Federal Republic of Brazil

Government of the Federal District

Infrastructure and Urban Development Agency (AGINDU)

Water and Sanitation Regulatory Agency (ADASA)

Brazil: Brasília Environmentally Sustainable Project
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Executive Summary

Introduction

The Brasília Environmentally Sustainable Project ("the Project") will support the Government of the Federal District (GDF) in protecting strategic water resources of the Federal District (DF) and the Brasília metropolitan region and, at the same time, in improving the quality of life in poor areas thus contributing towards the sustainable management of the metropolitan area.

The is part of a broad GDF regional development program, which incorporates urban and rural sectoral investments coupled with policy formulation and institutional strengthening. A major component of this program is a sanitation project (now in the final execution stage) designed to ensure water and sanitation (W&S) services for 90% of the population living in the area. The Project plays a key part of this broader program: it will concurrently complement and integrate several ongoing initiatives, specifically addressing a series of complex multisectoral issues that exceed the scope of the current sectoral programs, such as the need for an institutional effort to correct metropolitan development inequalities that impact on scarce natural resources.

The DF has requested World Bank assistance with the formulation and implementation of a sustainable development strategy to address priority environmental and social development issues both in the DF and the RIDE. Moreover, the DF seeks to benefit from grant resources to deal with global environment issues associated with the Cerrado ecosystem and climate change. Specifically, the DF would combine the proposed lending operation with a Global Environmental Fund (GEF) grant, which would support sustainable productive territorial and biodiversity conservation in the Cerrado. The DF is also keen to build a partnership with the Bank in order to access 'carbon credits' in exchange for improvements in solid waste management to be financed under the proposed Project.

The Project is classified as "Category A" under the World Bank Environmental Assessment (EA) Policy (OP 4.01). Given this classification, a full-scale EA was conducted at the Project preparation stage to identify the Project’s potential environmental impacts, propose appropriate measures to mitigate any negative impacts and enhance any positive ones, as well as to develop an Environmental Management Plan that takes into account all the mitigation and enhancement measures to be implemented as part of project activities. The following document summarizes the results of the EA.
The Project

The Project's objectives are to (a) reduce regional inequalities, particularly through more sustainable use of scarce natural resources such as water; and (b) carry out selective investments that will abate pollution loads that threaten strategic water bodies, while simultaneously addressing a range of acute social issues. In addition, the project would have strengthened the capacity of the local government to manage regional development and land management issues, water resources and urban sanitation. It is comprised of the following components:

Component 1 – Policy and Institutional Development, which will support institutional strengthening and technical assistance for enhancing metropolitan development policies, regulation and planning, in four key areas: (a) territorial development and land management, involving studies and institutional capacity-building; (b) water resources management, targeting sector policies, efficiency, and management capacity; (c) environmental management and strengthened capacity, and (d) environmental sanitation management.

Component 2 – Social Inclusion and Environmental Protection, which will (a) improve living conditions in the low-income neighborhood of Vila Estrutural through an Integrated Development Project, (b) incorporate Vila Estrutural into regular city planning and services; and (c) mitigate environmental degradation in surrounding areas, including abating pollution loads discharged into the creeks and rivers, reversing damage within the National Park and restoring connection to the Cerrado biome.

Component 3 – Water Resources Protection, which will finance (a) civil works to improve environmental sanitation and abate pollution loads, thus improving the quality of life in Aguas Lindas and Vincente Pires, including activities the solid waste landfill to replace the dumpsite currently used in the DF, and (b) rehabilitation of environmentally degraded areas.

Component 4 – Project Management, which will establish a Project Implementation Unit (PIU) responsible for managing and monitoring the project implementation activities and for coordinating the supervision of civil works and project auditing.
Environmental Setting

With three million inhabitants, Brasília is the tenth largest urban concentration in Brazil. Despite its well-known planned urban environment, Brasília, like most of the largest metropolitan areas in the country, shows high levels of socioeconomic inequality, uncontrolled urban growth, and environmental degradation. While per capita income in the DF is the highest in Brazil (R$14,500 per annum), 58% of the population earns under 20% of this level (R$2,340); in the neighboring municipalities of the entorno, in the states of Goiás and Minas Gerais, this proportion is higher than 80%. The largely uncontrolled urban sprawl of Brasilia undermines the natural capacity of the Cerrado - the most stressed ecosystem in Brazil - to support a sustainable metropolitan expansion. High population growth, rising water demand, and unabated pollution in the many unplanned settlements in and surrounding the DF and its Integrated Development Region (RIDE) adversly impact the quality and quantity of the available water resources. If left unchecked, these impacts could potentially impose high costs in terms of the erosion of the quality of life and health of the most vulnerable sectors of population, and could ultimately undermine the sustainable development of the region.

