workers.

¹⁰ Includes methodological and practical tools to facilitate mainstreaming of a gender approach in the design and implementation of solid waste management projects and activities involving the recycler population.

Torreón will succeed in joining the recycling value chain on a fair and participatory basis.

B. Model / Solution / Intervention description

- 2.2 The project seeks to incorporate Torreón's urban waste pickers and small collection centers for recyclable materials into an inclusive recycling system in order to improve their income and working conditions. The model will also encourage waste separation at the source in Torreón's households and in the municipio's schools. The model is based on public-private co-creation and collaboration, seeking an alignment of interests, responsibilities, and incentives. At the same time, it sets out to help increase the supply of recyclable materials for the national industry and influence Mexican politics in terms of the perceptions, opportunities, potential intervention models, and regulatory instruments needed to efficiently incorporate informal recyclers into the country's formal waste management systems.
- 2.3 With the active participation of the municipio and the company holding the garbage collection and recyclables management concession, this project seeks to formalize the recycling system by installing a master collection center (MCC) that will contribute to the model's economic sustainability. This center is a simple structure that will be located on municipal land and financed through counterpart resources.
- 2.4 Representatives of the waste pickers, the small collection centers, the holder of the municipal solid waste management concession, and the municipio of Torreón will share ownership (or governance) of the MCC, potentially through a public-private entity¹¹ and through the loan for use of the municipal land.
- 2.5 Under the proposed model, the affiliated waste pickers will continue to take recyclable materials to the mini-centers that are a part of the system, i.e., that are registered with the municipality. The mini-centers will in turn take the materials to the MCC for sale and will be paid immediately in cash at market prices. The immediate cash payments, along with other loyalty-building elements provided in the project, will be an incentive for waste pickers and mini-centers to sell their materials to the MCC.
- 2.6 Through the affiliated collection centers, the MCC will provide training as well as support for gaining access to the municipio's social services available to waste pickers (municipal programs in the areas of health, housing, nutrition, and education) financed by federal, state, and municipal government resources. In

¹¹ The various options available to ensure that informal recyclers and mini-centers have a share in the ownership or governance of the master collection center will be evaluated to ensure fairness.

addition, the municipio will provide uniforms, IDs, and access to spare parts and workshops to enable collectors to repair their tricycles¹² at a low cost.

- 2.7 The MCC will also receive recyclable materials from partnering companies and from participating schools. In addition, waste pickers will receive recyclables from Torreón households in which separation at the source is encouraged. This arrangement reduces several levels of unnecessary participation by intermediaries, thus allowing the beneficiaries to capture a greater portion of the value they generate in the recycling chain.

C. Components

Component I: Formalization of collectors and mini-centers and business volume improvement (MIF: US\$222,212; Counterpart: US\$2,893,960).

- 2.8 The objective of this component is to formalize the work of both individual collectors and mini-centers that participate in the project. This component's activities are as follows: (i) registering and organizing waste pickers (including identifying the best type of legal entity under which to organize them); (ii) registering and formalizing the small collection centers; (iii) training waste pickers and mini-centers in waste handling, work hazards, safety and hygiene, and efficiency and logistics during the collection and transportation process; (iv) training mini-centers in administration, management, and safety, including computer equipment; (v) developing an efficient software system for the mini-centers to record purchases and sales;¹³ (vi) designing and implementing an incentive plan for registered waste pickers and reactivating and/or designing social programs in coordination with the municipio; (vii) establishing a master collection center (MCC) that can provide space for stockpiling and specialized separation of recyclables; (viii) providing financial education to collectors and mini-centers; (ix) formalizing the relationship between mini-centers and the MCC for the sale of materials.
- 2.9 Registration of collectors and mini-centers will be done by affiliating collectors with the municipal recycling system and creating a registry of affiliated collectors and mini-centers. This registry will be the starting point, making it possible to know who they are, become familiar with their characteristics, and be able to support them and improve their efficiency. Executing and coordinating this component's activities will require hiring a labor and business manager and a mini-center inclusion facilitator, both of whom will report to the field coordinator at the Project Execution Unit (see paragraph 2.23). The MCC will be established and equipped using counterpart resources, while all other activities will be funded with MIF resources.

