

**NICARAGUA**

**STORMWATER DRAINAGE AND DEVELOPMENT MANAGEMENT  
PROGRAM IN SUBWATERSHED III OF MANAGUA**

**(NI-L1010)**

**LOAN PROPOSAL**

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## ELECTRONIC LINKS

### **REQUIRED**

A. Annual work plan

<http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=2208539>

B. Monitoring and evaluation arrangements

<http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=2208580>

C. Procurement plan

<http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=2208528>

D. Environmental and Social Management Report

<http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=2173151>

### **Optional**

E. Socioeconomic assessment

<http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=2207290>

F. Resettlement plan

<http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=2204939>

G. Institutional and financial analysis

<http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=2218438>

H. Environmental classification and safeguards

<http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=2181682>

## ABBREVIATIONS

ALMA	Alcaldía de Managua [Managua City Hall]
AMUSCLAM	Asociación de Municipios de la Subcuenca III del Lago de Managua [Association of Municipios in Subwatershed III of Lake Managua]
AWP	Annual work plan
FSO	Fund for Special Operations
ICAS	Institutional capacity assessment system
INETER	Instituto Nicaragüense de Estudios Territoriales [Nicaraguan Institute for Territorial Studies]
INIFOM	Instituto Nicaragüense de Fomento Municipal [Nicaraguan Institute of Municipal Development]
KfW	German development bank
MARENA	Ministry of Environment and Natural Resources
OC	Ordinary Capital
PCR	Project completion report
PDU	Urban Development Plan
PEU	Program execution unit
POSAF	Programa Socioambiental y Desarrollo Forestal [Socioenvironmental and Forestry Development Program]
SCF	Single Currency Facility
UGAM	Municipal Environmental Management Unit

## PROJECT SUMMARY

### NICARAGUA

### STORMWATER DRAINAGE AND DEVELOPMENT MANAGEMENT PROGRAM IN SUBWATERSHED III OF MANAGUA (NI-L1010)

Financial Terms and Conditions																	
<b>Borrower:</b> Republic of Nicaragua				<b>OC</b>	<b>FSO</b>												
<b>Executing agency:</b> Municipality of Managua, with the municipios of Nindirí, Ticuantepe, El Crucero, and La Concepción.			<b>Amortization period:</b>	30 years	40 years												
			<b>Grace period:</b>	5 ½ years	40 years												
<b>Source (US\$ thousands)</b>	<b>Amount</b>	<b>%</b>															
IDB: Ordinary Capital (OC)	6,500	33%	<b>Disbursement period:</b>	36 months	36 months												
IDB: Fund for Special Operations (FSO)	6,500	33%	<b>Interest rate:</b>	SCF-fixed FN-507-6	0.25												
Counterpart: Norwegian cooperation	5,797.6	29%	<b>Inspection and supervision fee:</b>	*	N/A												
Counterpart: Managua City Hall	1,000	5%	<b>Credit fee:</b>	*	N/A												
<b>Total</b>	<b>19,797.6</b>	<b>100%</b>	<b>Currency:</b>	U.S. dollars from the Single Currency Facility (SCF)													
Project at a glance																	
<b>Objective and description:</b>																	
<p>The general objective of this program is to contribute to the preservation and sustainable development of subwatershed III of Lake Managua's southern watershed, through the execution of infrastructure works and by strengthening the environmental management capacity of participating municipios.</p> <p><b>Special contractual clauses: Conditions precedent to the first disbursement:</b> (i) The agreement for the transfer of resources between the borrower and the Municipality of Managua, establishing the terms for transfer as well as other obligations under the program, has been signed and has entered into force (paragraph 2.1); (ii) the program execution unit (PEU) has been formed with at least the staff identified in paragraph 3.3 (paragraph 3.3); (iii) the program's operating manual and its annexes have been approved (paragraph 2.7); (iv) the PEU's financial and accounting management system has been implemented and is in operation (paragraph 2.7); and (v) agreements have been signed between the Municipality of Managua and the Municipalities of Nindirí, Ticuantepe, El Crucero, and La Concepción to establish the conditions for program execution (paragraph 2.1).</p> <p><b>Special execution conditions:</b> (i) Before beginning program works: (a) the resettlement actions set out in the program's resettlement plan will have been completed in accordance with the provisions of the Bank's resettlement policy (OP-710) (paragraph 2.3); (b) the legal possession, easements, and other rights that may be necessary to begin the works will have been obtained (paragraph 2.3); (c) the required environmental permits will have been obtained (paragraph 2.4); (d) an intermunicipal maintenance plan for the "31 de diciembre" channel will have been agreed upon among the participating municipalities (paragraph 3.6); and (ii) a final program evaluation will be conducted, and a final report on the program will be submitted (paragraph 3.11).</p> <p><b>Conditions previously fulfilled:</b> (i) the program's Executive Committee has been formalized; and (ii) a program advisory committee has been established (paragraph 3.2).</p>																	
<b>Exceptions to Bank policies:</b> None.																	
<table style="width: 100%; border: none;"> <tr> <td style="width: 30%;">Project consistent with country strategy:</td> <td style="width: 15%;">Yes [ X ]</td> <td style="width: 15%;">No [ ]</td> <td style="width: 15%;"></td> <td style="width: 15%;"></td> <td style="width: 15%;"></td> </tr> <tr> <td>Project qualifies as:</td> <td>SEQ [ ]</td> <td>PTI [ ]</td> <td>Sector [ ]</td> <td>Geographic [ ]</td> <td>Headcount [ ]</td> </tr> </table>						Project consistent with country strategy:	Yes [ X ]	No [ ]				Project qualifies as:	SEQ [ ]	PTI [ ]	Sector [ ]	Geographic [ ]	Headcount [ ]
Project consistent with country strategy:	Yes [ X ]	No [ ]															
Project qualifies as:	SEQ [ ]	PTI [ ]	Sector [ ]	Geographic [ ]	Headcount [ ]												
<b>Procurement:</b> See paragraphs 2.1, 3.4, and 3.7.																	

\* The credit fee and inspection and supervision fee will be established periodically by the Board of Executive Directors as part of its review of the Bank's lending charges, in accordance with the applicable provisions of the Bank's policy on lending rate methodology for Ordinary Capital loans. In no case will the credit fee exceed 0.75% or the inspection and supervision fee exceed, in a given six-month period, the amount that would result from applying 1% to the loan amount divided by the number of six-month periods included in the original disbursement period.