Brasilia is also of critical environmental importance for Brazil as a whole. It is located the headwaters of three river basins of national and regional importance (the Paraná, Tocantins/ Araguaya and São Francisco basins); and within a biodiversity reserve in the Cerrado ecosystem. In addition, 43% of the DF territory consists of environmental conservation units. Thus, promoting socially and environmentally sustainable development in Brasilia forms part of a continuing national strategy to foster sustainable economic growth in the mid-west region of the country. While significant progress has been made in this respect over the forty-five year history of Brasilia, this strategy now calls for a renewed policy consensus on how to deal with increasingly pressing urban and regional environmental issues. This renewed effort will contribute more effectively to controlling and reducing the high levels of environmental degradation that affect the capacity and cost of urban and regional services provision.

A comprehensive analysis of environmental issues at the regional level highlighted key issues likely to have the most serious impact on quality of life and the environment. It identified two strategic urban watershed basins for the DF and the entorno (the Descoberto and Paranó Basins) as the most critical for long-term urban sustainability. These two watersheds, which drain into Lake Paranoá and the Descoberto Reservoir, also comprise the Brasilia National Park.

Lake Paranoá is an artificial lake and a major urban landmark, with substantial economic and environmental value for the population of Brasilia. In addition to being a feature of outstanding natural beauty, the lake provides a range of benefits, from leisure activities to electricity generation. Significant public investments have been made over the years to remove the pollution load discharged into the lake, with most of the investment directed to the collection and treatment of wastewater. At present, the entire formally occupied area draining into the lake has its wastewater collected and treated at tertiary level. Water quality in the lake is good and in a number of places the quality is suitable for bathing.

The Brasilia National Park is an important urban environmental conservation unit located within the metropolitan area of Brasília. Created in 1961, its main objective is to protect the Cerrado biome and the water bodies that supply water to the city.

1 About two million in the Federal District and one million in the neighboring municipalities in the states of Goiás and Minas Gerais.
2 The local name given to areas outside the planned area - Plano Piloto - of Brasilia
3 The RIDÉ comprises the DF and 22 adjacent municipalities - 19 in Goiás and 3 in Minas Gerais
4 Does not include the Planalto Central protected area. Some of the conservation units, such as the National Park, falls into the category of 'strict protection', outlawing any type of use except biological conservation.
The Descoberto Reservoir provides 60% of the water supply for the 2,000,000 inhabitants of Brasilia. With the exception of the wastewater produced in Aguas Lindas, all wastewater produced in the Descoberto Basin is properly collected and treated, and rural activities regulated through a land-use management plan. To ensure protection of the water resources, the Environmental Protection Area (APA) of the Rio Descoberto was introduced in 1986 as a sustainable conservation unit administered by the Brazilian Environmental Agency (IBAMA). The project includes actions for strengthen the environmental management of this conservation unit.

Environmental Threats

The long-term sustainability of the Paranoá Lake and Descoberto Reservoir is being threatened by pollution loads from untreated sewage of low-income neighborhoods and from an open garbage dumpsite, as well as encroachment and poaching from low-income developments in close proximity to the Park. The main current source of pollution comes from two irregular settlements: Vila Estrutural and Vicente Pires on the Paranoá Basin, and Aguas Lindas in the Descoberto Basin. Given that these are not connected to the city’s regular network of basic services, the formulation and execution of an integrated technical project is needed for regularizing land tenure and providing urban environmental services in these three areas.

