

Brazil: Ceará Regional Economic Development Project: Cidades do Ceará (P099369)

EXECUTIVE SUMMARY OF ENVIRONMENTAL AND SOCIAL ASSESSMENT

1. Background

The Ceará Regional Economic Development Project (“Cities of Ceará”) aims to promote economic development, improve urban infrastructure, and enhance regional management capacity in the Central Cariri Region of the State Ceará. Given the State’s high priority on regional development, and the region’s economic development potential, the project places the Central Cariri region in a position to play a key role in the development of the State, from a regional as well as a municipal perspective. The project will serve as a means to test a new regional planning model focused on the economic development of the interior of the state.

The Central Cariri region (Figure 1) is a poor region in a poor state, facing a number of growth management and infrastructure-related challenges. The Region encompasses 9 municipalities (approximately 554,000 inhabitants) which concentrate 7% of state population. Nearly 67% of the population is considered poor since they earn less than 50% of the minimum monthly wage of about \$180. Informal businesses prevail in the region, most of them connected to commerce, tourism and shoe-making (the latter accounting for 39% of State production). The Human Development Index (2000) was 0.622 for the region, which is less than the state average (0.699) and much lower than of the capital city of Fortaleza (0.786). Tables 1 and 2 provide more detailed information of the municipalities making up the Central Cariri region.

Figure 1: The Cariri Region of Ceará



Table 1: Ceará and Regions

State / Region / Municipalities	Population	Area	Demographic Density	Poverty Rate (%)	Human Development Index	GDP (US\$) 1.000
		(km ²)	(hab/km ²)			
Ceará	8,217,085	148,826	56.60	58.07	0.6989	12,534,169.32
Metropolitan Region of Fortaleza	3,415,455	4,873	927.69	56.61	0.6897	8,066,306.94
Cariri ¹	582,395	5,417	140.43	68.44	0.6346	597,369.23
Baixo Jaguaribe	348,720	12,588	29.84	63.74	0.6662	414,055.76
Ibiapaba	302,135	5,287	63.18	72.02	0.6216	236,317.07
Vale do Acaraú	308,587	5,377	56.30	67.67	0.6351	565,625.58
Maciço do Baturité	200,376	3,051	82.69	70.61	0.6373	148,794.49
Centro Sul	418,451	12,878	34.92	71.26	0.6160	308,251.23
Sertão Central	223,707	10,797	22.19	68.84	0.6201	185,791.02
Other Regions	2,426,737	89,226	41.59	72.04	0.6219	2,030,132.80

Sources: Censo Demográfico - IBGE - 2000 and IPECE - 2000

The **CRAJUBAR region** of Cariri, comprised of three urban municipalities (Crato, Juazeiro and Barbalha) and over 400,000 inhabitants, is the nexus of the project area in economic and population terms. In addition to boasting the highest HDI and lowest poverty levels of the Central Cariri region, CRAJUBAR also faces great metropolitan management, transport and environmental management challenges. Traffic congestion is a major problem owing to a lack of transport planning and basic infrastructure. Environmental challenges such as deforestation and improper solid waste disposal also abound. Many of these issues, however, are inter-municipal and extend beyond the CRAJUBAR borders, highlighting the need for the entire Central Cariri region to work together to manage them.

¹ Represents entire Cariri region (12 municipalities), not the project area of Central Cariri (9 municipalities)

This region also has significant economic development potential. In the Cariri region, tourism and manufacturing industries, such as footwear, have been major drivers of private investment. Tourism in the region encompasses a variety of activities ranging from religious to scientific, cultural, ecological and commercial. Most tourists come for religious reasons, to celebrate the legacy of Father Cicero, an influential Catholic priest who resided in Juazeiro do Norte during the late 19th century and early 20th century. Major events in honor of Father Cicero take place throughout the year in Juazeiro and the city hosts nearly 1,800,000 pilgrims each year, mainly from the Northeastern region. Most of the jobs in Juazeiro are tourism-related (restaurants, commerce, handcrafts, lodging) and a large portion of them informal. Other municipalities in the Cariri region also have significant potential for tourism, as the region holds an extensive fossil basin which, under UNESCO's auspices, is lending to the creation of the first *geopark* in the Americas. Given its peculiar nature, rich culture, emerging commerce and geographic location, Cariri region has become one of the preferred sites for tourism business events. Finally, the shoe industry in Cariri ranks as third largest in Brazil, is responsible for nearly 8,000 jobs and approximately 40% of shoe firms located in Ceará. Small and medium firms prevail, however, with a corresponding lack of skilled labor, innovation capacity, technical knowledge and market information. With heightened global competitive pressure in this sector, it is critical that the sector be upgraded in terms of design, technology, skills, marketing and other innovations.