## I. DESCRIPTION AND RESULTS MONITORING

### A. Background, problems addressed, and rationale

#### 1. The southern watershed of Lake Managua

- 1.1 The topography of the southern watershed of Lake Managua, covering 552 km,<sup>2</sup> ranges from 900 to 38 meters above sea level, creating an inclined plane with steep slopes in the high areas that become moderate to gradual in the mid- to lower area until they reach Lake Managua.
- 1.2 The southern watershed is subdivided into four subwatersheds that, together, partially or entirely cover the territory of eight municipios.<sup>1</sup> Nine channels traverse the southern watershed, conveying rainwater to the lake. Most of these channels form the primary stormwater drainage system for the City of Managua, which sits in subwatershed II and part of subwatershed III.
- 1.3 With close to one million inhabitants, the City of Managua, located in the mid- and lower part of the southern watershed, is home to 24.6% of the country's population (2005 census). It is also the country's most important economic hub. Its relative importance in the national context is growing, with migration from rural areas, contributing to rapid, haphazard urban growth of both a formal and informal nature.
- 1.4 With regard to stormwater drainage, sedimentation control and the accumulation of solid waste in the channels are a constant concern of the Alcaldía de Managua [Managua City Hall] (ALMA). Its investments in environmental protection and stormwater drainage works have been concentrated in subwatershed II, where most of the population and the majority of private investment have historically been concentrated. Subwatershed II is located entirely within the territory of Managua.

#### 2. Subwatershed III and its vulnerabilities

- 1.5 Subwatershed III, covering 178 km<sup>2</sup>, is located in the eastern part of the southern watershed. It is of strategic importance to the development of the city of Managua and the country as a whole. It is the most important recharge area of the aquifer that provides drinking water to Managua, with three wellfields producing 60% of the city's water supply. In addition, the lower part of subwatershed III, occupied by District VI of Managua,<sup>2</sup> is home to Nicaragua's only international airport and its export processing and light industry.
- 1.6 Until 10 years ago, subwatershed III served as a green buffer zone to urban development in Managua city, because of its rural nature, with small settlements

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<sup>1</sup> Subwatershed I is located in the municipios of Mateare and Ciudad Sandino; subwatershed II is located in Managua; subwatershed III is in the municipios of Managua, Nindirí, Ticuantepe, El Crucero, and La Concepción; and subwatershed IV is in the municipio of Tipitapa.

<sup>2</sup> The Municipio of Managua has six district delegations that now come under the authority of the Municipal Works and Services Bureau, and that function as interlocutors with the population and service providers. Each district is headed by a district delegate.

that depended on agricultural, livestock, and forest activities for their livelihoods. More recently, subwatershed III has been adversely affected by urban development in Managua city given the type and density of land use, and the production of solid waste. Urban growth is overloading the stormwater drainage system and affecting the quantity and quality of water feeding the area's aquifers, putting the city's drinking water system at risk.

- 1.7 **Environmental problems in the subwatershed.** In the upper part of subwatershed III, where the municipios of El Crucero and La Concepción are located, farming activity has contributed to deforestation, which has been particularly intense in areas with steep to moderate slopes. In the last five years, the middle and lower parts of the subwatershed (municipios of Nindirí and Ticuantepe, and District V of Managua) have been affected by the growth of Managua city along the Managua-Masaya highway, an area formerly devoted to agriculture. This urban growth has developed without the use of urban planning instruments and adequate building standards, and without a corresponding increase in municipal services or extension of the stormwater drainage system, which impacts the ecological regeneration of the subwatershed and the percolation of rainwater into the Managua aquifer. The sediment and solid waste conveyed through the drainage system exposes the lower areas to floods in the rainy season. Moreover, the absence of basic services in the informal settlements causes wastewater to enter the stormwater system. Water polluted by sediment, waste, and wastewater leaks into the aquifer or flows into Lake Managua, contributing to their contamination.

### 3. The municipios in subwatershed III

- 1.8 **The municipalities.** The five municipios involved in managing development in subwatershed III are very different, as can be noted in the summary below.

<b>Total population and current revenues of municipios in subwatershed III</b>					
	<b>Managua</b>	<b>El Crucero</b>	<b>Ticuantepe</b>	<b>La Concepción</b>	<b>Nindirí</b>
Population (2005)	937,500	13,700	27,000	32,000	38,400
Current revenues (US\$/2004)	37,880,123	275,864	465,741	67,716	645,864

- 1.9 Technical capacities in these municipios also vary greatly. The small ones have simple systems, while institutional development in Managua is increasingly sophisticated, particularly with regard to environmental management. This imbalance in capacity has led factories and developers to establish their operations in areas where city-planning standards are less rigorous so as to reduce their obligations and investment costs.
- 1.10 **Municipality of Managua.** In 2000, the Bank approved the Modernization Program for the Municipality of Managua (1058/SF-NI), with US\$5.67 million in financing. The program, executed by ALMA, strengthened its capacity for planning and service delivery, upgrading neighborhoods, financial management, and environmental management. Within the programmed timeframe of the project,



ALMA advanced substantially in each area, especially with regard to: (i) implementing up-to-date environmental management regulations; (ii) creating a Municipal Environmental Council; (iii) preparing and executing the environmental management plan; (iv) improving the municipal dump; (v) launching solid waste collection by microenterprises in the neighborhoods; and (vi) massive updating of the municipal land register.

- 1.11 Managua's environmental strategy is part of the municipality's overall development plan. ALMA has developed capacity in line with the city's environmental complexity, including: (i) environmental regulation and regulation of industry and construction; (ii) soil and water conservation, stormwater drainage; (iii) forest protection and management of protected areas; and (iv) reduction of pollution, especially solid waste.
- 1.12 ALMA currently regulates urban development in accordance with the standards of the Urban Development Plan (PDU), which was drawn up after the 1970s earthquake and updated most recently in 1996. The PDU is not an integrated land-use and development plan but rather a collection of construction regulations.

#### **4. Intermunicipal coordination for subwatershed III management**

- 1.13 The five municipalities are lagging behind in harmonizing their city-planning regulations, strengthening their environmental management, and making the physical investments needed to mitigate the impact of the different land uses and urban development occurring in subwatershed III. The absence of a suitable land-use management plan with a long-term vision of the city's development, that also includes the interventions of all the municipalities and other institutions, is also a critical factor.
- 1.14 In 2002, ALMA took the initiative to establish an overall strategy for the development and management of subwatershed III. With financial support from the Norwegian government, it commissioned the "Agroecological and Stormwater Drainage Study for Subwatershed III of Lake Managua's Southern Watershed." The study proposed an integrated management project for subwatershed III in order to improve ecological and productive sustainability, and to reduce the risks and damage caused by floods and sedimentation downstream. This study furnished the technical bases for developing a stormwater drainage and land-use management system in the subwatershed.
- 1.15 In 2007-2008, with Bank-administered technical cooperation funds, the following studies were conducted: "Update to the Study on Stormwater Drainage" and "Support for Environmental Management and Solid Waste Management in Subwatershed III." These studies confirmed the priority given to drainage works for the "*31 de diciembre*" channel, and included works designs, together with institutional and environmental action plans for the components of the present program.

- 1.16 It is within this framework that in October 2008 the five municipios in the subwatershed created the Asociación de Municipios de la Subcuenca III del Lago de Managua [Association of Municipios in Subwatershed III of Lake Managua] (AMUSCLAM) to promote and represent their interests in solving and preventing environmental problems and the problems of sustainability associated with development affecting the subwatershed. AMUSCLAM will be strengthened through the execution of this program.

