

**PROJECT INFORMATION DOCUMENT (PID)**  
**APPRAISAL STAGE**

Report No.: PIDA21815

<b>Project Name</b>	EC Guayaquil Wastewater Management Project (P151439)
<b>Region</b>	LATIN AMERICA AND CARIBBEAN
<b>Country</b>	Ecuador
<b>Sector(s)</b>	Wastewater Treatment and Disposal (70%), Wastewater Collection and Transportation (30%)
<b>Theme(s)</b>	Pollution management and environmental health (50%), City-wide Infrastructure and Service Delivery (50%)
<b>Lending Instrument</b>	Investment Project Financing
<b>Project ID</b>	P151439
<b>Borrower(s)</b>	Municipality of Guayaquil
<b>Implementing Agency</b>	EMAPAG-EP
<b>Environmental Category</b>	A-Full Assessment
<b>Date PID Prepared/Updated</b>	27-Feb-2015
<b>Date PID Approved/Disclosed</b>	27-Feb-2015
<b>Estimated Date of Appraisal Completion</b>	27-Feb-2015
<b>Estimated Date of Board Approval</b>	22-Apr-2015
<b>Decision</b>	

## I. Project Context

### Country Context

1. During the last decade, Ecuador has seen a period of political stability and growth combined with falling inequality, which has led to important gains in reducing poverty and promoting shared prosperity. During the period 2003–2013, gross domestic product (GDP) per capita growth in Ecuador was above regional average levels (2.7 percent versus 2.5 percent) with progress in reducing inequality exceeding regional trends. Growth has leveled in the last years but remained strong at 3.4 percent year-on-year in the third quarter of 2014 and is above the projected regional average of 0.8 percent for 2014. Income distribution was significantly improved, as expressed by the Gini coefficient, declining from 0.54 in December 2006 to 0.47 in December 2014. Between 2006 and 2014, income poverty at the national poverty line fell from 37.6 percent to 22.5 percent, while extreme poverty fell from 16.9 percent to 7.7 percent. Notwithstanding these significant strides in poverty reduction and growth of the middle class, more than half of Ecuador's 15.7 million inhabitants remain poor or vulnerable to falling back into poverty.

2. Guayaquil accounts for about 18.2 percent of Ecuador's GDP, but poverty levels are high compared to the other main Ecuadoran cities. Poverty (measured by income) in Guayaquil was 12.7

percent in December 2014, the highest among five of the largest Ecuadoran cities by population: Machala (11.9 percent), Ambato (7.3 percent), Quito (7.5 percent), and Cuenca (7.8 percent). Importantly, more poor people live in Guayaquil than in any other urban area in Ecuador because Guayaquil is the biggest city in the country with 2.35 million people (of which almost 300,000 are living below the national poverty line).

3. During the last six years, the Government of Ecuador (GoE) has invested heavily in the infrastructure and social sectors in an effort to stimulate growth, reduce inequality, and promote inclusion. As Ecuador's urban areas continue to expand, with urbanization levels reaching 65 percent in 2010, increased resources and attention are needed for housing, infrastructure, and urban services, particularly in the two major cities of Quito and Guayaquil. The GoE has placed increasing access to improved water supply and sanitation (WSS) services at the core of its Poverty Eradication Strategy and its National Development Plan (NDP), the 'Plan Nacional para el Buen Vivir 2013-2017'.

### **Sectoral and institutional Context**

4. Although access to water and improved sanitation services in Ecuador has experienced great progress over the last decade, the level and quality of service provided remains low in comparison with the regional average. In 2010, the share of households connected to a public drinking water distribution network was 72 percent in urban areas and 27 percent in rural areas, while the average in the Latin American and Caribbean region was 94 percent and 62 percent, respectively. Coverage of sewer systems (54 percent in total, 71 percent in cities, and 23 percent in rural communities) and wastewater treatment (24 percent in urban areas) are also low. The overall quality of service varies significantly across cities and regions, but with a few significant exceptions (Quito, Cuenca, Ibarra, Guayaquil), in small- and medium-sized cities and rural areas, the service generally requires important improvements in terms of continuity, efficiency, resiliency, and sustainability. It is estimated that the economic cost of inadequate WSS services in Ecuador is US \$97 million per year. The recently created National Secretariat for Water (SENAGUA) heads the water and sanitation sector's institutional framework at the national level, with responsibility for developing and applying policies, standards, norms, and regulations for water resources in general and for the provision of WSS services in particular. An important effort will be required to reinforce the capacity of the Secretariat to effectively exercise these functions. Municipal governments are responsible for the provision of WSS services within their area of jurisdiction, either directly or through delegation to a public company or community-based organizations.