¹² Transportation method of informal recyclers in Mexico; see: <http://www5.iadb.org/mif/HOME/FOMINblog/Blogs/tabid/628/entryid/576/La-Iniciativa-Regional-de-Reciclaje-Inclusivo-en-Mexico.aspx>.

¹³ The common inventory software developed in the context of projects AR-M1053 and BR-M1057 will be adapted for this activity to the extent possible.

Component II: Strengthening of life skills for collectors, members of mini-centers, and other community members (MIF: US\$98,354; Counterpart: US\$134,800).

- 2.10 The objective of this component is to provide collectors, members of mini-centers, and other community members with the knowledge and skills that can help them improve their quality of life and self-image. A community learning center (CLC) will be established on land granted by the municipio with a view to creating a proper space and ensuring the sustainability of these activities.
- 2.11 The principal activities associated with this component are: (i) designing and implementing training for collectors, members of mini-centers, and other community members in life skills, financial education, social and citizen empowerment, computers, importance of recycling, conflict resolution, teamwork, individual rights, and women's empowerment; (ii) assisting in the search for access to the social services offered by the federal, state, and municipal governments; and (iii) installing and equipping the CLC using counterpart resources.
- 2.12 Execution and coordination of these activities will require hiring an educator in life skills and social issues and a collectors' manager, both of whom will report to the field coordinator at the Project Execution Unit (see paragraph 2.23). The CLC will be set up with counterpart resources.

Component III: Integration of waste generators into the inclusive recycling system (MIF: US\$178,006; Counterpart: US\$565,800).

- 2.13 The objective of this component is to generate a greater volume of recyclable materials by bringing Torreón's schools, businesses, and households into the model as participants.
- 2.14 This component's activities are the following: (i) intensively securing recycling agreements with public primary and middle schools in order to obtain their participation in the municipal recycling system. This includes all necessary coordination with the municipio's participating schools through a component coordinator, as well as outfitting participating schools with special containers for recyclable materials, to be funded using counterpart resources (contribution in kind). To this end, a system has been designed to reward¹⁴ participating schools based on the volume of recyclable materials collected; (ii) conducting a campaign to raise popular awareness of separation at the source, so that household waste generators separate recyclable materials before delivering them to the collectors; and (iii) enrolling companies that will donate/sell recyclable waste to the MCC.
- 2.15 Execution and coordination of this component's activities will require hiring a manager of school recycling programs, who will report to the field coordinator at the Project Execution Unit (see paragraph 2.23).

¹⁴ The materials recycled by each school will be economically quantified, and schools supplies will be given individually to participating teachers in exchange.

Component IV: Knowledge generation and strategic communications (MIF: US\$119,500; Counterpart: US\$20,000).

- 2.16 The objective of this component is to influence other actors, such as businesses, universities, nongovernmental organizations, and other municipios, with a view to improving their potential for coordination and collaboration to ensure that the integrated solid waste management system is made to include collectors. This requires systematizing this model, which provides incentives to all stakeholders (municipality, concession-holder, city residents, collectors, businesses and other generators of recyclables, and small collection centers). It also aims to contribute knowledge on desirable legislative changes at the federal, state, and municipal level (as the case may be) to achieve better coordination among stakeholders and an alignment of incentives. In this regard, a proposal will be prepared to amend integrated solid waste management legislation to make it more conducive to the inclusion of collectors. This effort will be coordinated with the relevant government agency: the Ministry of Environment and Natural Resources (SEMARNAT).
- 2.17 In addition, in view of the executing agency's positive experience in Mexicali working near the sanitary landfill with a group of collectors, plans call for continuing with the data-gathering in Mexicali and preparing a document describing the experience and lessons learned so that they may be applied in other cases, including Torreón. Lessons learned include the fact that greater self-esteem, knowledge, and recognition of their work allow collectors to extricate themselves from highly informal and abusive intermediation situations. In addition, the Mexicali experience shows that small changes in organizing the work space and the flow of materials enhance collectors' productivity, thereby increasing their income.
- 2.18 In addition, a noteworthy activity under this project consists in adapting Torreón's city cleaning regulations so that they recognize and regulate small collection centers as well as collectors and serve as a basis for other municipios in Mexico. This component will also include a trip to Brazil and Peru to become acquainted with the experiences of MIF projects BR-M1057¹⁵ and PE-M1052.
- 2.19 Lastly, the component calls for disseminating the experience acquired by the work team. This component's outputs are: (i) a proposed modification of Mexico's national waste management law; (ii) exchange of experiences regarding projects in Brazil and Peru; (iii) Mexicali and Torreón case studies; (iv) modification of the city cleaning regulations; and (v) knowledge dissemination meetings with enterprises, universities, and the general public.
- 2.20 The MIF will finance the most significant knowledge outputs (proposed modification of the waste management law and modification of the city cleaning