**B. The country's environmental and watershed management strategy**

- 1.17 The Ministry of Environment and Natural Resources (MARENA), which is responsible for coordinating implementation of Nicaragua's Environmental Policy (Decree 25-2001), has policies and plans in place that support several of the program's activities; and it will play an important role in monitoring the program. The objectives of Nicaragua's Environmental Policy are to: (i) promote development that strikes a balance between economic growth and the protection of biodiversity, natural resources, and environmental quality; (ii) give priority to preventive management; (iii) promote the formulation, modernization, and ongoing harmonization of environmental legislation, and guarantee application of efficient and effective environmental regulations; and (iv) promote the development and strengthening of key instruments for sustainable development, specifically: (a) land-use management, (b) the national environmental information system, (c) environmental education, (d) decentralization of environmental management, and (e) the National System for Natural Disaster Prevention, Mitigation, and Response (SINAPRED).
- 1.18 MARENA administers a system of gradual comprehensive plans to reduce industrial pollution, as well as the environmental permit and impact assessment system. It regulates the review of environmental impact assessments and other environmental analyses for development projects and programs. Nicaraguans consider solid waste management to be the country's second-most important environmental problem, after deforestation.
- 1.19 MARENA is the lead institution for watershed management, which it does in coordination with the Ministry of Agriculture and Forestry and the Instituto Nicaragüense de Estudios Territoriales [Nicaraguan Institute for Territorial Studies] (INETER); and it is coordinating preparation of a watershed policy. The National Environmental Policy and the National Water Resources Policy (Decree 107-2001) establish as priority actions: (i) classification of water resources; (ii) monitoring of water quality and quantity; (iii) forest restoration; and (iv) promotion of the preparation of environmental land-use plans for watersheds.

**C. The Bank's sector strategy**

- 1.20 The program is consistent with the Bank's country strategy with Nicaragua for 2008-2012. The general objective of this strategy is to provide selective support to the Nicaraguan government for reducing and managing vulnerabilities that inhibit attainment of the country's growth and equity targets. The Bank's contribution is

expected to focus on five areas: (i) fiscal sustainability and the strengthening of public management; (ii) reliability of the electric power supply and improvement of the existing road system; (iii) development of a social welfare system; improvement, management and coverage of basic social services, including water and sanitation; (iv) productive development; and (v) institutional management for natural disaster prevention.

- 1.21 This operation is consistent with the Bank's sector strategy, and seeks to improve the provision and coverage of drinking water and sanitation services in support of achieving the Millennium Development Goals. To this end, it will strengthen institutional management in the sector and increase investments in drinking water, sanitation, and solid waste management in order to improve service efficiency, quality, and sustainability.
- 1.22 The Bank has been financing several programs in recent years to extend water and sanitation services in the southern watershed of Lake Managua. The Empresa Nicaragüense de Acueductos y Alcantarillados Sanitarios [Nicaraguan Water and Sewerage Authority] (ENACAL), with support from the IDB, KfW, and the Nordic Development Fund, has implemented the "Environmental Improvement Program for Lake Managua and the City of Managua" (978/SF-NI and 1060/SF-NI),<sup>3</sup> which concluded in early 2009. Two programs are currently in execution: "Modernization of the Water Supply and Sanitation Sector" (149/SF-NI), and "Water Supply and Sanitation Investment Program" (1787/SF-NI), which are facilitating the extension of service coverage in Managua. The "Potable Water Program for Managua" (NI-L1029), currently in preparation, will finance sanitation works in neighborhoods on the banks of the "*31 de diciembre*" channel.
- 1.23 With regard to watershed management, the Bank has supported the national policy since 1996 with the MARENA-led Socioenvironmental and Forestry Development Program (POSAF),<sup>4</sup> which aims to improve the conditions of the population and reduce the impact of natural disasters in priority watersheds. The southern watershed was targeted as a priority, and accordingly ALMA received funds for drawing up a municipal natural disaster prevention and mitigation plan for Managua (2003), and for executing environmental protection and stormwater drainage works in subwatershed II.

#### **D. Coordination with other donors**

- 1.24 The program was prepared in coordination with Norwegian cooperation, which is financing implementation of the program's executing unit and Components 2, 3, and 4 (see paragraphs 1.28, 1.29, and 1.30). These will be executed by the Municipality of Managua on behalf of AMUSCLAM, pursuant to the contract

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<sup>3</sup> The program has received financing totaling US\$67.77 million (IDB US\$30 million; KfW for the treatment plant US\$27.6 million; Norwegian Development Fund US\$6.5 million; and government US\$3.67 million).

<sup>4</sup> POSAF I (970/SF-NI) and POSAF II (1084/SF-NI) with US\$15.3 million and US\$32.7 million in financing, respectively.

signed 28 October 2008 by the Ministry of Foreign Affairs of Norway and the Municipality of Managua.

**E. Objective, components, and cost**

- 1.25 The Stormwater Drainage and Development Management Program in Subwatershed III of Managua seeks to contribute to the sustainable development of subwatershed III of Managua in two dimensions: (i) in the immediate term, to address the situation of deferred investment in the stormwater drainage system; and (ii) in the medium and long terms, to strengthen the capacity of ALMA and the other municipios in subwatershed III for environmental management and management of future growth in the area.
- 1.26 The specific objectives are to: (i) mitigate the risks of floods and landslides by constructing stormwater drainage works and improving solid waste management in the subwatershed; and (ii) strengthen the capacity of the five municipalities for environmental and land-use management, promoting aquifer protection, and mitigating the impact of growth on the environment in subwatershed III.
- 1.27 **Component 1. Stormwater drainage and solid waste management (US\$11,392,000).** This component includes:
- a. **Stormwater drainage works.** Works in the “*31 de diciembre*” channel that include construction of one flow-regulation microdam (35 m in width x 10 m in height); 2,560 m of channel improvement works; five box bridges; four concrete curtain walls to help control the conveyance of sediment and the velocity of waters coursing through the channel.
  - b. **Modernization of the hydrologic monitoring system.** Installation of a river gauge network to monitor water levels in the channels of the southern watershed.
  - c. **Solid waste management.** Design of the Joint Comprehensive Solid Waste Management Plan for four municipios;<sup>5</sup> final project designs for constructing a final disposal center and the infrastructure associated with the transport of solid waste to the joint final disposal center; projects to close uncontrolled dumps; purchase of rolling stock, containers, and equipment to improve collection in the four municipios; and institution strengthening and training.
- 1.28 **Component 2. Institution strengthening (US\$514,800).** This component includes: (i) strengthening the PEU; (ii) institutional strengthening of the AMUSCLAM board of directors; and (iii) strengthening the subwatershed’s Municipal Environmental Management Units (UGAMs).
- 1.29 **Component 3. Erosion reduction and control (US\$3,530,600).** This component includes: (i) soil and water conservation works to reduce surface runoff and increase infiltration in order to protect the aquifer and control, reduce, and mitigate erosion; (ii) production systems: establishment of agro-forestry system modules for

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<sup>5</sup> El Crucero, La Concepción, Nindirí, and Ticuantepe.

restructuring production; and (iii) environmental education, for educators in schools and institutes in the subwatershed, producers' associations, and the population at large.

