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PROJECT PERFORMANCE ASSESSMENT REPORT

ECUADOR

**RURAL AND SMALL TOWNS WATER SUPPLY AND SANITATION PROJECT
(PRAGUAS)**

(LOAN 70350)

June 28, 2011

*IEG Public Sector Evaluation
Independent Evaluation Group*

Currency Equivalents (annual averages)

ECUADOR: *Currency Unit = Ecuador Sucre (ECS)*

1998	US\$ 1.00	ECU	5,448
1999	US\$ 1.00	ECU	11,773
2000*	US\$ 1.00	US\$	1
2001	US\$ 1.00	US\$	1
2002	US\$ 1.00	US\$	1
2003	US\$ 1.00	US\$	1
2004	US\$ 1.00	US\$	1
2005	US\$ 1.00	US\$	1
2006	US\$ 1.00	US\$	1
2007	US\$ 1.00	US\$	1
2008	US\$ 1.00	US\$	1
2009	US\$ 1.00	US\$	1
2010	US\$ 1.00	US\$	1

* Since 2000, Ecuador has adopted the US dollar as its own currency.

Abbreviations and Acronyms

APL	Adaptable Program Loan
CAS	Country Assistance Strategy
ERR	Economic Rate of Return
FY	Fiscal Year
IBRD	International Bank of Reconstruction and Development
IEG	Independent Evaluation Group
IEOS	Ecuadorian Institute for Sanitation Works (Instituto Ecuatoriano de Obras Sanitarias)
M&E	Monitoring and Evaluation
MDG	Millennium Development Goal
MIDUVI	Ministry of Urban Development and Housing (Ministerio de Desarrollo Urbano y Vivienda)
MIS	Management Information System (Sistema de Información Gerencial)
NGO	Non-Governmental Organization
NPV	Net present value
O&M	Operation & Maintenance
PAD	Project Appraisal Document
PDO	Project Development Objective
PMU	Project Management Unit
PPAR	Project Performance Assessment Report
PRAGUAS	Rural and Small Towns Water Supply and Sanitation Program (Programa Nacional de Agua y Saneamiento Rural)
RWSS	Rural Water Supply and Sanitation
SSA	Subsecretariat of Environmental Sanitation (Sub-secretaría de Saneamiento Ambiental), (former name of the SAPSyRS)
TA	Technical Assistance
WBA	Water Beneficiary Associations
WSS	Water Supply and Sanitation

UNDP United Nations Development Program
WBA Water Beneficiary Associations
WSS Water Supply and Sanitation
WUA Water Users' Association (Junta de Agua Potable y Saneamiento, JAPS)

Fiscal Year

Government: January 01 – December 31

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Principal Ratings

Ecuador Rural and Small Towns Water Supply and Sanitation Project (Loan 70350-EC)

	<i>ICR*</i>	<i>ICR Review*</i>	<i>PPAR</i>
Outcome	Satisfactory	Satisfactory	Moderately Satisfactory
Risk to Development Outcome	Moderate	Significant	Significant
Bank Performance	Satisfactory	Highly Satisfactory	Moderately Satisfactory
Borrower Performance	Satisfactory	Moderately Satisfactory	Moderately Satisfactory

* The Implementation Completion Report (ICR) is a self-evaluation by the responsible Bank department. The ICR Review is an intermediate IEG product that seeks to independently verify the findings of the ICR.

Key Staff Responsible

<i>Project</i>	<i>Task Manager/Leader</i>	<i>Division Chief/ Sector Director</i>	<i>Country Director</i>
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IEG Mission: Improving development results through excellence in evaluation.
About this Report

The Independent Evaluation Group assesses the programs and activities of the World Bank for two purposes: first, to ensure the integrity of the Bank's self-evaluation process and to verify that the Bank's work is producing the expected results, and second, to help develop improved directions, policies, and procedures through the dissemination of lessons drawn from experience. As part of this work, IEG annually assesses 20-25 percent of the Bank's lending operations through field work. In selecting operations for assessment, preference is given to those that are innovative, large, or complex; those that are relevant to upcoming studies or country evaluations; those for which Executive Directors or Bank management have requested assessments; and those that are likely to generate important lessons.