¹⁵ Brazil: Socioeconomic integration of recycling collectors, and Peru: Development of the market for integrated management of recyclable solid waste.

regulations), as well as the exchange of experiences regarding the projects in Brazil and Peru (BR-M1057 and PE-M1056) and the raising of awareness on the role of inclusive recycling at businesses and universities. All of these outputs will contribute to the body of knowledge created around the IRR. The intervention and its outcomes will be presented at various venues. Officials from the various levels of government will be hosted at the CLC to acquaint them with the intervention. A study of the intervention's replicability will be conducted. At the end of the interventions, they will be asked for their opinion of the system implemented in Torreón.

D. Project governance and execution arrangements

- 2.21 A monitoring committee, comprised of representatives of the municipio, the MIF,¹⁶ Bonafont/Danone, and PASA, will be formed to ensure proper governance of the project. Mundo Sustentable will provide project status reports to this committee. Mundo Sustentable will be responsible for encouraging and ensuring effective coordination among the project's principal actors: collectors, mini-centers, local government, private-sector partners (Bonafont/Danone and PASA), and MCC management.
- 2.22 A cooperation agreement will be signed by Mundo Sustentable, PASA, and the Torreón municipio and an entity representing the mini-centers and collectors (the nature of this entity will be determined through the first activity under Component I), setting forth the commitments required to support attainment of the project's objectives throughout the proposed system's value chain. The purchase prices of the recyclable materials will be set each month in accordance with market prices by representatives of the entities and actors involved. As a condition precedent to the first disbursement, Mundo Sustentable will provide evidence, to the Bank's satisfaction, that the land for the MCC has been made available. To this end, the municipality has already signed a letter of interest showing its intent to participate in this project as a key actor and partner.
- 2.23 Mundo Sustentable will establish an execution unit and the necessary structure to execute the project's activities and manage the project's resources. This unit will consist of: (i) a project coordinator; (ii) an administrative-accounting assistant; (iii) a technical assistant; and (iv) a field supervisor.

E. Sustainability

- 2.24 It is estimated that, with the inclusion of 600 collectors in the system (close to 30 mini-centers), the MCC will be handling approximately 18 tons of recyclables per day, making the MCC's operations sustainable. The model has sufficient elements to assume that it will be sustainable. For example, some experiences involving collectors and the recycling chain fail because of lack of participation from the outset by the municipality and the by company holding the concession

¹⁶ The MIF will be represented by a specialist associated with execution of the IRR to ensure that the project capitalizes on IRR knowledge and vice versa.

for waste collection and management of the sanitary landfill, both of which are formally responsible for urban solid waste management, including recyclable materials. In this case, the municipality and the concession-holder are actively involved and have the necessary incentives.