1.30 **Component 4. Environmental land-use planning (US\$917,000).** This includes environmental management plans, and land-use and development plans for the municipios in the subwatershed. The studies and land-use plans will be executed under agreements between AMUSCLAM, INETER, and the Instituto Nicaragüense de Fomento Municipal [Nicaraguan Institute of Municipal Development] (INIFOM).

1.31 **Cost and financing.** The total estimated cost of the program is US\$19,797,600, of which US\$13 million will be financed by the Bank (US\$6.5 million from the Ordinary Capital and US\$6.5 million from the Fund for Special Operations). The counterpart contribution is a US\$5,797,600 grant from the Kingdom of Norway, and US\$1 million from the Municipality of Managua.

**Cost and Financing (US\$ thousands)**

Category and component	IDB	Counterpart		Total	%
		Norwegian coop.	ALMA		
<b>I. Engineering and administration</b>	<b>814.2</b>	<b>521.8</b>	<b>685.0</b>	<b>2,021.0</b>	<b>10 %</b>
1.1 Coordination and administration	450.0	521.8	504.0	1,475.8	7%
1.2 Works design and supervision	364.2	-	181.0	545.2	3%
<b>II. Direct costs</b>	<b>11,392.9</b>	<b>4,962.8</b>	<b>270.9</b>	<b>16,626.7</b>	<b>84%</b>
II.1 Stormwater drainage and solid waste	11,392.9	-	270.9	11,663.9	59%
II.2 Institution strengthening	-	514.8	-	514.8	3%
II.3 Erosion reduction and control	-	3,530.6	-	3,530.6	18%
II.4 Environmental land-use planning	-	917.0	-	917.0	5%
<b>III. Associated costs</b>	<b>300.0</b>	<b>313.2</b>	<b>-</b>	<b>613.0</b>	<b>3%</b>
III.1 Audit and evaluation	300.0	313.2	-	613.0	
<b>IV. Financial costs</b>	<b>492.9</b>	<b>-</b>	<b>44.1-</b>	<b>537.0</b>	<b>3%</b>
IV.1 Interest	492.9	-	-	492.9	
IV.2 Credit fee	-	-	44.1	44.1	
<b>TOTAL</b>	<b>13,000.0</b>	<b>5,797.6</b>	<b>1,000.0</b>	<b>19,797.6</b>	<b>100%</b>
<b>%</b>	<b>66%</b>	<b>29%</b>	<b>5%</b>	<b>100%</b>	

**F. Results framework and key indicators**

1.32 Annex II contains the Results Matrix, which describes the principal outputs and outcomes of the program.

## II. FINANCIAL STRUCTURE AND MAIN RISKS

### A. Financial structure

2.1 **Borrower and executing agency.** The borrower will be the Republic of Nicaragua, represented by the Ministry of Finance. The executing agency will be the Municipality of Managua (ALMA). The borrower will transfer the loan proceeds to Managua City Hall through an agreement that establishes the financial terms and conditions for transfer, as well as the parties' execution obligations. The government will determine whether the portion that benefits the other four municipios will be a nonreimbursable contribution by the State, administered by ALMA, or if it will be a contribution to be reimbursed by the municipios or by ALMA. **A condition precedent to the first disbursement is the signing and entry into force of the agreement on the transfer of resources between the borrower and the Municipality of Managua, establishing the terms of transfer and other obligations under the program.** The Municipalities of Nindirí, Ticuantepe, El Crucero, and La Concepción will participate in implementing Components 2, 3, and 4, which will be financed with proceeds from a grant from the Kingdom of Norway. The transfer of resources to these municipios is not provided for. The participating municipalities will be in charge of making the procurements, and will submit the corresponding payment requests to the executing agency. The goods and services financed with Bank resources for these four municipios (Component 1, solid waste subcomponent) will be procured by the Municipality of Managua and transferred to the municipios. The conditions for the transfer of goods and services will be established in agreements. **A condition precedent to the first disbursement of the financing is the signing of agreements between the Municipality of Managua and the municipalities of Nindirí, Ticuantepe, El Crucero, and La Concepción, establishing the execution conditions and the obligations of the parties, including the terms for the transfer of goods and services.**

### B. Environmental and social risks

2.2 Given the nature of the program, the social and environmental impacts are expected to be markedly positive because of the flood risk mitigated in subwatershed III, the reduction of erosion, and the strengthening of the municipalities' capacity for land-use and environmental management in subwatershed III, including solid waste management. Implementation of the program will improve the population's living conditions and environmental quality in subwatershed III.

2.3 The project team followed the guidelines of the Bank's Environment and Safeguards Compliance Policy (OP-703), and proposes that the operation be classified as category B. An environmental assessment was performed for the program to: (i) analyze the relevant legal environmental and institutional setting, including institutional capacity to address environmental and social issues; (ii) identify the environmental and social impact of program actions; (iii) define measures to mitigate and manage this impact, determining the corresponding costs,

- included in the program's Environmental and Social Management Plan; and (iv) design the environmental and social management system for the program. All these aspects are summarized in the program's Environmental and Social Management Report. The program's works will have some negative environmental impact, although most will be isolated and short term, and associated with the construction and operation period (noise, dust and rubble, interference with traffic, risk of accidents, etc.). These can be mitigated by widely used environmental mitigation and management measures, which will be included in the bidding conditions for the works. The program's greatest social impact refers to the need to resettle 33 low-density families, which will be carried out in accordance with the guidelines of OP-710, as reflected in the program's resettlement plan. No involuntary relocation of businesses is expected. A special execution condition will be that before beginning the works in Component 1 the resettlement actions identified in the program's resettlement plan must have been completed in accordance with the requirements set forth in the Bank's resettlement policy (OP-710); in addition, legal possession, easements, and other rights that may be necessary to begin the works must have been obtained.
- 2.4 According to Regulation 76-2006, which defines the national environmental assessment system, MARENA classified the program's drainage operations as environmental category III, that is, as actions that could have moderate environmental impact and that require an environmental assessment as a condition for receiving the corresponding environmental authorization. At the request of ALMA, MARENA granted the environmental authorization on 13 July 2009. Given the environmental nature of the works and the large number of erosion reduction and control actions, the operating manual will spell out the environmental licensing procedures applicable to the works so as to ensure compliance with national environmental legislation and Bank policies. A special execution condition will be that before beginning the works, it will be necessary to demonstrate that all environmental permits required for the works have been obtained.
- 2.5 The program components, the environmental assessment, and the resettlement plan have been and continue to be disseminated and developed in full consultation with the people living in subwatershed III and, in the case of the resettlement plan, especially with the affected families, through numerous group and individual consultation meetings. These informative, participatory consultation processes will continue until the program has been approved and throughout its implementation. In addition, the environmental assessment, which includes the program's Environmental and Social Management Plan, has been made available to the public through the Bank's Public Information Center and in the country.
- 2.6 The program's environmental management system includes hiring a resettlement expert and an environmental specialist for the program executing unit; they will oversee fulfillment of the Environmental and Social Management Plan and the resettlement plan and, consequently, will participate in program follow-up and monitoring actions.