Table 2: Demographic and Economic Data - Central Cariri

State / Region / Municipalities	Population	Area (km²)	Demographic Density (hab/km²)	Poverty Rate (%)	Human Development Index	GDP 2005 (R\$ 1.000)
Ceará	8,217,085	148,826	56.6	58.07	0.6989	36,223,996
Barbalha	53,388	479	111.41	62.76	0.687	190,603
Crato	115,087	1,009	114.04	53.91	0.716	416,955
Juazeiro do Norte	240,638	249	968.14	50.97	0.697	817,327
Caririaçu	28,996	624	46.48	74.39	0.591	52,615
Farias Brito	22,303	504	44.29	71.17	0.609	41,266
Jardim	28,225	457	61.76	79.96	0.642	57,210
Missão Velha	35,068	651	53.86	74.24	0.631	59,161
Nova Olinda	12,611	284	44.34	64.97	0.637	30,148
Santana do Cariri	17,914	769	23.3	69.18	0.609	44,873
Total Central Cariri	554,230	5,026	163.0689	66.83889	0.646556	1,710,159

The project was classified as Category "A" by the World Bank in accordance with its safeguard policies (OP 4.01). In this respect, a Regional Environmental Assessment Report (RAR) was

prepared in order to identify the potential environmental impacts of the project, to propose mitigating and compensatory measures for any negative impacts that might occur, as well as to seek to maximize the positive impacts, and to develop an Environmental Management Plan comprising all the mitigating and strengthening measures planned as part of the overall project. This document summarizes the outcomes of the Regional Environmental Assessment Report.

2. Project Description

The US\$66M, project, of which US\$46M will be financed by the World Bank, has three components: (i) Territorial Improvement; (ii) Cluster-based Innovation and Support; and (iii) Regional Management and Institutional Strengthening. The selection of Project investments was done through the application of a set of technical, social, and environmental criteria.

Component 1: Territorial Improvement comprises investments in infrastructure at the regional and municipal levels of Central Cariri to address critical infrastructure deficits, protect and restore the environment, and improve public services for local residents and tourists. Regional infrastructure includes transportation infrastructure to reduce congestion, increase mobility and access to the main tourism sites, and a regional sanitary landfill to provide an environmentally sound disposal site for solid wastes generated in the region. Municipal infrastructure includes drainage improvements in environmentally degraded areas, urban center upgrading, upgrading of public spaces used by “romeiros” (religious pilgrims), environmental sanitation, and improvements to urban parks. These investments will complement the planned regional road rehabilitation and maintenance (Padre Cicero Highway) and other transportation investments to be financed by the State Government separate from the project. Annex 4 presents the proposed set of investments as well as a description of the criteria used for investment selection. While some of the investments are at an advanced stage of preparation, others are still to be refined and will be selected using the same set of criteria.

1.1. Regional Infrastructure

Infrastructure of regional significance will be financed under the project in the areas of transportation and solid waste management.

Transportation. Many municipalities of Central Cariri face serious transportation challenges, specifically as regards traffic congestion in the city centers and neglected roadways in need of rehabilitation and continued maintenance. The ongoing Regional Transport Study is to outline a broad strategy for the region to address traffic issues in an integrated manner. All the proposed investments will be vetted and confirmed by the Transport Study. One of the clear priority transportation investments is the bypass road for Juazeiro do Norte which would divert through traffic from going through the congested urban center. The bypass road in Juazeiro, approximately 8 km (with a total cost of R\$18 million), will direct traffic from Fortaleza/Caririaçu to Crato along the edge of the main urban settlement, without going through the congested downtown Juazeiro. In addition, some road work will be undertaken to improve access to some of the major tourist sites, such as the upgrading of the road in Santana do Cariri that would improve access to a major vista point for the Geopark. All road-related investments will be managed by DER, which will enable planning and execution of investments from the regional

perspective. These investments will complement the planned regional road rehabilitation and maintenance (Padre Cicero Highway) and operation of an urban train line linking Juazeiro do Norte with Crato, both to be financed by the State Government separate from the project. Other transportation improvements, including traffic management improvements, will be undertaken following the recommendations of the ongoing Transport Study.