- 2.25 The municipality will save on the fee payable to the concession-holder¹⁷ because fewer tons of waste will arrive at the landfill (the municipio pays the waste collection company by the number of total tons transported to and deposited in the sanitary landfill), since a portion will be diverted to the recycling channels. Similarly, the model will allow urban collectors and mini-centers to increase their business volume and improve their terms for selling recyclables.
- 2.26 The concession-holder will receive revenue from the sale of recyclable materials, which will partly offset the drop in revenue due to the recyclable materials that will not arrive at the landfill. Moreover, the sanitary landfill's life will be lengthened because materials channeled to the recycling industry will not be deposited there. Participation by the municipio and the company ensures the volume of materials and the active participation of residents and schools. The collectors' work ensures that the quantity and quality of the materials that reach the market will be sufficient to make the project profitable.

F. Lessons learned from the MIF or other institutions in terms of project design

- 2.27 This project will benefit from lessons learned and best practices arising from the Regional Initiative for the Economic and Social Inclusion of Recyclers (IRR) (RG-M1179), which encompasses projects and activities supported by the MIF and the IRR's three other partners. Both PASA and Bonafont, partners in this project, have experience in the Mexican inclusive recycling sector; consequently, their lessons learned will also be taken into account. PASA and Mundo Sustentable learned important lessons in the subproject "Provision of municipal solid waste collection services with citizen participation in communities at the base of the pyramid,"¹⁸ which was financed by the MIF through Mexico's Consejo Coordinador Empresarial [Business Coordinating Council] in the framework of the Empresas contra la Pobreza [Businesses against Poverty] program.
- 2.28 The aforementioned project succeeded in integrating Monterrey's carretoneros,¹⁹ who collect recyclable waste and materials, into the city's formal waste collection system. The project has been in operation since 2008. This experience yields lessons as to how business relationships are developed between large companies and enterprises at the base of the pyramid. In the MIF's experience with PASA in the context of the project executed with CESPEDES, it became evident that there

¹⁷ The savings are estimated to be roughly 8%, which is the average percentage of recyclable materials found in Torreón's urban solid waste and expected to be recovered and sold.

¹⁸ <http://www.movimientobdp.org/Articulo.aspx?Articulo=113>.

¹⁹ *Carretoneros* are individuals who, informally and on their own account, provide garbage collection service in cities with the help of a horse-pulled cart.

- was a need to align the initiative with the core business and create the right incentives for all actors involved in the process.
- 2.29 In addition, there are lessons learned in partnership-building, business development, relations with municipalities and companies (both generators and purchasers of materials), route zoning, etc. that can be applied to this project, as well as certain knowledge outputs that may be adaptable to this project's context. Furthermore, this project will contribute to the body of knowledge of the IRR, which is currently in execution, and will benefit from the knowledge created by the experience of the projects and activities carried out in the context of the IRR (such as events).
- 2.30 PASA, Mundo Sustentable, and Bonafont/Danone are successfully executing an inclusion project for informal collectors in Mexicali, Baja California.²⁰ This project has relocated 250 collectors who worked near the sanitary landfill, taking them to a recycling station. The project has also been able to link these collectors with the formal municipal solid waste management system in the city of Mexicali, resulting in higher income and better working conditions (safety and hygiene). In addition, the collectors have been given training that will help them to improve their quality of life and enhance their chances of finding other employment, should they wish to do so in the future.

G. MIF additionality

- 2.31 **Nonfinancial additionality.** The MIF will contribute its technical experience in the recycling sector and in economic and social inclusion of recyclers through five projects currently in execution and an additional project that was completed in 2012. Thanks to the MIF's contribution and credibility as an honest broker and its knowledge of and experience with this issue, and through the Regional Initiative for the Economic and Social Inclusion of Recyclers (RG-M1179), the executing agency will be able to leverage resources from other private-sector partners and strengthen the interest of local authorities in supporting the operation.
- 2.32 **Financial additionality.** MIF resources fit in with the needs of the executing agency, which has succeeded in sparking the municipio's interest in participating in this project (as shown by the municipio's grant of the land for the master recycling center and for the community learning center) as well as the interest of other, private-sector donors (PASA and Bonafont/Danone) that are willing to contribute resources to equip these centers and the mini-centers. The MIF is a source of financing with the flexibility needed to allow all other pieces of the model (formalization, incorporation, training of collectors, awareness-raising among the general population and other waste generators, etc.) to fall into place.