## C. Other risks

- 2.7 **Institutional viability.** ALMA has experience executing Bank-financed projects. The Institutional Capacity Assessment System (ICAS) found that the risk was low. Taking into account the execution mechanism adopted for this program (see paragraphs 3.1 to 3.4), the corresponding sectors of ALMA responsible for procurements, contracts, and internal control were evaluated; for other aspects, the executing unit already established with Norwegian cooperation funds was evaluated with regard to the components financed with those resources and ALMA's counterpart funds. For program execution, adjustments will be made in the PEU's institutional capacity as described in the component on institution strengthening of the PEU and which include: preparation of procedure manuals attached to the operating manual, bringing procurement and financial personnel up to date with regard to current Bank policies and implementation of the financial management, accounting, and program monitoring systems. **Conditions precedent to the first disbursement are: (i) approval of the program operating manual with the financial management manual attached; and (ii) implementation and operation of the PEU's financial and accounting management systems.**
- 2.8 **Financial viability.** The analyses of ALMA's financial capacity for the period 2005/2008, based on audited financial statements, and for part of 2009, showed good fiscal performance and financial capacity. In the four years, cumulative inflation was 48%, current revenue<sup>6</sup> rose by 60%, while current expenditures grew by 56.2%. This gave rise to a 66.8% increase in current savings which, throughout the period, was more than 40% of current revenue.
- 2.9 As a percentage of current revenue, long-term debt fell from 28% in 2006 to 22% in 2008. Total liabilities are holding stable at around 52% of current revenue. Debt service as a percentage of current savings rose during the period to 11.4%, falling later to 6.5% in 2008, providing significant headroom that made it possible to earmark more than 90% of these savings for investments. When the transfers, grants, and financing are added, a level of investments higher than current savings was maintained with a final surplus. In fact, throughout the period the level of investments was on a par with that of current expenditures.
- 2.10 The financial projections are based on an estimate for 2009, at 30 September, and were extended to the year 2023. For 2009, a 3.5% decline in current savings was projected. For subsequent years, in a pessimistic scenario it was assumed that revenue and expenses in 2010 would remain constant (the only exception being related to program activity), and that current revenue and current expenditures would increase by 2% annually beginning in 2011. It should be noted that before the crisis, savings grew at between 25% and 30% annually, and by 4% in 2008. For nonrecurring revenues (excluding the proposed financing), 1.5% growth was assumed per year. With regard to the program, investments and financing expenses

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<sup>6</sup> Current revenue refers only to taxes and charges collected; it does not include transfers from the National Treasury or any other non-recurrent revenues.



- were included with the Bank's and ALMA's disbursements. For the other investments, ALMA's programming through 2013 was taken into account, and the real value of annual investments kept constant. Based on these assumptions, consistently positive cash balances were confirmed. The cash balance declines until 2016 and, starting in 2017, the surplus recovers and the cash balance grows.
- 2.11 This analysis confirms that ALMA has the borrowing limits and financial capacity necessary to fulfill the financial obligations stemming from the program.
- 2.12 **Socioeconomic viability.** A socioeconomic assessment was performed for the investments in stormwater drainage in subwatershed III vis-à-vis the expected net benefit stream (expected incremental benefits minus costs, in the "with" and "without" project scenarios). The drainage works were submitted to an alternatives analysis to determine the least-cost alternative, including type of cover. The type of cover is walls with gabions, turf, and confined masonry, and the optimal recurrence period was determined on the basis of the hydrologic model in 25 years. Benefits were calculated on the basis of real estate appraisal estimates and the expected value of property damages, emergency expenses, and after-flood cleaning, and reduced health expenses. The costs considered for the assessment were the incremental costs of investment, operation, and maintenance, assessed at efficiency prices. The analysis found that the program was economically viable, with an economic internal rate of return higher than 12% annually. Moreover, the benefit-cost ratio is greater than 1.
- 2.13 A sensitivity analysis was performed to identify the variables that most affect project viability. In general they were: investment cost overruns, increases in operating and maintenance costs, delays in executing the works, and lower benefits. The analysis shows that the project tolerates cost increases of up to 10% and benefits reductions up to 5%, but does not tolerate delays in execution.

### III. EXECUTION AND IMPLEMENTATION PLAN

#### A. Implementation arrangements

- 3.1 **Execution arrangement.** The Municipality of Managua (ALMA) will implement the program through the program execution unit (PEU). The Mayor of Managua, through Agreement 042/2009, decided to strengthen the PEU that was in place to execute the cooperation received from the Kingdom of Norway, operation of which is under the General Secretariat of Managua City Hall, which is responsible for technical and strategic program management. The PEU will be the sole interlocutor with the Bank, and will be responsible for seeing that the technical, administrative, and financial procedures related to program execution, follow-up, monitoring, and evaluation are fulfilled. Its specific duties include: (i) planning execution and preparing the annual work plans (AWPs); (ii) preparing and updating the procurement plans; (iii) reviewing bidding conditions for the procurement of consulting services, works, and goods, ensuring that they are in keeping with the Bank's procurement policies; (iv) supporting and monitoring the status of contracts

- for consulting services and works, and the procurement of goods; (v) preparing and processing payments; (vi) preparing the financial statements and disbursement requests; and (vii) monitoring and evaluating program execution. All financing and accounting responsibilities, including management of bank accounts, will be the responsibility of the PEU, under the supervision of the relevant sections of ALMA.
- 3.2 To support the General Secretariat and monitor the program, the Mayor of Managua appointed an Executive Committee composed of the projects director, legal director, administrative and financial director, environmental affairs director, infrastructure director, and international public relations director. In order to facilitate coordination among the participating municipios, the Board of Directors of the Association of Municipios in Subwatershed III of Lake Managua (AMUSCLAM) will serve as the advisory committee. The Board is made up of the mayors of the five participating municipios. **The following will be conditions fulfilled prior to program approval: (i) formalization of the Executive Committee for program management; and (ii) establishment of the advisory committee.**
- 3.3 The PEU has a coordinator, a monitoring and follow-up specialist, a procurements officer, and two officers responsible for the components financed by Norwegian cooperation. The PEU's administrative and financial department is composed of an administrator, a financial expert, two accountants, an analyst, secretaries, and a driver. All are financed by counterpart funds, except for five of the specialists who will be financed by Norwegian cooperation funds. There will also be two specialists from ALMA—a solid waste management specialist and an institutional-strengthening specialist—and three specialists (environment, resettlement, stormwater drainage) financed with loan proceeds. **A condition precedent to the first disbursement is the establishment of the PEU with at least the aforementioned staff.**
- 3.4 **Execution of the components.** The PEU will be responsible for execution, and will have the support of technical specialists from the ALMA directorates involved in the project, and from the municipios of El Crucero, La Concepción, Ticuantepe, and Nindirí. The procurements under Component 1, financed entirely with loan proceeds and ALMA's counterpart contributions, will be made by the Procurements Division of ALMA, in every case at the request of the PEU, which will provide the support of its procurement specialist. A specialized firm will be hired to supervise the stormwater drainage works. Procurements under Components 2, 3, and 4 of the program, to be financed with Norwegian cooperation funds, will be made by the municipal city halls. The procurements officers in the four municipios will receive technical assistance from the PEU, which will provide support for and oversight of the procurement process, and the Norwegian cooperation funds will be administered by ALMA through the PEU.
- 3.5 **Operating manual.** With Bank participation, a draft of the program operating manual was prepared. After it is adjusted, it will be submitted for the Bank's no

objection and then implemented. Its annexes (manuals on organization, duties, and procedures) are currently being drawn up.