Regional Landfill. A regional landfill that serves the three main cities of Crato, Juazeiro and Barbalha will be constructed. The new landfill site, located in an area between Juazeiro and Crato will have the capacity to serve the 9 municipalities during next 20 years (based on individual production of solid waste equivalent to 0.65 kg/person/day), though it will initially serve only the CRAJUBAR region. The landfill site is being finalized with the participation of SEMACE. A study financed by the FUNASA will prepare the detailed engineering study for the landfill, including environmental impact assessment. The current landfill site will be properly closed as part of the work. In addition, a regional solid waste management strategy will be developed and implemented, under the leadership of the Consultative Committee and the Secretariat of Cities to ensure proper management of solid waste, including collection and recycling.

1.2 Municipal Infrastructure

Juazeiro do Norte: Municipal investments in Juazeiro will be focused on improving the urban areas and facilities most utilized by the *romeiros*. The integrated urban center revitalization in Juazeiro will include works for pavement, lighting and drainage; refurbishing of roads and pedestrian walkways; installation of public outdoor furniture; signage for tourists and rest stops along pilgrim walkways; landscaping; creation of public transport stops; leisure areas, among others. Further studies will also be conducted in terms of completing a multi-purpose facility in the city center and improving the commercial areas for small market vendors used by the *romeiros* which are linked to the proposed facility.

Crato: Municipal interventions in Crato include Sao Jose Seminary hillside environmental rehabilitation and city park integration. For the Sao Jose Seminary area, works will be undertaken to contain severe soil erosion on the hillside, restore and rehabilitate the drain system for proper storm water diversion, resettle houses located in the endangered erosion areas, and restore the hillside area into urban parks. For the existing and well-utilized city parks located in Central Crato, works will be undertaken to improve their connections through selected interventions to enhance pavements, parking access, pedestrian walkways, traffic control systems, visual signs, lighting, and landscaping.

Barbalha: Municipal interventions in Barbalha will create the Pindo Park, an area of approximately 45 hectares, to incorporate slope containment works, pathways, lookouts, plaza, restaurant, parking area, and handicraft vendor area. The project will also improve the area to host the proposed Tupinambá Sugar Mill museum, including works on landscaping, lighting, traffic facilities, and link access to the Pindo Park. The Sugar Mill is a site of historical importance in Barbalha, and is currently under review for declaration of a historical patrimony. Finally, the pedestrian avenue of Beira-Brejo will be upgraded.

Other Municipalities: For the six other smaller municipalities, a smaller amount of investments have been allocated to each city. The anticipated investments, proposed by the municipalities and assessed by the Secretariat of Cities, would be part of the municipal development strategies, included in the multi-year plans, and contribute to regional priorities, especially in terms of economic development and environmental protection. The proposals include the Macaúbas Park in Caririaçu, city entrance and bus terminal improvements in Farias Brito, sprint water access improvements and central area upgrading in Jardim, tourist information booth and plaza upgrading in Missão Velha, city entrance and cultural-tourism road improvements in Nova Olinda, entrance and plaza enhancements and road access upgrading in Santana do Cariri. The final selection of investments in these municipalities will be carried out using the investment selection criteria described above.

The following table presents a summary list of proposed Component 1 investments.

Table 3. Proposed Investments
Component 1 - Territorial Development

Regional Interventions

- Regional Landfill (Crato, Juazeiro, Barbalha)
- Transportation: Bypass road in Juazeiro do Norte
- Other transportation improvements, per the recommendations of the ongoing Transport Study

Municipal Interventions

Juazeiro do Norte:

- Integrated urban center revitalization

Crato:

- Link centrally-located plazas
- São José Seminary area upgrading²

Barbalha:

- Pindó Park
- Infrastructure improvements: Tupinambá Sugar Mill³
- Beira-Brejo Avenue

Other Municipalities:⁴

- Urban park construction/revitalization
- Transportation Terminal and parking area revitalization
- Upgrading of eroding hillsides
- Upgrading of access/entrance roads
- Tourist route upgrading (including access to *geotopes*, pedestrian routes within city, etc.)

Component 2: Cluster-based Innovation and Support. This component will initially facilitate the growth of the tourism and footwear clusters in the Central Cariri Region to enhance their

² The municipality of Crato has secured resources from Caixa Economica Federal (a public bank) for resettling families living in at-risk situations on the slope below the seminary. A resettlement action plan will be developed once the families to be resettled have been identified.

³ Resources for the sugar mill upgrading may be secured from the Federal Government in the case that the mill is declared a national historic site.