²⁰ <http://downtoearth.danone.com/2013/01/23/the-pepenadores-project-in-mexico-empowering-waste-pickers-and-improving-the-recycling-circuit/>.

H. Project outcome

- 2.33 The expected project outcome is for 1,800 collectors to be included in the municipal recycling system. In addition, at least 100 mini-centers will be linked to the MCC. At least 80 schools will join the program and participate in separation at the source.
- 2.34 Furthermore, there will be better communication between the formal and informal waste management sectors in Torreón, leading to mutual benefits. The affiliated mini-centers will have implemented the required safety measures and will have received training aimed at improving their performance as microenterprises. There will be a reliable registry listing collectors and mini-centers as they gradually join the system. The municipio will have city cleaning regulations that recognize informal recycling and incorporate it into their provisions in the best possible way.
- 2.35 Torreón residents will be more aware of the importance of the presence of collectors on the streets and will behave accordingly. Twenty training sessions will have been held in the environmental classroom for 400 residents. The MCC will become a center of excellence for the management of recyclable materials and will serve as a model for other cities in the country. The intervention will become a profitable and inclusive model for companies as well as for the municipio, collectors, and mini-centers.
- 2.36 The planned indicators are:
- a. Number of collectors formally included in the system (from 0 to 1,800)
 - b. Number of schools formally integrated into the inclusive recycling system (from 0 to 80)
 - c. Number of mini collection centers actively participating in the system (from 0 to 100)
 - d. Number of other partnering companies actively participating in the system (from 0 to 4)

I. Project impact

- 2.37 This project will help to improve the working conditions of collectors and will increase their income considerably. By the conclusion of the project, informal collectors registered in the system are expected to have increased their monthly income by 40%, and 90% of these collectors are expected to have a more positive view of their working conditions.
- 2.38 The planned indicators are:
- a. Increase in collectors' monthly income (from US\$250 to US\$350 per month)
 - b. Increase in positive views of their working conditions (from 0 to 1,620)

J. Systemic impact

- 2.39 The potential for replicating the Torreón model is high, since informal collection of recyclable materials takes place in all Mexican cities to varying extents. For the country's municipios that have not acted to date, the recycling system to be developed in Torreón is an opportunity to become familiar with the critical path they will need to follow in order to perform their duty as urban solid waste management regulators and efficiently address this problem. For private waste collection companies and for companies that use recyclables, this model is an opportunity to discover arrangements that can connect low-income and vulnerable populations to certain links in their value chain (production, supply, etc.). The adjustments to the city cleaning regulations to be proposed for Torreón will serve as a basis for regulations in other municipios. In addition, the project will include exploring possible amendments to Mexican legislation to ensure that the inclusion of recyclable materials collection in the formal waste management system is simplified and can be scaled.
- 2.40 Lastly, part of the expected systemic impact is for the volume of recyclable materials available to the national industry to increase, reducing the amount that must be imported to cover industrial needs.

III. MONITORING AND EVALUATION STRATEGY

- 3.1 The project will have a specific monitoring system, compatible with the IRR monitoring system, with indicators designed to measure outcomes and impact. The project provides for a midterm and a final evaluation.
- 3.2 **Baseline.** Mundo Sustentable has created a baseline by conducting sample surveys of collectors and mini-centers. It has estimated the number of urban collectors in the city and has accounted for and classified the existing collection centers. It has also established a socioeconomic profile of the collectors, surveyed the city's residents to obtain their views of informal recycling, and estimated the quantity of recyclable materials that are sold under this system. The baseline will have to be expanded to include all collectors, men and women, who are currently engaged in this activity in Torreón. A municipal registry of collectors will be set up, containing their contact data and socioeconomic profile. To date, an average of 17 collectors have registered per day. Only two of 100 have refused to provide their contact information and have shown no interest in participating in a project such as the one being proposed.
- 3.3 The monitoring strategy will be implemented by determining the following variables within the indicated periods of time: (i) collectors' views of their working conditions and their future will be assessed on an annual basis. This will be done by surveying the same 50 collectors throughout the intervention process; (ii) a break will be made every six months to calculate the number of collectors, schools, and mini-centers that have formally joined the chain, using the MCC's records of mini-centers; (iii) the volume of recyclable materials sold by the MCC