3.6 **Operation and maintenance.** In order to ensure effective maintenance of the stormwater drainage system in subwatershed III, the five municipios in the subwatershed have signed a commitment to earmark resources in their budgets for operation and maintenance of the system. The program’s drainage works will be located entirely within the territory of the City of Managua. However, because of the critical importance of solid waste collection for the system’s operation, the budget commitment will be supplemented by an intermunicipal maintenance plan for the “31 de diciembre” channel, to be signed and executed by the five municipalities in the subwatershed. The plan will spell out the responsibilities of each municipio with regard to clean-up activities, their nature and frequency, and cost sharing. As a special execution condition, before beginning the works on the “31 de diciembre” channel, the maintenance plan will have been prepared and agreed upon by the five municipios.

3.7 **Procurement.** Civil works, goods, and consulting services financed entirely or partially with loan proceeds will be procured pursuant to documents GN-2349-7 and GN-2350-7 of the IDB. Using the ICAS, the Bank assessed the executing agency’s procurement capacity, and it was agreed that the procurements area would be strengthened with specific training on the Bank’s procurement policies. In order to determine the risk of the executing agency, an assessment of ALMA’s procurement capacity will be performed in mid-November 2009. International competitive bidding will be used when the total estimated cost of contracts is equal to or greater than the following thresholds: works: US\$1,500,000; goods: US\$150,000; consulting services: US\$200,000.

**B. Execution period**

3.8 The program execution period will be three years, pursuant to the disbursement schedule below, which may be revised during the course of program execution by mutual agreement of the parties.

**Disbursement schedule (thousands of US\$)**

<b>SOURCE</b>	<b>Year I</b>	<b>Year II</b>	<b>Year III</b>	<b>Total</b>
IDB	2,542.1	9,551.0	906.1	13,000.0
Local	3,444.9	1,601.9	1,750.8	6,797.6
<b>Total</b>	<b>5,987.7</b>	<b>11,152.9</b>	<b>2,656.9</b>	<b>19,796.6</b>
<b>% per year</b>	30%	56%	13%	<b>100%</b>

3.9 **Revolving fund.** To make program disbursements, a revolving fund will be established, equivalent to 5% of the loan amount. The PEU will control the use of the advanced funds, prepare the disbursement requests, and submit progress reports on their use to the Bank within 60 days after the close of each six-month period.

**C. Financial statements, internal controls, and external audit**

- 3.10 During the execution period, the executing agency will submit the program's annual audited financial statements. The external audit will be performed by a firm of independent auditors acceptable to the Bank, pursuant to requirements and terms of reference previously approved by the Bank. The procedures described in the bidding document for the external audit will be used to select and hire the firm. The program's annual financial statements will be presented within 120 days after the end of the fiscal year, and closing statements within 120 days after the last disbursement. The cost of the audits will be included in the cost of the program and will be financed with loan proceeds.

**D. Monitoring and evaluation of results**

- 3.11 The monitoring and evaluation system will include: (i) the annual work plans (AWPs); (ii) annual monitoring and verification of achievement of the targets set in the results matrix; and (iii) the semiannual reports, which will include the progress made under the AWP, and the outcomes of activities, including environmental monitoring and an action plan for the following six-month period for aspects requiring corrective action to improve program performance. In addition, it was agreed that a final evaluation would be performed, and that the Bank will prepare a Project Completion Report. The independent final evaluation may be commissioned with program resources. Independent consulting services will be commissioned to perform a final evaluation of the program within 90 days after the date on which 90% of the loan resources have been disbursed, and will include: (i) the results of financial execution, by component; (ii) achievement of targets, in accordance with the agreed upon outcome indicators; and (iii) fulfillment of contractual obligations. The final program evaluation and delivery of the final report will be contractual conditions for program execution.

**NICARAGUA**  
**STORMWATER DRAINAGE AND DEVELOPMENT MANAGEMENT PROGRAM IN SUBWATERSHED III OF MANAGUA**  
**(NI-L1010)**

**RESULTS MATRIX**

<b>Objective</b>	The general objective of the program is to contribute to the preservation and sustainable development of subwatershed III of Lake Managua's southern watershed, through the execution of infrastructure works and the strengthening of the municipios' environmental management capacity.					
<b>Component 1: Stormwater drainage and solid waste management</b>						
	<b>Baseline</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Target</b>	<b>Observations/Means of verification</b>
<b>Outputs</b>						
Flow regulation dam, width 35 m x height 10 m (% of physical progress)	-	70%	100%	100%	100%	Certification of progress
2 560 m of channel improvement with turf slopes and confined masonry walls (% of physical progress)	-	70%	100%	100%	100%	Certification of progress
Five box bridges (4m x 4m)	-	3	5	5	5	Certification of progress
Four concrete curtains for sedimentation control	-	4	4	4	4	Certification of progress
Monitoring of the hydrologic system: installation of water level recorders	-	6	6	6	6	Certification of progress
Joint comprehensive solid waste management plan in 4 municipios (1) (2)		C/E	I		I	Progress report
Final designs for final dump (2)		C	E		E	Progress report
Rolling stock and collection equipment for 4 municipios (1) (2)		C/E	I		I	Vouchers / receipt of items
<b>Intermediate outcomes</b>						
Increased solid waste collection in 4 municipios (1)		-	10%	20%	20%	Monitoring system
<b>Outcomes</b>						
Number of inhabitants at risk of flooding	600	200	0		<b>0</b>	Certification of progress / field inspection

Area of channel recovered (m <sup>2</sup> )	0	9,000	12,800		12,800	Certification of progress
Extension of the flood level mark in the lower part of the "31 de diciembre" channel by a rain event, with 25-year return period (hectares)	177 ha			0	0	Field investigation
(1) El Crucero, La Concepción, Nindirí, Ticuantepe (2) C = contracted; E = executed; I = implemented.						
<b>Component 2: Institution strengthening</b>						
	<b>Baseline</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Target</b>	<b>Observations/Means of verification</b>
<b>Outputs (1)</b>						
PEU monitoring system	-	C-E-I			I	Progress report
Fund for technical training of PEU personnel		C/E	I		I	
Training program for AMUSCLAM Board	-	C/E	I	/	I	Progress report
AMUSCLAM strategic plan	-	C/E	E/I	I	I	Publication and progress report
AMUSCLAM monitoring subsystem	-	C/E/I			I	Progress report
Municipal or district UGA offices implemented	-	2	6		6	Progress report
(1) C = contracted; E = executed; I = implemented.						
<b>Component 3: Erosion reduction and control</b>						
	<b>Baseline</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Goal</b>	<b>Observations/Means of verification</b>
<b>Outputs</b>						
Infiltration pits in coffee-growing areas	-	2,600	5,250	7,850	7,850	Monitoring system
Square meters of slope protection built in places where rural roads are normally cut.		1,100	2,200	3,300	3,300	Monitoring system
Hectares of coffee with improved production system		40	70	100	100	Monitoring system
Reforested hectares in critical areas		60	120	200	200	Monitoring system