The Vila Estrutural, created by scavengers working the “Jockey” dumpsite, has a population of about 6,500 families (approximately 30,000 people), making it the largest and most critical slum in the DF from a social and environmental standpoint. Previous local governments made attempts to resettle the residents in other areas but were met by robust opposition from residents who prefer its close proximity (only 7 kilometers) from downtown Brasilia. The DF urban and environmental councils, together with the official environmental agencies, recognize that the best alternative is to upgrade the urban infrastructure of the Vila Estrutural, mitigating its environmental impacts and at the same time improving the quality of life of the inhabitants. The alternative of relocating it has been ruled out due to the high social and economic costs involved.

Adjacent to the National Park, Vila Estrutural also exerts a series of negative impacts on the flora and fauna of the park. The city dumpsite (the “Jockey”) also borders the National Park and Vila Estrutural, causing additional harmful effects on the park environment. Numerous studies indicate that the dumpsite is also a serious threat to the groundwater.

Vicente Pires is an irregular settlement with a high population density (around 3,000 families). While many residents have evolved their own ‘individual solutions’ for water supply and sanitation, Lake Paranoá water quality studies point to the need to formally bring the settlement into the regular city water and sanitation network.

The ‘Jockey’ solid waste dumpsite was created at the time Brasilia was built, and its 200 hectares have provided a disposal site for the city’s solid waste for over 45 years. Disposal techniques have certainly improved over the years but still fall far short of the desirable. At present, the dumpsite receives about 60% (1.6 tons) of the total solid waste generated by the city; part of the remaining 40% is recycled, and the rest processed into compost. The existing dumpsite will remain operational, in its present form, for a further two years. The Project aims to provide the necessary funding to enable it to be closed – a process involving technical solutions to conform to the requirements of the Carbon Funds Program.

The 700 Scavengers of the ‘Jockey’ solid waste dumpsite are organized in cooperatives and maintain constant contact with the GDF regarding the implementation of a program geared to meeting their demands, which is part of a wider initiative agreed with scavengers and street garbage collector organizations nationwide (the Garbage and Citizenship Forum), with full support from the Ministry of the Cities. This Program, funded by local resources and the National bank for Social and Economic Development (BNDES), is designed to address the needs of all the street waste-collector cooperatives in
the DF, including those working at the ‘Jockey’ dumpsite. The GDF is currently assigning areas where recycling units might be built and discussing the transfer of relevant land titles to groups of cooperatives.

_Aguas Lindas_ is a sizeable low-income settlement located in the neighboring State of Goiás, with approximately 130,000 inhabitants. Wastewater is discharged raw into the Descoberto reservoir. The GDF regards abatement of the pollution loads from Aguas Lindas as a top priority, given that the Descoberto reservoir is a strategic water supply source for the city.

**Addressing the Major Environmental Issues in the Paranoá and Descoberto Watersheds**

_Vila Estrutural_. The Project will finance substantial social and environmental improvements in the Vila Estrutural through integrated and multisectoral interventions. The main activities include: (i) Improving local governance; (ii) Improving social services, to include education, health, income generation activities, and youth development; (iii) Improving basic services, including water, sewerage, drainage, street layout, paving, solid waste collection, effective household sewerage connection and the closure of sewer pits; (iv) Improving the urban design of the settlement, which will involve introducing land-use and building regulations, and establishing recreational areas; (v) _In situ_ population resettlement to protect environmentally sensitive areas, with commensurate improvements to the urban design; and (vi) Rehabilitating and protecting environmentally sensitive areas by means of (i) expanding the riparian vegetation of the Vicente Pires stream, (ii) improving the land use regulations applying to the banks of the Való stream, (iii) creating an urban park and a buffer zone adjacent to the Brasilia National Park and the FLONA boundaries, and (iv) creating biological corridors connecting the National Park and the Vicente Pires and Való water courses and riparian vegetation. The Project will complement the required investments and will provide social and technical support to the cooperatives working on the dumpsite to improve efficiency and working conditions.

_Vicente Pires_. The construction of W&S collection networks connected to the city’s W&S systems will be financed under the Project, with the wastewater produced being treated in the nearest treatment plant

_Aguas Lindas_. Although it is located outside the boundaries of the DF, the GDF decided to invest in improving W&S services for its 130,000 inhabitants to eliminate the discharge of raw wastewater in the Descoberto reservoir. Financed by the Caixa Economica Federal, a national bank, these investments form an integral part of the Project design.