⁴ For works in all other municipalities consistency with the Municipal Development Plan, in preparation by BNB, will be conferred.

competitiveness through business environment improvement, technology upgrading, training and market outreach, and provision of infrastructure for cluster development. Other clusters (such as the plated jewelry cluster) may be added later as they become more organized. For the footwear cluster, the key activities will include the establishment of a public-private Technology and Design Innovation Center, based on the successful Technology Center model developed in Spain (CITEs); provision of incentives for private sector collaboration and social capital enhancement in areas such as joint marketing, participating in trade fairs, study tours, and introducing technical innovation to the region; and professional facilitation of the cluster process. For the tourism cluster, the key activities will include the setting up of the Araripe Geopark⁵ with investments such as visiting and learning facilities, observatory sites, reception facilities, information kiosks, and resting areas; the construction of a regional convention center; support to tourism planning, promotion and marketing, events organization and improvements, and capacity building; and professional facilitation of the tourism cluster process. A transportation and logistics plan will be developed to improve heavy freight traffic patterns and facilitate regional mobility. Municipal business regulation simplification will be supported by IFC to reduce bureaucracy for economic development for the main cities of Juazeiro do Norte and Crato.

Component 3: Regional Management and Institutional Strengthening will support promoting effective governance at the municipal, regional and state levels through activities in i) Regional Management; ii) Municipal Institutional Strengthening; and iii) Implementation Support. (i) Regional management will be supported through technical assistance provided to the Consultative Committee (*Comitê Consultivo*), which will serve as the main channel for improving regional coordination and collaborations in Central Cariri, in the following areas: preparation and implementation of a regional environment strategy to address issues such as regional solid waste management, sanitation and drainage improvements, and prevention of deforestation; preparation and implementation of other regional strategies to address other critical regional management issues; development of the consortium for the construction and operation of the regional landfill, which will eventually tend to other regional issues such as metropolitan transport and environmental sanitation; and project preparation work to tap other sources of financing (such as PAC), as well as for follow-on projects of the Bank. (ii) Municipal Institutional Strengthening will be provided through technical assistance and capacity building activities in areas such as planning, local economic development, project design, appraisal and implementation (including procurement, M&E), revenue collection, budget and financial management, management of public services, and environmental management. (iii) Finally, the component will support the Secretariat of Cities in fulfilling its plan for municipal support and regional development, by financing technical assistance to the Secretariat for city and regional

⁵ According to UNESCO, the Geopark is an area with a geological heritage of significance, with a coherent and strong management structure and where a sustainable economic development strategy is in place.

development, and implementation-related activities, including, *inter alia*, contracting of local and regional consultants and staffing of UGP, monitoring and evaluation activities, auditing, equipment, technical assistance, training, study tours, and incremental operation cost during project implementation.

Most of the proposed construction works are considered minor with the potential to yield small, local, and temporary derivative impacts. Other interventions focus on the recuperation of degraded areas as well as the improvement of preservation measures in environmentally protected areas, such as FLONA and APA of Araripe as well as activities for the maintenance of Araripe Geopark. There are also two larger scale infrastructure interventions - the Regional Sanitary Landfill and the Juazeiro do Norte bypass road - which may produce relatively greater environmental impacts. The project's category "A" classification is largely due to these two investments.

3. Application of Safeguards Policies

In accordance with World Bank policies, the following social and environmental safeguards apply: Environmental Assessment (OP/BP 4.01); Natural Habitats (OP/BP 4.04); Involuntary Family Resettlement (OP/BP 4.12); and Physical Cultural Resources (OP 11.03). The project also adheres to the Public Consultation and Information policy.

OP 4.01 – Environmental Assessment. Project classification is of Environment Category A. An Environmental Assessment (EA) to identify this Project's potential environmental impacts has been completed in accordance with the Bank's environmental policies applicable to Category A projects. The EA report provides an overview of the Central Cariri Region's environmental challenges and strategic priorities, evaluates the positive and negative impacts of the proposed project interventions, assesses the capacity of the state and municipal agencies to implement environmental regulations, and proposes an environmental management plan with mitigating measures to address potential negative impacts and strategic environmental priorities. The Environmental Management Plan (EMP) comprises: (i) procedures criteria and environmental assessment for regional and urban infrastructure investments (framework environmental assessment); (ii) resettlement policy framework; (iii) environmental manual for works; (iv) mitigating actions for the envisioned interventions at this Project's stage; and (v) strengthening of environmental management in the Central Cariri Region.