<b>Component 4: Land-use and environmental planning</b>						
	<b>Baseline</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Goal</b>	<b>Observations/Means of verification</b>
<b>Outputs</b>						
Municipal environmental plans prepared and implemented			2	5	5	Progress reports/ Municipal ruling
Municipal land-use management plans prepared and approved				5	5	Progress reports/ Municipal ruling
Municipal regulatory plans approved				5	5	Progress reports/ Municipal ruling

**Indicators of the IDB Water and Sanitation Initiative (to be completed during execution)**

**Stormwater Drainage and Development Management Program in Subwatershed III of Managua**

<b>Indicator</b>	<b>Base</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Means of Verification</b>
1. Water service coverage (%)	n/a				
2. Sewerage service coverage (%)	n/a				
3. Work ratio	n/a				
4. Percentage of wastewater treated	n/a				
5. Unaccounted water (%)	n/a				
6. Labor productivity (employees/1,000 connections)	n/a				
7. Coverage of micromasurement (%)	n/a				
8. Continuity of supply (hours per day)	n/a				
9. Water quality (% samples meeting standards)	n/a				
10. Ability to pay (% of family income for lowest decile)	n/a				

**Nicaragua**  
**Stormwater Drainage and Development Management Program in Subwatershed III of Managua**  
**(NI-L1010)**

**Summary Procurement Plan**  
**Period covered by this plan: first 18 months**

Ref. No. <sup>1</sup>	Description and type of contract	Estimated contract cost (US\$000)	Procurement method <sup>2</sup>	Review (ex ante or ex post)	Source of financing and percentage			Prequalification <sup>3</sup> (yes/no)	Estimated dates		Status 4 (pending, in process, awarded, canceled)	Comments
					Norway %	IDB%	Local %		Publication of specific procurement notice	Completion of Contract		
<b>1</b>	<b>GOODS</b>											
	<b>Vehicles for transporting solid waste</b>											
	Short description											
	Dump trucks and tractors with trailers	402,000.00	ICB	yes				no	month 12	month 16	Pending	Based on the studies
	<b>Vehicles for PEU transportation</b>											
	1 4 x 4 truck	26,173.00	PQ	yes	100			no	Nov. 2009	Jan. 2010	Pending	
	3 4 x 4 trucks	90,000.00	RB	no			100	no	month 2	month 6	Pending	
	1 motorcycle	5,000.00	PQ	no	100			no	Nov. 2009	Jan. 2010	Pending	
	<b>Vehicles for UGAM transportation</b>											
	6 motorcycles	30,000.00	PQ	no	100			no	Nov. 2009	Jan. 2010	Pending	
	<b>Office equipment</b>											
	Short description											
	Purchase of computer equipment and accessories	7,500.00	PQ	no	100			no	Jun-09	Oct. 2009	Cancelled	
	PEU office furniture and media	13,169.00	PQ	no	100			no	Nov. 2009	Apr. 2010	Pending	
	Office equipment for 6 UGAMs	30,000.00	PQ	no	100			no	Nov. 2009	Apr. 2010	Pending	
	Office equipment for specialists	19,850.00	PQ	no			100		Month 2	Month 4	Pending	
	Total cadastre station equipment, 4 municipios	30,000.00	PQ	no	100			no	Nov. 2009	Apr. 2010	Pending	
	Procurement of Arview software 6 UGAMs	15,000.00	PQ	no	100			no	No date	No date	Pending	
	Procurement accounting system PEU	5,000.00	PQ	no	100			no	Nov. 2009	May-10	Pending	
<b>2</b>	<b>WORKS</b>											
	<b>Improved drainage, "31 de diciembre" channel</b>											
	Improvement 2,560 m of channel in several stretches, minidam of reinforced concrete, 35 m wide and 10 m tall, and 3 concrete catch basins	9,050,000.00	ICB	yes				no	month 1	month 15	Pending	



Ref. No. <sup>1</sup>	Description and type of contract	Estimated contract cost (US\$000)	Procurement method <sup>2</sup>	Review (ex ante or ex post)	Source of financing and percentage			Prequalification <sup>3</sup> (yes/no)	Estimated dates		Status 4 (pending, in process, awarded, canceled)	Comments
					Norway %	IDB%	Local %		Publication of specific procurement notice	Completion of Contract		
	<b>Office remodeling</b>											
	Short description											
	Remodeling 2 offices UGAM	15,500.00	PQ	no	100			no	Feb. 2009	Jul-09	Cancelled	
	Remodeling 4 offices UGAM	3,970.00	PQ	no	100			no	Nov. 2009	Feb. 2010	Pending	
	Remodeling offices PEU	20,000.00	PQ	no	100			no	Oct. 2009	Jan. 2010	Pending	
	Remodeling specialists' offices	6,000.00	PQ	no			100	no	month 3	month 6	Pending	
	<b>Investments in soil and water conservation works</b>											
	Establishment of infiltration pits, live barriers, windbreak curtains, dikes, slope protection, and headwater structure (executed)	456,174.00	CB/PQ/RB	no	100			no	Apr. 2009	Dec. 2009	In process	This amount is the sum of several execution contracts for projects, carried out by different mayoralties with procurements procedures depending on the amounts.
	Establishment of infiltration pits, live barriers, windbreak curtains, dikes, ramps, slope protection, and headwater structure (to be executed)	681,575.00	CB/PQ/RB	no	100			no	Dec. 2009	Jul-10	Pending	This amount is the sum of several execution contracts for projects, carried out by different mayoralties with procurements procedures depending on the amounts.

Ref. No. 1	Description and type of contract	Estimated contract cost (US\$000)	Procurement method <sup>2</sup>	Review (ex ante or ex post)	Source of financing and percentage			Prequalification <sup>3</sup> (yes/no)	Estimated dates		Status 4 (pending, in process, awarded, canceled)	Comments
					Norway %	IDB%	Local %		Publication of specific procurement notice	Completion of Contract		
	<b>Investments in production systems</b>											
	Establishment of live fences, ecoforestry systems, and energy plantations (in execution)	149,885.00	CB/PQ/LR	no	100			no	Apr. 2009	Dec. 2009	In process	
	Establishment of live fences, ecoforestry systems, and energy plantations (to be executed)	149,885.00	CB/PQ/LR	no	100			no	Dec. 2009	Jul-10	Pending	
3	<b>NONCONSULTING SERVICES</b>											
	<b>Hydrologic network</b>											
	Short description											
	Studies to site water level recorders, design, supply, installation and testing	690,600.00	ICB	yes		100		no	month 4	month 10	Pending	
4	<b>CONSULTING SERVICES</b>											
	<b>Supervision of works on the "31 de diciembre" channel</b>											
	Supervision and inspection of works to build the drain	360,000.00	ICB	yes		100		yes	month 2	month 15	Pending	
	<b>Consulting services for study to update solid waste management in 4 municipios</b>											
	Joint Comprehensive Solid Waste Management Plan	300,000.00	ICB	yes		100		yes	month 3	month 12	Pending	
	Final project design for constructing the final disposal center and infrastructure related to transport, for closing uncontrolled dumps, and preparing bidding conditions for construction and closing	310,000.00	ICB	yes		100			month 3	month 12	Pending	
	<b>Audits</b>											
	Audit, monitoring, and evaluation (IDB)	322,000.00	NCB	yes		93.17	6.83	yes	month 9	month 40	Pending	This is the audit for the three years.
	External audit (Norwegian grant)	10,529.00	PQ	no	100			no	Nov. 2009	Mar. 2012	Pending	
	<b>Training</b>											
	Training and technical assistance for environmental land-use planning and management in the 5 municipios	42,000.00	PQ	no	100			no	Oct. 2009	Feb. 2010	Pending	