_Providing an appropriate solid waste disposal solution_. The construction of a solid waste landfill will be financed by the Project. The location has not yet been defined, since a full EA of the suitability of the area indicated by the city master plan to host the new landfill concluded that the location was not suitable, given it contained important environmental assets such as springs. Of the five alternative areas examined by the EA, an area next to the largest city wastewater treatment plant appears to be the most appropriate. Owned by the GDF’s water company, this area possesses no major environmental assets and no population settlements exist nearby. The EA is being reviewed by the Federal and GDF’s environmental agencies, which will jointly decide which other area(s) should be assessed from an environmental standpoint and evaluated from a technical, economic, and social perspective

_Policy and Institutional Development_. The asymmetrical planning and management capacities between the DF - the economic engine for the entire region - and the surrounding municipalities have an adverse impact on the development of the region. With the aim of reducing inequalities and promoting more sustainable regional development, the GDF is looking to the Bank to provide appropriate expertise in planning and management. To meet this demand, the Project includes a strong policy and institutional development component, which will carry out studies that will enable more informed decision-making by the government on sustainable metropolitan development issues.
Legal and Institutional Framework for Environmental Assessment

Brazilian environmental legislation calls for detailed environmental assessment documents to be presented in accordance with the guidelines established by this legislation. Environmental licenses are issued subject to the environmental assessments being approved for each intervention. To comply with the legislation, environmental assessments have been prepared for: (i) Vila Estrutural; (ii) the closure of the ‘Joquei’ solid waste dumpsite; and (iii) five different potential areas for the new solid waste landfill. A fourth assessment covering the proposed investments in the Vicente Pires area is currently under preparation and a simplified EA was prepared for the Aguas Lindas interventions.

Two environmental agencies are currently examining the above assessments: SEMARH (the GDF environmental agency) and IBAMA/DF. Once the environmental assessments are approved, the first environmental license (LP – ‘preliminary license’) will be issued. The final technical design for the intervention will then be submitted for approval and award of the second environmental license (LI – ‘installation license’), which allows the bidding for the civil works. At the conclusion of the civil works, IBAMA issues the final environment license following a field review (LO – ‘license to operate’). In the case of Aguas Lindas, the environmental agency of the State of Goiás will be responsible for analyzing the EA and issuing the proper environmental licenses. To comply with Brazilian environmental legislation, the proposed Project investments will comply with the environmental licensing process as detailed herein.

The concept, design and specific activities of the Project have been developed in close partnership with IBAMA/DF, who has expressed full support for the Project both in a number of technical discussions and in the course of public consultation. IBAMA’s involvement does not, however, preclude the need for environmental licenses for each Project intervention. The EAs prepared specifically for the Vila Estrutural intervention, the solid waste landfill, and solid waste dumpsite closure have been submitted to IBAMA/DF. All EAs have also been reviewed by the Bank.

Compliance with the World Bank’s Safeguard Policies

The Project triggered and addressed the following Bank safeguard policies: Environmental Assessment (OP 4.01); Natural Habitats (OP 4.04); Involuntary Resettlement (OP4.12); and Safety of Dams (OP 4.37). The Project design incorporates the mitigation measures for each policy, as described below:

**OP 4.01 Environmental Assessment (EA).** In addition to the project specific environmental assessments required by Brazilian law, a comprehensive EA has been carried out in accordance with Bank policy for Category “A” projects. The EA assesses the existing conditions, identifies the potential direct and indirect environmental impacts and proposes adequate mitigation measures for each negative impact identified, along with measures for enhancing each identified positive impact. The mitigation and enhancement measures (including associated costs, responsibilities and schedule) are summarized in the Environmental Management Plan. A public consultation exercise has been carried out, supported by appropriate documentation allowing for a meaningful community participation in the decision-making process.