OP 4.04 – Natural Habitats. The project is expected to have a positive impact upon natural habitats, as the proposed interventions seek the maintenance and consolidating of the existing Conservation Unit (APA do Araripe). The Projects also contemplates the recuperation actions of degraded urban areas and the revaluation of the natural habitat, especially Araripe Geopark.

OP 4.12 – Involuntary Resettlement. The project would require the resettlement of families living in risk areas (e.g. endangered by soil erosion in Crato). Also, land acquisition will be needed and there may be additional requirements for involuntary resettlements associated with the proposed infrastructure investments. The number of families affected are not clear at this stage, as project area, scope, and design are still being refined, but the number number of affected families is not likely to be significant. Compensation for these families will be provided

through appropriate housing built in safe areas in the vicinities of their original housing area. A Framework for Involuntary Resettlement has been prepared in accordance with World Bank guidelines and safeguards (OP 4.12). The Resettlement Action Plan for the families will be developed in accordance with the cited Framework and executed at a later stage. Bank clearance of the respective Resettlement Action Plans will be a condition for the Bank to give no objection to the civil works bidding documents.

OP 4.11 – Physical Cultural Resources. The Project contemplates interventions in the critical infrastructure of the Geopark area, which contains archeological and paleontological assets. Moreover, the historic Tupinambá Sugar Mill site will be improved and the mill building may be given a historic patrimonial statute by the Federal Government. Brazil has a well-developed legislative and normative framework, which is under the oversight of the National Institute for Protection of Historical and Archeological Sites (IPHAN).

4. Findings of the Social and Environmental Assessments

Main Social Issues

A social assessment, conducted in parallel with project preparation, has identified some of the major social issues for the region. These are, among others: inadequate public safety, especially in Juazeiro during intense periods of *romeiro* activity; precariously-located and inadequately-serviced (solid waste, roads, drainage, etc.) households; health hazards due to open dumps/inadequate solid waste collection and treatment services; lack of formal employment opportunities and general unemployment; low average skill level of labor force and few opportunities for mobility; degradation of natural and cultural resources and lack of attention to their preservation; child prostitution and child labor; lack of road and pedestrian safety due to vehicular congestion in central areas.

The social assessment conducted analysis of each proposed investment from the point of view of current needs and projected social impacts. The proposed investments would provide infrastructure and services improvements for the population, and would also lead to increased job and income opportunities. These targeted actions will therefore benefit the socially vulnerable segment of the population in each city, with strategic lines of action directed at the consolidation and strengthening of the urban economic and structures of the region. Some of the specific expected social impacts are: increased public safety (for locals as well as visitors) due to physical improvements to plazas (such as lighting) and improved walkways; improved

physical living conditions through drainage solutions, improved roads, and resettlement⁶; reduction in health hazards through construction of the landfill; better overall economic conditions through the strengthening of key area industries (tourism and footwear); increased natural and cultural value of the area through resource preservation efforts (*geotopes* and historical site improvements); reductions in child labor/prostitution through planned integrated assistance to minors; and reductions in accidents (both vehicular and pedestrian-related) through road and sidewalk improvements. Moreover, the project will have positive impacts on the 1-2 million *romeiros* visiting Juazeiro every year, who are predominantly poor and of low income. Resettlement of families living in risk areas⁷ (Component 1) is aimed at improving the living conditions and quality of life of these families. The resettlement will follow the Bank's safeguards policies and ensure full consultations with the affected persons. A resettlement framework following the Bank's safeguards policies has been prepared which ensures that full consultations with the affected persons will be conducted.

Main Environmental Issues

The main environmental problems confronted in the region include soil degradation due to erosion, such as the soil collapse caused by undermining waters in the area around the São Jose Seminary in Crato Municipality, lack of pluvial water drainage and inadequate disposition of final solid urban residuals, resulting in the creation of waste fields causing the presence of residuals in both rural and urban environments. Accordingly, project design has given priority to investments in environmental preservation, including the implementation of a regional sanitary landfill combined with a solid waste management plan followed by the conservation and recuperation of the natural habitats.

The physical interventions envisioned in the Project are related to Territorial Improvements (Component 1), involving the following regional and urban interventions: (i) improvement in environmental sanitation with the regional sanitary landfill work (CRAJUBAR Consortium); (ii) improvement of the urban and regional transportation, with construction of a bypass road; (iii) improvement of urban areas such as parks and squares; and (iv) upgrades to tourism areas such as Araripe, and integrated urban center for the *romeiros*. Related to Innovation and Private Sector Development (Component 2), the physical interventions include the investments in infrastructure in the Araripe Geopark and a Convention Center in Cariri.