To prepare a Project Performance Assessment Report (PPAR), IEG staff examine project files and other documents, visit the borrowing country to discuss the operation with the government, and other in-country stakeholders, and interview Bank staff and other donor agency staff both at headquarters and in local offices as appropriate.

Each PPAR is subject to internal IEG peer review, Panel review, and management approval. Once cleared internally, the PPAR is commented on by the responsible Bank department. The PPAR is also sent to the borrower for review. IEG incorporates both Bank and borrower comments as appropriate, and the borrowers' comments are attached to the document that is sent to the Bank's Board of Executive Directors. After an assessment report has been sent to the Board, it is disclosed to the public.

About the IEG Rating System for Public Sector Evaluations

IEG's use of multiple evaluation methods offers both rigor and a necessary level of flexibility to adapt to lending instrument, project design, or sectoral approach. IEG evaluators all apply the same basic method to arrive at their project ratings. Following is the definition and rating scale used for each evaluation criterion (additional information is available on the IEG website: <http://worldbank.org/ieg>).

Outcome: The extent to which the operation's major relevant objectives were achieved, or are expected to be achieved, efficiently. The rating has three dimensions: relevance, efficacy, and efficiency. *Relevance* includes relevance of objectives and relevance of design. Relevance of objectives is the extent to which the project's objectives are consistent with the country's current development priorities and with current Bank country and sectoral assistance strategies and corporate goals (expressed in Poverty Reduction Strategy Papers, Country Assistance Strategies, Sector Strategy Papers, Operational Policies). Relevance of design is the extent to which the project's design is consistent with the stated objectives. *Efficacy* is the extent to which the project's objectives were achieved, or are expected to be achieved, taking into account their relative importance. *Efficiency* is the extent to which the project achieved, or is expected to achieve, a return higher than the opportunity cost of capital and benefits at least cost compared to alternatives. The efficiency dimension generally is not applied to adjustment operations. *Possible ratings for Outcome:* Highly Satisfactory, Satisfactory, Moderately Satisfactory, Moderately Unsatisfactory, Unsatisfactory, Highly Unsatisfactory.

Risk to Development Outcome: The risk, at the time of evaluation, that development outcomes (or expected outcomes) will not be maintained (or realized). *Possible ratings for Risk to Development Outcome:* High, Significant, Moderate, Negligible to Low, Not Evaluable.

Bank Performance: The extent to which services provided by the Bank ensured quality at entry of the operation and supported effective implementation through appropriate supervision (including ensuring adequate transition arrangements for regular operation of supported activities after loan/credit closing, toward the achievement of development outcomes. The rating has two dimensions: quality at entry and quality of supervision. *Possible ratings for Bank Performance:* Highly Satisfactory, Satisfactory, Moderately Satisfactory, Moderately Unsatisfactory, Unsatisfactory, Highly Unsatisfactory.

Borrower Performance: The extent to which the borrower (including the government and implementing agency or agencies) ensured quality of preparation and implementation, and complied with covenants and agreements, toward the achievement of development outcomes. The rating has two dimensions: government performance and implementing agency(ies) performance. *Possible ratings for Borrower Performance:* Highly Satisfactory, Satisfactory, Moderately Satisfactory, Moderately Unsatisfactory, Unsatisfactory, Highly Unsatisfactory.

Preface

This is the Project Performance Assessment Report (PPAR) prepared by the Independent Evaluation Group (IEG) for the Rural and Small Towns Water Supply and Sanitation Project (Loan 70350-EC) in Ecuador (PRAGUAS).