**OP 4.04 Natural Habitats.** Brazilian national law considers river banks wider than 30 meters on either side of water courses of over 10 meters wide as Permanent Preservation Areas (APP). The Brazilian Forest Code defines an APP as an “area which provides the environmental function of preserving water resources, landscape, geological stability, biodiversity, gene flow of the flora and fauna, protecting soil and ensuring the well-being of the human population.” In accordance with Bank policy, these areas constitute “Critical Natural Habitats.”

The Forest Code allows for possible intervention in APPs for essential public infrastructure works such as transport, sanitation and energy, providing they are declared to be of public benefit, where there are no technical or location alternatives to the proposed works, and providing prior approval has been granted by
the competent state environmental authority. Two APPs exist within the project area - the Vicente Pires and Val0 streams - presenting different levels of environmental degradation. As recommended by the EA, the Project will finance the rehabilitation and protection of the riparian vegetation of these two streams.

The Project will also mitigate the impacts on Critical Natural Habitat areas. Specifically, it will have a highly positive impact on biodiversity and natural habitats, as the result of (i) the removal, through collection and treatment, of current water pollution sources; (ii) the relocation of families living in environmentally sensitive areas; (iii) the establishment of urban parks and a buffer zone to protect the Brasília National; (iv) rehabilitation of riparian vegetation on water courses that are currently affected and degraded; and (v) the protection the Rio Descoberto Environmental Protection Area.

OP 4.12 – Involuntary Resettlement. Two interventions, aimed at improving urban standards and quality of life of populations living in low-income settlements, and at ensuring environmental protection of strategic ecological systems, will require involuntary resettlement: (i) the Integrated Development Project to be carried out in Vila Estrutural, which will require the relocation of approximately 1,000 families, and (ii) the closure of the Joquei solid waste dumpsite, which will affect 700 the scavengers who work in the area. The other project investments proposed for Águas Lindas and Vicente Pires will not entail resettlement. The cost of all resettlement activities is estimated at US$9.5 million, and are 100 percent covered by the project budget.

OP 4.37 Safety of Dams. The provision of improved water services in Águas Lindas will require raising the operating level of the Descoberto dam by 1.5 meters through the placement of additional gate infrastructure in the spillway. This will increase the reservoir yield from 4.7 to 5.1 liters per second. This reservoir, built in the 1970s, is managed by the FD W&S company (CAESB), and is regularly inspected for safety. As part of project implementation, a panel of experts, following the guidelines of OP 4.37, will evaluate the designs for the proposed expansion once they are completed.

OPN 11.3 Physical Cultural Property. To comply with the Bank’s safeguard policy on cultural property, ‘Chance Finding’ Procedures will be included in all construction contracts.

Overall Environmental Impacts

The proposed Project is expected to be highly positive from an environmental perspective, given that its objectives include environmental improvements, particularly related to the quality and quantity of water resources, as well as policy improvements and institutional strengthening over a broad range of environmental management issues. The Project is of itself an environmental protection initiative. Its objectives and design aim at the abatement of strategic pollution loads that contaminate critical water bodies and an environmental conservation unit. In addition to the environmental interventions, the Project will also improve the quality of life in specific low-income settlements, support policy and institutional development, and strengthen the DF environmental agencies, in order to promote more sustainable metropolitan development.

Water Quality and Quantity Issues

Implementation of the environmental sanitation system of Águas Lindas, particularly of the wastewater collection and treatment system, will contribute to the improvement of water quality of the Lake Descoberto, given it will reduce the pollution loads draining into the lake.

Diverting the treated wastewaters currently produced in Águas Lindas to the Rio Verde Basin will significantly reduce the organic and phosphate loads flowing into the future Lake Corumbá IV, thereby contributing to averting the future risk of eutrophysation. Furthermore, the arm of the Areias River – the future headwater supplying water to the DF in accordance with the 2000 W&S Master Plan - will benefit from improved water quality for the local population;
The water resources pollution control measures planned for the Vila Estrutural, consisting of drainage, street paving, and sewage collection improvements, along with the provision of water supply and sanitation arrangements for Vicente Pires and the closure and rehabilitation of the “Jockey” landfill site, will benefit Lake Paranoá environmentally, maintaining its aquatic ecosystem and its different tourism and leisure attractions, with a corresponding economic spinoff for the DF. At present, the worst water quality exists in the Riacho Fundo and Bananal arms, precisely those that are most susceptible to renewed degradation in the absence of sanitation interventions in the Vila Estrutural and the Vicente Pires neighborhood.