- will be recorded each year; (iv) the monthly income of collectors will be determined each year based on data from 20 mini-centers. Total purchases will be calculated per collector and per month; and (v) records will be kept of every training session and the number of trained collectors will be calculated each year.
- 3.4 A registry will be established of existing collection centers and their production characteristics. Existing information on the most significant needs of collectors and collection centers, and on the problems facing the authorities, the city's residents, and the garbage collection company, will be expanded.
- 3.5 **Monitoring.** Interviews will be conducted with 50 randomly selected collectors to determine their perception of the benefits they receive from operating within the system. The data regarding mini-center purchases from collectors and MCC purchases from mini-centers will be used as a monitoring tool to measure project outcomes and impact.
- 3.6 Semiannual surveys will be conducted of 50 randomly selected collectors. Questions for these collectors will include: (1) Do you feel equally or more comfortable now that you are registered with the municipio? (Explain); (2) Do you feel that your situation is unchanged, better, or worse than before starting the program? (Explain); (3) What benefits have you derived from belonging to the program?; (4) What problems has belonging to the program brought you?; (5) What do you think the program should include in the future? The mini-centers will be asked the same questions. The 50 collectors to be evaluated on a fixed basis during the four years of the project will be visited at home and their family members will be interviewed. Questions will include: (1) Do you know that your spouse is part of a municipal recycling system?; (2) Since s/he joined the system, do you notice that s/he is happier?; (3) What has s/he told you about the system?; (4) Do you believe that participating in the system has brought benefits to the family? If so, what are they?; (5) Do you believe that participating in the system has brought problems to the family? If so, what are they? A written record will be kept of all quarterly and semiannual evaluation meetings in order to have information available on the perspective of the authorities and the enterprises involved.

IV. COST AND FINANCING

- 4.1 The project has a total cost of US\$4,953,782, of which US\$992,822 (20%) will be contributed by the MIF and US\$3,960,960 (80%) by the counterpart. The execution period will be 48 months and the disbursement period will be 52 months.

Components	MIF	Counterpart	Total
Component 1. Formalization of collectors and mini-centers and business volume improvement	222,212	2,893,960	3,116,172
Component 2. Strengthening of life skills for collectors, members of mini-centers, and other community members	98,354	134,800	233,154
Component 3. Integration of waste generators into the inclusive recycling system	178,006	565,800	743,806
Component 4. Knowledge and strategic communications management	119,500	20,000	139,500
Executing agency/Administrative	204,624	326,400	531,024
Baseline, monitoring, and evaluation	48,000	0	48,000
Ex post reviews	15,000	0	15,000
Contingencies	7,468	20,000	27,468
Subtotal	893,164	3,960,960	4,854,124
% of financing	20%	80%	100%
Institutional strengthening (advisory support/ financial management and/or procurement training)	15,000	0	15,000
Impact evaluation account (5%)*	44,658	0	44,658
Agenda account*	40,000	0	40,000
Grand total	992,822	3,960,960	4,953,782

*Resources to be executed by the MIF.

V. EXECUTING AGENCY

A. Executing agency

- 5.1 Mundo Sustentable A.C. will be this project's executing agency and will sign the technical cooperation agreement with the Bank. Mundo Sustentable is a nongovernmental organization created in 2004. It has experience in the execution of social and environmental projects. It is a Mexican organization experienced in working with collectors, particularly in carrying out projects aimed at their social and economic inclusion. The mission of Mundo Sustentable A.C. is to contribute, in partnership with other civil society and academic organizations as well as public and private institutions, both domestic and international, to the implementation of priority projects that strengthen sustainability in Mexico. Its objectives are to carry out environmental education programs, execute projects for social and economic inclusion of vulnerable communities, and encourage action in favor of ecosystem conservation.
- 5.2 Mundo Sustentable is considered to have good technical abilities and experience in environmental projects. Administratively, this NGO relies on the staff and resources of Promotora Ambiental, which has well-defined procurement