The International Bank for Reconstruction and Development (IBRD) loan to the Government of Ecuador was approved by the Board of Directors on October 17, 2000 in the amount of US\$32 million for PRAGUAS as the first phase of its sector program. At appraisal the total project cost was estimated to be US\$50.25 million, including the municipalities' and beneficiaries' contribution of US\$10.25 million and US\$8 million, respectively. The final project cost was US\$45.57 million, of which the loan amount was US\$32 million and the contribution from the municipalities and the beneficiaries were US\$6.2 million and \$6.9 million, respectively. The remaining \$0.56 million was covered by the Government. The closing date was extended by two years, from October 31, 2004 to October 31, 2006.

IEG prepared this report based on an examination of the Project Appraisal Document, Implementation Completion and Results Report, Legal Agreement, project files and archives, as well as other relevant report, memoranda and working papers. Discussions were also held with Bank staff in Washington, DC and in the resident mission. An IEG field mission visited Ecuador in December 2010 to review the results on the ground and to hold discussions with relevant government officials, communities of beneficiaries, and other sector stakeholders. The mission appreciates all support and attention given by the borrowers and all concerned parties in Ecuador as well as in Washington, DC.

This project was selected for review as input into the planned IEG evaluation of World Bank Group support for infrastructure. A separate PPAR is under preparation for the 4th Rural Water Supply and Sanitation Project in Paraguay, which will distill lessons from the two projects.

Following IEG practice, a copy of the draft PPAR was sent to government officials and borrowing agencies for their review. However, no comments were received.

Summary

This Project Performance Assessment Report (PPAR) assesses development effectiveness focusing on the institutional and financial aspects of the Rural and Small Towns Water Supply and Sanitation Project (Loan 70350-EC) in Ecuador (PRAGUAS), which was the first phase of a three-phase Adaptable Program Loan (APL). PRAGUAS was approved in 2001 and closed in 2006, at a total cost of about US\$45 million.

PRAGUAS combined investment in water supply and sanitation infrastructure and technical assistance to improve the performance of key water sector institutions. At the time of project preparation, Ecuador had rural populations with low access to water supply and sanitation (WSS) services. Improving rural access to WSS was identified as a government priority for the country.

Ecuador devolved the WSS service mandate for small towns and rural areas to municipal governments in the early 1990s. Prior to PRAGUAS, a pilot project under the Second Health and Nutrition Project tested the use of water beneficiary associations (WBA) for the operations and maintenance (O&M) of the water systems in rural areas. This model was scaled up under PRAGUAS. WBAs are non-profit organizations with a legal charter, including a governing board with democratically-elected members. PRAGUAS supported the institutional models promoting beneficiary contributions to financing investments, creation of WBAs to operate and maintain the WSS infrastructure, and recovery of O&M costs through user charges. Procurement of the investment contracts was managed by municipal governments.

The project development objective for PRAGUAS was to increase WSS service coverage and quality for beneficiaries in small towns and rural municipalities with the focus on the poor. In addition, PRAGUAS aimed to improve water sector performance through the application of coherent policies and the strengthening of sector institutions at the central and local levels. The first objective of increasing WSS service coverage and quality for beneficiaries with focus on the poor was substantially achieved. The number of municipalities covered under the project was 109, far exceeding the target of 40 and many of these municipalities were in poor geographical areas. The project achieved 82 percent of the access targets by increasing WSS services for about 288,000 beneficiaries of whom 145,000 were connected to small piped water systems only, 14,000 received sanitation facilities only (mostly flush toilets, hand washer sink and shower facilities), and 129,000 received both water connections and sanitation facilities. While the achievement on WSS service quality was difficult to assess since there were no baseline data of service quality at startup, Ex Post PRAGUAS evaluation found 80 percent of the piped systems built by the project had daily service at the time of project completion, and 20 percent had service with extreme rationing.