⁶ Any resettlement that occurs will follow the Bank's safeguards policies and ensure full consultations with the affected persons.

⁷ e.g. endangered by soil erosion in Crato

CRAJUBAR Sanitary Landfill. Studies related to site selection for the future landfill, its conceptual design, and the TOR for the EIA to acquire the environmental licenses are also complete. The new landfill site, located in an area between Juazeiro and Crato will have the capacity to serve the 9 municipalities during next 20 years (based on individual production of solid waste equivalent to 0.65 kg/person/day), though it will initially serve only the CRAJUBAR region. The landfill site is being finalized with the participation of SEMACE. A study financed by FUNASA will prepare the detailed engineering design for the landfill. The current landfill site will be properly closed as part of the work. The licensing process has been started, under responsibility of Ceará State Government.

Juazeiro do Norte Bypass Road. The bypass road is a clear priority for linking Crato to the main roadway to Fortaleza by bypassing central Juazeiro. The detailed design is to be undertaken as part of the scope of the consultancy for the Transport Plan. A detailed EIA (Environmental Impact Assessment), in compliance with Brazilian law and Bank policies, will be conducted. The licensing process has been started, under responsibility of Ceará State Government.

Juazeiro do Norte **Integrated Urban Center Revitalization.** A plan of this area to contain the infrastructure works oriented towards *romeiro* tourism must be made with the help of specialists in urban planning, local and social development, and management.

São José Seminary Vicinities and Central Area Squares Integration, in the city of Crato, will undertake measures to stop the serious hillside erosion which has already changed the landscape and forced many families to be relocated. The proposed interventions include rehabilitation of the drainage system to divert storm water properly into drainage canals, creation of a park by rehabilitating the hillside landscape with trees and other plants, and resettlement of families who are under severe threat of soil erosion. The Municipal government has secured resources from CEF – *Caixa Econômica Federal* (a Federal Government bank) – for the resettlement of families who live in risk prone areas. In accordance with the Resettlement Framework under preparation, a Resettlement Action Plan for the families will be developed in accordance with the Framework and executed at a later stage (once the families have been identified).

The **Convention Center of Cariri** an intervention proposed by the Government of the State of Ceará to be financed entirely through State counterpart funding, responds to a regional demand concentrated in the municipalities of Crato, Juazeiro do Norte and Barbalha, for a large and high quality venue capable of hosting various events, such trade fairs, conferences and seminars. The objective of the convention center is to support the region as a business hub, with emphasis on the strengthening of local productive sectors, including footwear and tourism, the latter pertaining to ecological, cultural and educational development. Given the size and type of intervention, the elaboration of an environmental feasibility study will be submitted to SEMACE for analysis. According to the social assessments carried out, this work does not require actions relating to the acquisition of land or resettlement, as the land is already owned by the Municipality of Crato.

Positive Impacts

The proposed Project is expected to have highly positive environmental impact given its focus on environmental improvements, particularly related to environmental sanitation. This positive impact will be achieved through the implementation of a sanitary regional landfill, combined with a solid waste management plan; environmental preservation and rehabilitation interventions such as the Sao Jose Seminary area in Crato as well as numerous parks. In addition, the construction of a bypass road will help inter and intra-regional accessibility and reductions in transportation time.

The technical assistance component of the project will give high priority to environmental protection, including the development and implementation of a Social and Environmental Management Plan to address issues such as solid waste management, sanitation and drainage, deforestation, and protection of the natural habitats units (APA – Araripe Environmental Protection Areas), leading to an increase in value of the landscape and the recovery of the natural habitat. Moreover, promotion for the organization of footwear production and tourism clusters would generate positive impacts in the Central Cariri region, such as an increase in employment as well as in tourism activities and local hotel chain occupation. In addition to the environmental interventions, the Project will also improve the quality of life in specific low-income settlements. Some of the interventions, particularly those in Juazeiro, would enhance the pilgrimage experience of millions of predominantly low-income people.

Negative impacts

The construction of some infrastructure investments could result in some limited negative environmental impacts. These would be mitigated through the implementation of a series of mitigating measures included in the Project's environmental manual for construction work. Although most construction work will be of small dimensions, infrastructure construction could result in short-term localized environmental impacts including dust and noise pollution as well as erosion. These issues will be managed through a series of mitigation measures described in the Environmental Construction Manual (ECM).