Ref. No. 1	Description and type of contract	Estimated contract cost (US\$000)	Procurement method <sup>2</sup>	Review (ex ante or ex post)	Source of financing and percentage			Prequalification <sup>3</sup> (yes/no)	Estimated dates		Status 4 (pending, in process, awarded, canceled)	Comments
					Norway %	IDB%	Local %		Publication of specific procurement notice	Completion of Contract		
	<b>Environmental education</b>											
	Nonformal environmental education (in execution)	45,000.00	PQ	no	100			no	Sep. 2009	Dec. 2009	In process	
	Formal, nonformal, and informal environmental education (to be executed)	301,680.00	PQ	no	100			no	Oct. 2009	Dec. 2010	Pending	
	<b>Consulting services for institution strengthening</b>											
	Management training for AMUSCLAM	2,749.00	PQ	no	100			no	Nov. 2009	Feb. 2010	Pending	
	Consulting service and technical assistance for AMUSCLAM's institutional sustainability strategy	5,000.00	PQ	no	100			no	Nov. 2009	Mar. 2010	Pending	
	Consulting service for strategic and operational planning at AMUSCLAM	12,025.00	PQ	no	100			no	Nov. 2009	Apr. 2010	Pending	
	Consulting service to design and install management monitoring system in AMUSCLAM	3,500.00	PQ	no	100			no	Nov. 2009	Mar. 2010	Pending	
	Consulting service to prepare the PEU manual on organization and duties	3,000.00	PQ	no	100			no	Oct. 2009	Jan. 2010	Pending	
	Consulting service to prepare the PEU manual on administrative and financial procedures	3,000.00	PQ	no	100			no	Oct. 2009	Jan. 2010	Pending	
	Consulting service for the design and installation of the project monitoring, follow-up and evaluation system	9,500.00	PQ	no	100			no	Nov. 2009	Apr. 2010	Pending	
	Consulting service for the design and installation of the environmental impact monitoring system in subwatershed III	10,000.00	PQ	no	100			no	Nov. 2009	Apr. 2010	Pending	
	<b>Consulting services for land-use management plans</b>											
	Consulting service for preliminary land-use management plans	50,000.00	RB	no	100			no	Nov. 2009	June 2010	Pending	
	Consulting service to define strategic lines for the land-use management plans	50,000.00	RB	no	100			no	Nov. 2009	June 2010	Pending	
	Preparatory consulting service for the process to plan, regulate, and control land use and territorial development	50,000.00	RB	no	100			no	May-10	Dec. 2010	Pending	
	Consulting service to prepare land-use and territorial development plans (PODT) for the 5 municipios	120,000.00	RB	no	100			no	May-10	Dec. 2010	Pending	

Ref. No. 1	Description and type of contract	Estimated contract cost (US\$000)	Procurement method <sup>2</sup>	Review (ex ante or ex post)	Source of financing and percentage			Prequalification <sup>3</sup> (yes/no)	Estimated dates		Status 4 (pending, in process, awarded, canceled)	Comments
					Norway %	IDB%	Local %		Publication of specific procurement notice	Completion of Contract		
	<b>Contracting of specialists - IDB</b>											
	Resettlement	30,000.00	QCBS	yes		100		yes	month 1	month 12	Pending	
	Stormwater drainage	60,000.00	QCBS	yes		100		yes	month 1	month 24	Pending	
	Environmental	90,000.00	QCBS	yes		100		yes	month 1	month 36	Pending	
	<b>Contracting of specialists - Norway</b>											
	Coordinator AMUSCLAM	72,192.00	RB	no	100			no	Nov. 2008	Dec. 2011	In execution	
	Administrator	58,656.00	RB	no	100			no	Nov. 2008	Dec. 2011	In execution	
	Monitoring specialist	49,632.00	PQ	no	100			no	Nov. 2008	Dec. 2011	In execution	
	Environmental planning specialist	49,632.00	PQ	no	100			no	Nov. 2008	Dec. 2011	In execution	
	Land-use planning specialist	49,632.00	PQ	no	100			no	Nov. 2008	Dec. 2011	In execution	
	Municipal environmental technicians (12)	157,920.00	PQ	no	100			no	Nov. 2008	Dec. 2011	In execution	
5												
	<b>Framework cooperation agreement AMUSCLAM-INETER-INFOM</b>											
	Framework cooperation agreements for urban land-use planning and management	40,000.00	N/A	no	100			no	Nov. 2009	Dec. 2011	Pending	

1 If a number of similar individual contracts were to be executed in different places or at different times, these can be grouped together under a single heading, with an explanation in the comments column indicating the average individual contract amount and the period during which they would be executed. For example, an education project that includes school construction might include an item "school construction" for a total of US\$20 million, and an explanation in the comments column such as: "This encompasses some 200 contracts for school construction averaging US\$100,000 each, to be awarded individually by participating municipal governments over a three-year period between January 2006 and December 2008."

2. Goods and Works: ICB: International competitive bidding; LIB: limited international bidding; NCB: national competitive bidding; PC: price comparison; DC: direct contracting; FA: force account; PSA: Procurement through Specialized Agencies; PA: Procurement Agents; IA: Inspection Agents; PLFI: Procurement in Loans to Financial Intermediaries; BOO/BOT/BOOT: Build, Own, Operate/Build, Operate, Transfer/Build, Own, Operate, Transfer; PBP: Performance-Based Procurement; PLGB: Procurement under Loans Guaranteed by the Bank; PCP: Community participation procurement. Consulting Firms: QCBS: Quality- and Cost-Based Selection QBS: Quality-Based Selection FBS: Selection under a Fixed Budget; LCS: Least-Cost Selection; CQS: Selection based on the Consultants' Qualifications; SSS: Single-Source Selection. Individual Consultants: NICQ: National Individual Consultant selection based on Qualifications; IICC: International Individual Consultant selection based on Qualifications.

3 In the case of the new policies, it applies only for goods and works. In the case the old procurement policies it applies for goods, works and consulting services.

4 This column "Status" should be used for retroactive procurement and for procurement plan updates.

Glossary for activities carried out with Norwegian cooperation funds: NCB: national competitive bidding; RB: registered bidding; PQ: price quotes.