**Appropriate Solid Waste Disposal**

Foreclosing the activities at the ‘Jockey’ dumpsite will bring direct benefits to the resident population of the Vila Estrutural, through the recovery of a degraded area, rehabilitation of sources of contamination of both surface and underground water and the reduction of the numbers of infectious and contagious waterborne disease-carrying vectors. A further benefit to the population will derive from the conservation of the biodiversity and water quality of the Brasilia National Park, after one of the main threats to its existence has been removed. The construction of the new Sanitary Landfill will meet the long-held demands of civil society and the Federal Public Prosecutors Office.

**Rehabilitation of Environmentally Degraded Areas**

The rehabilitation of degraded areas, especially those from which gravel is dredged in the two basins targeted by the Project is a complementary measure designed to ensure good water quality by minimizing the effects of erosion and preserving the biodiversity of the areas.

**Policy and Institutional Strengthening**

Institutional strengthening will produce important benefits in terms of averting environmental risks to the Brasilia National Park and preserving Lake Paranoá and the Descoberto and Corumbá reservoirs. These risks arise mainly from weaknesses detected in present land administration, involving urban, environmental, and solid waste management. Solutions include: training appropriate technical personnel, introducing the technical apparatus, making information available, and above all, instituting new management instruments able to reflect the competences and interests of institutional agents, both in the public and private sectors.

**Construction Impacts**

Infrastructure construction could result in localized short-term environmental impacts, including dust/noise pollution and erosion. Potential air and water quality impacts could result from the extraction and transport of dredged sediments from the drainage improvement work, and unless well-managed, their disposal might also result in long-term water quality degradation. Some of these issues would be addressed through mitigation measures.

**Involuntary Resettlement**

Implementation of project activities will require the resettlement of about 1,000 families that built their houses on the ‘Jockey’ solid waste dumpsite and in an area where a buffer zone will need to be created to protect the Brasilia National Park. A Resettlement Framework to comply with the Bank’s OP 4.12 has been prepared, and a Resettlement Action Plan will be drafted as part of the technical project for the area. This plan will be submitted to the Bank for review and approval prior to the bidding process for civil works.
The Resettlement Framework for Vila Estrutural. According to the EA for Vila Estrutural, approximately 20% of its families are living in at-risk or inappropriate areas from an urban and/or environmental perspective. Complying with the EA recommendation for the most appropriate alternative from a social standpoint, and in consultation with the community, the GDF opted for an in situ resettlement, where families will be relocated within the perimeter of Vila Estrutural, while observing the appropriate urban and environmental criteria.

Since the technical project will be prepared only after the environmental agency has awarded the first of three required environmental licenses, the Borrower has prepared a Resettlement Framework for the Vila Estrutural intervention, in accordance with Bank policy. The Resettlement Action Plan will be developed in the first year of project implementation, based on a fully participatory and consultative process, and will include compensation mechanisms for physical and social losses, as well as offer full social and legal assistance and grievance mechanisms to the population affected.

Social and Technical Assistance Program for the Joquei Dumpsite Scavengers. To address the situation of the approximately 700 scavengers who work in the dumpsite collecting recyclable material, a resettlement program that aims at improving their social and economic conditions will be developed. Extensive dialogues were carried out between the GDF and ten local scavenger cooperatives and the national ‘Solid Waste and Citizenship Forum’ of which they form part. As a result, agreement was reached that the GDF would provide nine areas for the construction of an appropriate place to improve the waste collector’s activities that would allow them to continue exercising their current occupation under better conditions, both in terms of health standards and revenue generation. A preliminary proposal was prepared in consultation with representatives of the organizations and the national organization, and a definite proposal will be developed during the first year of project implementation.

The Assistance Program entails the provision of social and technical assistance, execution of civil works, and provision of equipment. The technical activities include the provision of social works to support the scavengers in their dialogue for an appropriate solution and development of a working plan; assessment of the capacity of existent recycling units to receive scavengers coming from the Joquei; interaction with the technical staff preparing the solid waste master plan to discuss recycling programs being proposed and possibilities for their involvement; and assessment of other opportunities offered by the solid waste collection and disposal activities.