- procedures, although these are adapted to the requirements of each donor that funds its projects. Hiring support staff for project monitoring and administration work is recommended. In order to enhance the institutional capacity of Mundo Sustentable and reduce the risk, it will also be necessary to provide for ex ante procurement reviews, to be subsequently changed to ex post reviews if processes acceptable to the Bank are put in place.
- 5.3 In addition, Mundo Sustentable has been given a qualified opinion as its financial statements are not consistent with the financial reporting standards applicable to nonprofit organizations. In view of the above, it will be necessary to conduct a midterm and final audit, as well as to review disbursements on an ex ante basis during at least the first year of execution.
- 5.4 Mundo Sustentable A.C. is responsible for submitting status reports on the project's implementation. The details of the executing agency's structure and the status report requirements can be found in Annex 7, in the technical files for this operation.

VI. PROJECT RISKS

- 6.1 One of the risks identified as a sector risk is that the legislation does not always favor the implementation of inclusion models with sufficient scale. Accordingly, the project calls for examining current legislation and proposing potential reforms to the relevant bodies. Another sector risk is the price volatility of recyclable materials. To mitigate this risk, the project calls for establishing a mix of materials and sufficient price information mechanisms to offset price fluctuations and protect the income of collectors or mini-centers. Another identified risk relates to the interest of actors (collectors, mini-centers, schools, and city residents) in participating in the model. To mitigate this risk, the project calls for a series of activities aimed at building loyalty among collectors and mini-centers (cash payment, registration at the municipio, support for access social services, etc.) to ensure that they provide materials to the MCC, as well as creating incentives for school participation and conducting awareness-raising campaigns for the city's residents. Other actors in the chain (e.g. intermediaries) will be informed and coordinated to seek ways to collaborate in the future under the proposed model. In operating terms, the main risk is the lack of an administrative structure at Mundo Sustentable, where, as indicated above, accounting and procurement processes are conducted by Promotora Ambiental. This could lead to gaps in information records, cost increases, and failure to comply with the Bank's reporting requirements (PSR). To minimize these risks, a specific execution unit will be created at Mundo Sustentable with sufficient capacity to properly monitor activities, carry out disbursement and procurement processes, and coordinate with Promotora Ambiental to ensure proper accounting of operations. In this regard, the MIF will support Mundo Sustentable in this learning process. The monitoring committee will identify any other risk that may arise and any possible mitigating or corrective action throughout project execution.

VII. ENVIRONMENTAL AND SOCIAL EFFECTS

- 7.1 The project will have positive social externalities. In the first place, it will include collectors and small collection centers in a value chain with large national and international companies, which will result in learning for both groups. Trust will be built and stereotypes will be eliminated. Moreover, collectors will be accorded greater social recognition and will not only see an increase in income but will receive support aimed at improving their working conditions and quality of life in general. By increasing the quantity of collected recyclable materials, the life of the landfill will be extended and positive environmental impacts will be generated. In addition, Torreón's population will benefit from cleaner streets.
- 7.2 This operation has been preevaluated and classified as required under the Bank's Environment and Safeguards Compliance Policy (Operational Policy OP-703). In view of the project's limited impacts and risks, it is proposed as a category C operation. Gender equity will be promoted, ensuring that aspects designed to provide women with equal access to the project and its activities are taken into account.

VIII. COMPLIANCE WITH MILESTONES AND SPECIAL FIDUCIARY ARRANGEMENTS

- 8.1 **Disbursement by results and fiduciary arrangements.** The executing agency will commit to the MIF's standard arrangements regarding disbursements by results, procurement, and financial management specified in Annex 8.

IX. ACCESS TO INFORMATION

- 9.1 **Access to information.** The information contained in this document is considered public in accordance with the Bank's Access to Information Policy.