5. The province of Guayas, where Guayaquil is located, has the largest concentration of the national population living without access to improved sanitation facilities (one out of five Ecuadorans) and the majority of Ecuador's urban population without a sewer connection, 52 percent. The Human Opportunity Index (HOI) values for access to a sewerage network (47.2) in Guayaquil is also very low in comparison to other services such as education (93.35), electricity (93.15) or even water in the household (77.64).

6. The Gulf of Guayaquil constitutes a rich ecosystem (as a result of the existing mix of fresh and sea water), with significant importance for Ecuador both in environmental and economic terms. In this regard, fishing activities in the gulf represent an important source of revenue for the region, especially the shrimp farms located on the shores of the Guayas River. Likewise, mangrove forests shoring the Estero Salado (nowadays a highly contaminated estuary) create a valuable

environmental asset, and since both the Guayas River and the Estero Salado are part of the urban landscape of the City of Guayaquil, these two water bodies have great potential to become recreational and aesthetic assets for the City. Contamination of the Estero Salado is caused by untreated industrial and domestic wastewater discharges. The environmental recuperation of the Estero Salado is also one of the environmental priorities of the National Government, which plans to invest around US\$200 million by 2017 to contribute to the restoration.

7. Guayaquil's Municipal Development Plan (MDP) identifies access to affordable, improved wastewater management services as a key element of its social inclusion and urban regeneration policies. The MDP, in alignment with the Plan Nacional del Buen Vivir and the Bank's Twin Goals, considers the following as part of its development objectives: (a) the reduction of inequalities in terms of access to affordable and quality basic services and (b) the regeneration of degraded urban areas and environmental assets as a driver for economic growth, social inclusion, and competitiveness improvement. In this regard, the MDP establishes the goal of reaching universal access rate to sewerage wastewater collection and identifies the regeneration of the Estero Salado and riparian neighborhoods as a key development objective.

8. In the City of Guayaquil, WSS services are provided through a public-private partnership (PPP) arrangement with a private operator. Since 2001, and motivated by the poor performance of the municipal water and sanitation utility at the time, the Empresa Cantonal de Agua Potable y Alcantarillado de Guayaquil (ECAPAG), a 30-year concession contract was awarded to a private consortium, Interagua, for the provision of WSS services within the city. ECAPAG EP was later transformed into a regulatory agency, today called Empresa Municipal de Agua Potable y Alcantarillado de Guayaquil (EMAPAG EP), which is in charge of supervising and controlling Interagua's performance, among other functions.

9. During the last thirteen years, access to water and sanitation and the quality of services has significantly improved in the City of Guayaquil. According to the audits performed by the National Audit Office between 2001 and 2009: (a) water supply distribution network coverage has increased from 30 to 95 percent; (b) the sewerage network coverage has reached 80 percent city-wide; (c) unaccounted water was reduced by 14 percent; and (d) staff-to-connection ratio decreased from 6/1,000 to 3/1,000. During these years, billing and delinquency rates also improved significantly (delinquency decreased from 50 percent in 2001 to 10 percent in 2006), contributing, together with the enlargement of the client base and improvements in productivity, to enhancing the financial sustainability of the services. Nonetheless, two important challenges regarding sanitation services remain, particularly in terms of environmental sustainability and equity of access: (a) just 20 percent of the wastewater generated is currently being adequately treated and (b) effective access (actual connections to the sewerage network) is about 85 percent of potential service coverage under the given network extension.

10. To meet the ambitious environmental and access to basic services goals set by the MDP and the NDP, EMAPAG EP and Interagua have designed a comprehensive wastewater management investment program to be implemented within this decade. For the past several years, the city of Guayaquil has been studying a solution for the treatment of its municipal wastewater before its discharge into the Guayas River. In 2010, EMAPAG EP commissioned a feasibility study for the treatment of 100 percent of the wastewater of the city of Guayaquil. Under this task, a large number of studies were prepared, including, among others, a study of alternatives, conceptual design of the selected alternative, preliminary dimensioning of the installations, detailed environmental impact

assessment, economic and financial analysis, cost estimates, technical specifications, and preparation of the detailed engineering design of the wastewater treatment plants (WWTPs) of Las Esclusas (covering the southern districts, with around 1.2 million inhabitants) and Los Merinos (covering the northern districts with 1.3 million inhabitants).

11. Although the City of Guayaquil is allocating significant resources to the WSS sector, it needs to significantly increase its investment pace to implement sustainable wastewater management services in the City. The costs of improving urban sanitation to attain universal sewerage and wastewater treatment coverage are estimated to be US\$541 million until 2020 (including sewerage network rehabilitation and expansion and the construction of two wastewater treatment plants). Interagua's annual investment commitments equal, on average, US\$21.5 million (both for water and sanitation services), and EMAPAG EP currently complements this investment effort with an average annual investment flow of US\$30 million financed by the Municipality.