Some interventions may result in land expropriation and involuntary resettlement of part of the population. Alternative measures are being analyzed and a resettlement policy framework was devised to minimize the associated impacts.

In the tourism sector, a need for professional training was identified as well as the need for the preservation of natural sites for further tourism development in the region. In the actual local social context, one of the noteworthy aspects raised by the social assessment is the involvement of child prostitution during intense periods of pilgrimage.

In the footwear sector, professional training is also needed and the main impacts are due to the use of coal for energy supply, resulting in illegal wood extraction as well as the absence of adequate treatment and disposal of the final residues generated in the productive processes.

Public Consultations. In accordance with the Bank's Information Disclosure Policy (BP 17.50) a process of disclosure and public consultation as a part of the Environmental Assessment was completed. In addition to the numerous consultations and stakeholder interviews that have been conducted throughout the project identification and preparation process, a large public consultation meeting was held January 2008 in Crato at URCA – Cariri Regional University auditorium in which about 250 people from all 9 municipalities participated (and signed the list of attendance). The open public consultation meeting discussed the background and initial proposed actions for the Project. The consultation event also provided disclosure of the socio-environmental studies, identified partners in the process, and invited the public to participate in the process involving experience exchange and suggestions to be incorporated to the Project. The meeting was transmitted to the entire region by Crato Educational Radio Station. The Environmental Assessment Report, including the Social and Environmental Management Plan and the Framework for Involuntary Resettlement, will be published on the Secretariat of Cities's public website on May 2, 2008.

5. Environmental and Social Management Plan

The environmental and social management plan includes the Social and Environmental Framework, the action plan, and the specification of the institutional roles for safeguards.

Social and Environmental Management Framework for the Preparation and Implementation of Civil Works

The Social and Environmental Framework (included in the EMP) defines the procedures for preparation and implementation of civil works under the Project. The key steps that accompany the different stages of the proposed investments are summarized as follows:

Table 4 Main Steps of the Environmental and Social Framework for Civil Works

Technical Stage	Social-Environmental Management Measures
Conceptual definition of project/interventions	Writing of ToR for Social and Environmental Consultancy Completion of Preliminary Evaluation Sheet (<i>ficha de avaliação preliminar</i>)
Definition of portfolio of projects	Social-environmental evaluation of selected projects

Definition of mechanisms for social-environmental management and implementation	Institutional communication/links Creation of environmental “nucleus” for project monitoring Creation of policy framework for resettlement and expropriation Creation of Social and Environmental Management Plan for Central Cariri
Prior licensing	Issuance of Prior License (LP)
Preparation of detailed project design	Coordination between environmental “nucleus” for project monitoring and the team preparing the detailed project design Installation license (LI) Information sessions for the affected community
Contracting works	Incorporation of Social-Environmental Management measures
Supervising works	Incorporation of the social-environmental dimension in works planning Implementation of Action Plans
Construction	Application of measures
Contract closure	Final evaluation Operating License (LO)

Environmental and Social Management Action Plan

In addition to the above process for safeguards, the EMP also specifies the following seven specific action plans to address regional social and environmental issues. The implementation of these actions aims to promote the sustainability of the proposed investments:

- **Environmental recovery for the São Jose Seminary (Crato)**, which includes the creation of Environmental and Social Manual and Supervision guide for Project works, creation and implementation of environmental education plan and agenda for cultural and leisure activities in the surrounding area of the Seminary, training for local population, and partnership activities with the municipality to control occupation of the area.
- **Geopark Araripe implementation**, which includes the development of a management plan, the identification and support of institutional strengthening, including vision to create partnerships, advertising and promotion of Geopark Araripe, cultural-learning activities, and training.

- **Araripe FLONA and APA reforestation plan**, including carrying out training courses for technical personnel of environmental institutions, and establishing plant nurseries for reforestation efforts
- **Youth assistance**, which will include analysis of the situations, mobilization of stakeholder actions, creation of partner plans and programs for specialized care by skilled and trained professionals for children and adolescents in situations of sexual violence, drug use and child labor, and proactive programs for Children-Youth that promote their active participation activities such as culture, sports, civic, arts and crafts, environment and ecology, information technology, entrepreneurship, professional development, innovation and creativity.
- **Environmental sanitation plan (water, sewer and drainage)**, which includes diagnosis and prognosis of urban environmental sanitation conditions, planning of short, medium and long term activities, and communication activities among agents and training activities;
- **Solid waste management**, including improvements in collection, treatment and waste disposal systems (Update of diagnosis, prognosis and of action plans), environmental studies of sanitary landfill which present alternatives for waste-pickers, training, and monitoring and supervision of implementation
- **Communication and training for the stakeholders**, including creation and expansion of channels for communication and training of local agents on environmental and social issues, strengthening of social participation mechanisms, and monitoring of implementation of interventions and action plans