The social assistance activities include: provision of formal personal documents; improvement of the cooperative organization; job skills training; support for informed decision-making with respect to selling prices; involvement of families in social development and youth development programs; improvement of self-esteem; and confidence in the dialogue with the public sector and the project.

Environmental Management Plan

Since the type, objectives, and activities of this Project respond to the need to rehabilitate and protect key environmental assets, the EMP activities form as an integral part of the tasks to be undertaken under the project, and their costs are already included in the project budget. The main features of the EMP are presented below:

Environmental Management System. Aimed at strengthening the environmental management capacity in all agencies involved with the project. SEMARH is the agency responsible for this task, in partnership with IBAMA/DF. The cost is estimated at US$560,000.

Social Communication Program. The preparation and execution of a Social Communication Program is included in the tasks of the consultancy firm that will provide support to the Project Implementation Unit. The contract will last five years and provide an appropriate umbrella for the Social Communication Program that entails carrying out ad hoc activities at appropriate times, while ensuring consistency in
approach, and cost efficiency. ADASA/PMU will undertake institutional responsibility for this activity. The estimated cost is estimated at US$70,000.

**Institutional Strengthening.** The institutional strengthening of regional, environmental, water resources, and sanitation management recommended by the EMP, constitutes Component 1 of the Project and forms an integral part of the Project. The institutions responsible for implementing the activities under this component are SEDUH, SEMARH, IBAMA, BELACAP and CAESB. The amount is estimated at US$10 million.

**Preventing Encroachment of the Brasília National Park,** involving a series of structural and non-structural measures to strengthen the protection of this natural habitat. IBAMA/DF is the agency responsible for its implementation. The estimated cost is of US$300,000.

**Social Assistance to the 'Jockey' Dumpsite Scavengers.** The scavengers already receive assistance from the GDF through a program that involves solid waste pick-up cooperatives at national level and the Ministry of the Cities. In the DF, the government is donating areas for the associations where recycling units will be built. The GDF has a budget of US$2.5 million financed by the BNDES; The Project will complement this budget and develop additional activities to support the cooperatives working at the dumpsite. The cost of this activity is US$2 million.

**Water quality monitoring in the Paranoá and Descoberto Basins,** will strengthen and build capacity to monitor water quality issues in these key basins. CAESB, SEMARH, IBAMA/DF and ADASA are the responsible agencies responsible for its implementation, with the estimated cost included in the sub-components’ budget.

**Rehabilitating Environmentally Degraded Area.** This program will include activities such as the restoration the to-be-closed dump site, restoration of degraded areas in the watersheds, reforestation and erosion control. It will be executed by SEMARH, with an estimated cost of US$2 million.

**Monitoring Execution of the Landfill Works.** Monitoring the quality of the Project activities will form part of the functions to be performed by the firm of consultants providing support to the PIU. ADASA/PMU will be the responsible agency, with an estimated cost of US$50,000.

**Environmental Education.** It will include key communities in the ewatershed and will address solid waste, park encroachment, water quality protection. The responsible agencies are SEMARH and IBAMA/DF. The estimated cost is US$400,000.

**Population Resettlement in Vila Estrutural.** Population resettlement is an integral part of the social, urban, and environmental improvements that will take place in Vila Estrutural. The population living in risk-prone areas, such as the old dumpsite, will be resettled - preferably in situ. SEDUH is the institution responsible for implementing the resettlement activity, estimated at US$8 million.

**Environmental Construction Manual.** This manual has been prepared as part of the EA and will be included in all civil works bidding documents, as appropriate.

**Stakeholder Consultation**

As part of Project preparation, a well-attended Public Consultation Meeting was held on 11 February, 2005, to discuss the final EA, which was also made available for public review at the Federal District Water Agency (ADASA). The key issues raised at the meeting are summarized in the EA. The documents also include the list of participants, key issues and recommendations. The terms of reference of the EA have also been subject to a consultation process and a number of highly relevant recommendations made by IBAMA/DF have been incorporated.