12. The Bank's value added and global knowledge incorporated in Project design. Although, as stated above, EMAPAG EP was well-advanced in the conceptualization and preparation of the city's wastewater management plan before the Bank's involvement, including the availability of detailed designs for the construction of a new WWTP, the Bank has provided advice on various aspects of Project design based on its experience in other parts of Latin America and globally. The Bank's involvement has promoted and facilitated the incorporation of a holistic approach to wastewater management, particularly in the following areas:

- (a) Broadening the initial scope of the Project from a sheer wastewater treatment infrastructure financing to include a component focusing on sewerage network rehabilitation and coverage extension to the poor.
- (b) Building on the existing methodology in Guayaquil for social intervention and the promotion of public awareness on sanitation, which is considered best practice, and providing tools for this knowledge to be shared with other utilities at the regional and global levels. The Project will explore possibilities to enhance social equity and poverty reduction outcomes by providing financing for a pilot which will involve the community in the installation of household connections.
- (c) Including the development of knowledge tools and instruments to monitor water quality in the city's water bodies, which is expected to enhance and promote environmental benefits and increase accountability for pollution and increased environmental awareness.
- (d) Developing an integrated urban water management approach for the planning of urban development in growing areas of the city which are currently less consolidated and require interventions in urban drainage and wastewater management.

13. The Bank has also promoted the incorporation in the Project design of an Impact Evaluation (IE) assessment, which will aim to measure the overall impact of the Project in a number of variables such as poverty, health, and environment. Beyond demonstrating results from the Project-financed investments, it is expected that this study can generate a strong evidence base and contribute to decision making and policy development at the national level with regard to sanitation investments.

14. Finally, the Bank is supporting SENAGUA, the single water authority in the country, with the formulation of a national strategy for water and sanitation which includes the calculation of investment needs and the development of specific strategies for developing rural and urban water, sanitation and wastewater management nation-wide.

## II. Proposed Development Objectives

The Project Development Objective (PDO) is to increase access to improved sanitation services and to reduce wastewater pollution in selected areas of the City of Guayaquil.

## III. Project Description

### Component Name

Component 1: Installation of Household Connections

### Comments (optional)

### Component Name

Component 2: Rehabilitation of Sewerage Network

### Comments (optional)

### Component Name

Component 3: Wastewater Treatment and Disposal Facilities

### Comments (optional)

### Component Name

Component 4: Project management and Administration, including Communication Plan and Management of Social, Environmental and Safety Issues

### Comments (optional)

## IV. Financing (*in USD Million*)

Total Project Cost:	247.82	Total Bank Financing:	102.50
Financing Gap:	0.00		
<b>For Loans/Credits/Others</b>			<b>Amount</b>
Borrower			42.82
International Bank for Reconstruction and Development			102.50
EC European Investment Bank			102.50
Total			247.82

## V. Implementation

The arrangements for Project implementation are the following:

15. Borrower and executing agency. The Autonomous Decentralized Government of the Municipality of Guayaquil has delegated the financing, execution, and management of the Project to EMAPAG EP, a public municipal enterprise, 100 percent owned by the municipality. EMAPAG EP will be the borrower of the proposed loan, with a sovereign guarantee from the GoE to be granted by the Ministry of Finance (MoF) and a solidarity guarantee from the Municipality of Guayaquil .

16. Implementation arrangements. A Project Implementation Unit (PIU) established under

EMAPAG's General Manager will be responsible for day-to-day Project implementation and overall coordination, procurement, financial management (FM), as well as for management and supervision of the results framework, monitoring, and Project Impact Evaluation. The PIU will function with its own general coordinator, with the support of technical staff from EMAPAG EP (particularly from the Finance and Legal Directorates), and will be staffed with technical and fiduciary specialists as well as dedicated environmental and social safeguards staff.

17. Operational arrangements. Once constructed, the infrastructure financed under the Project will be operated by Interagua, the private operator under a 30-year concession with EMAPAG EP. The concession period lasts until 2031 and, in principle, an extension is not envisaged. However, it is considered that there is sufficient time to plan for effective knowledge transfer and capacity building, as well as an adequate solution for the future provision of the WSS services in Guayaquil.

## VI. Safeguard Policies (including public consultation)

<b>Safeguard Policies Triggered by the Project</b>	<b>Yes</b>	<b>No</b>
Environmental Assessment OP/BP 4.01	x	
Natural Habitats OP/BP 4.04	x	
Forests OP/BP 4.36		x
Pest Management OP 4.09		x
Physical Cultural Resources OP/BP 4.11	x	
Indigenous Peoples OP/BP 4.10		x
Involuntary Resettlement OP/BP 4.12	x	
Safety of Dams OP/BP 4.37		x
Projects on International Waterways OP/BP 7.50		x
Projects in Disputed Areas OP/BP 7.60		x

### Comments (optional)

## VII. Contact point

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