Table 5 – Cost Estimate of Proposed Safeguards Action Plans for Central Cariri

Proposed Action Plans for Central Cariri	Cost Estimate (US\$)
1. Environmental recovery for the São Jose Seminary (Crato)	
Creation of Environmental and Social Manual and Supervision guide for Project works	10,000
Creation and implementation of environmental education plan and agenda for cultural and leisure activities in the surrounding area of the Seminary	30,000
Creation of training plan for local population	10,000
Partnership activities with the municipality to control occupation of the area	10,000
SUBTOTAL	60,000
2. Geopark Araripe implementation	
Creation of management plan	60,000
Definition and support of institutional strengthening, including vision to create partnerships	10,000
Advertising and promotion of Geopark Araripe	35,000
Cultural-learning activities	10,000
Training	25,000

SUBTOTAL		140,000
3. Araripe FLONA and APA reforestation plan		
Carrying out of training courses for technical personnel of environmental institutions		30,000
Creation of plant nurseries for reforestation efforts		30,000
SUBTOTAL		60,000
4. Youth assistance		
Situation analysis		25,000
Activities for the creation of partner plans and programs		15,000
Youth protagonism		40,000
SUBTOTAL		80,000
5. Urban Environmental Sanitation		
Diagnosis and prognosis of urban environmental sanitation conditions	Recursos FUNASA	
Planning of short, medium and long term activities	Recursos FUNASA	
Communication activities among agents and training activities		20,000
SUBTOTAL		20,000
6. Solid Waste Management		
Improvements in collection, treatment and waste disposal systems (Update of diagnosis, prognosis and of action plans)	Recursos FUNASA	
Environmental studies of sanitary landfill which present alternatives for wastepickers		113,000
Training		10,000
Monitoring and supervision of implementation		-
SUBTOTAL		123,000
7. Communication Enhancement and Capacity Building		
Creation of spaces for communication and training of local agents		40,000
Strengthening of social participation mechanisms		30,000
Monitoring of implementation of interventions and action plans		80,000
SUBTOTAL		150,000
Total Resource		633,000

Institutional Responsibilities for the Management of Social and Environmental Issues

According to Project design, the following two institutions are expected to act in an integrated and articulated fashion with regard to the management of social and environmental issues: the PMU – Project Management Unit, linked to the Cities Secretariat and responsible for Project implementation; and the Consultative Committee, composed of representatives from the nine municipalities of Central Cariri.

The basis for the socio-environmental management of the Project is the creation and adoption of a Regional Environmental Strategy which aims to: (i) promote collaboration among relevant actors and institutions in Central Cariri, (ii) strengthen activities currently underway, and (iii)

encourage Committee members to establish priority environmental actions for the region and promote their implementation.

Partnerships among local institutions – be they public, private or from the so-called “third sector” – will be fundamental to achieving sustainability of the proposed interventions. The Regional Environmental Strategy will therefore seek to identify relevant actors and institutions in Central Cariri region, and to address, in a group fashion, the areas for action as defined in the proposed Socio-Environmental Management Plan (EMP).

In light of the work to be carried out by the PMU and the Consultative Committee, it has been proposed that a sub-group, denominated Social-Environmental Management Nucleus (SEMN), be created to lead partnership-creation efforts. Specifically, the SEMN would focus on: recognizing partner agents, articulating policies, promoting the collection of financial resources, developing communication and training activities, and encouraging local institutions to conduct complementary social and environmental activities. Such actions should be aligned with the macro-level regional development policy of the State, achieved through communication with the Regional Development Council of Greater Cariri as well as its technical chamber members which will directly interface with the “Cities of Ceará” Project.

The SEMN will be responsible for the coordination of the Project’s socio-environmental actions and for the environmental supervision of the construction work, including the adoption of the above-described proposed action plans. In addition the SEMN, together with the municipal secretariats and other interested parties, be responsible for the overseeing activities related to the Involuntary Resettlement Policy and the proposed action plans. The SEMN will also be responsible for project adherence to environmental criteria, in light of environmental studies and environmental controls; national, state and municipal legislation and norms; Installation Licensing procedures; Operation Licensing procedures; and of the regulations of relevant financing entities.