PRAGUAS' second objective of reforming the sector through overhauling the sector institutions achieved limited results. Though a new sector organization was put in place in the central government to oversee the sub-projects, limited progress has been made in defining key policy areas that affect the sustainability of the investments. By the end of the project allocation of responsibilities to undertake sector investments at the national

and sub-national levels had not been formalized, rules for asset ownership in the sector had not been defined, and there was no consistent financing policy. The share of public financing was, and still is, decided on an ad hoc investment-by-investment basis. The relevance of the project's objectives was substantial, but the relevance of the design was modest. While a pilot project tested the demand-responsive approach, policies related to investment responsibilities were not defined by appraisal, and the municipalities were given the mandate to implement the investment sub-projects using an overly complex project cycle that contributed to delays in project implementation. The objective related to increasing WSS access was achieved, while the objective relating to the sector reform was achieved only modestly. While there were delays in project effectiveness and implementation, the benefits in relation to the costs are likely to be substantial, given the high rate of return calculated at the end of the project. Putting together the elements on relevance, efficiency, and achievement of objectives, the overall outcome is rated moderately satisfactory.

Risk to development outcome is rated as significant because of the risks associated with the communities' and municipalities' financial capacity to maintain their RWSS systems over the longer term. In addition, the political and government ownership risk increased significantly when the new administration cancelled a large part of the follow-on second-phase APL. As for the Bank's Performance, the overall rating is moderately satisfactory because the project design was over-ambitious given the potentially politically sensitive time period in which the project was being prepared, and poor quality of monitoring and evaluation. The borrowers' performance was moderately satisfactory, with shortcomings on the government side due to the delays in sector policy formalization and implementation of sector reforms.

Lessons

- **Sector reform and the related shift in institutional culture require political support and time:** It is important to identify the potential risks up front, to carry out proper stakeholder analysis, and to make a realistic projection of the time it takes to change the roles of the Government agencies and to devolve the WSS investment and O&M responsibilities to the local government or the community level.
- **Formalization of consistent policies is critical for reform:** While it may not be sufficient for implementation of reform, sector policies and institutional responsibilities need to be formalized through legal decrees and approvals by the Congress as a precondition for the enforcement of financial and investment policies, especially as the countries face political changes.
- **The conventional WBA model shows stronger financial sustainability compared to the municipal models, in which tariffs are approved by municipal authorities:** Long-term financial sustainability depends on whether the institutional arrangements for implementing cost recovery policies are sound and responsive to local conditions.

- **Post construction support enhances the sustainability of community participatory water supply services:** For the water systems to be sustainable, there also needs to be an institutionalized arrangement for technical assistance and post-construction support for continuous capacity building of WBAs.

Vinod Thomas
Director-General
Evaluation

1. Background

1.1 The water supply and sanitation (WSS) sector in Ecuador has undergone significant institutional reforms since the early 1990s, when the Government created the Sub-Secretariat of Water and Sanitation (Sub-secretaría de Saneamiento Ambiental, SSA) in the Ministry of Urban Development and Housing (Ministerio de Desarrollo Urbano y Vivienda, MIDUVI). The SSA absorbed the staff of what used to be the Ecuadorian Institute of Sanitation Works (Instituto Ecuatoriano de Obras Sanitarias, IEOS) which was disbanded in 1992. The IEOS had been in charge of strategic planning, policy making, implementation of investments, and service provision in the WSS sector all over Ecuador –urban and rural–from 1965 to 1992.

1.2 At its creation, MIDUVI/SSA inherited national planning and policy-making responsibilities from the IEOS, while the responsibility for WSS service provision was transferred to local governments as part of decentralization reforms initiated in the early 1990s. IEOS' WSS investment implementation functions had been left undefined and taken over de facto by MIDUVI/SSA and the Ecuadorian Social Investment Fund, among others. In the broader context, Ecuador had changed its constitution in 1998, which was changed again in 2008 under the administration of President Rafael Correa. Both constitutional changes formalized the responsibility of public services, including WSS at the local government level.

1.3 With five presidents between 1998 and 2007,¹ Ecuador was characterized by political instability during preparation, appraisal, and implementation of the Rural and Small Towns Water Supply and Sanitation Program (Programa Nacional de Agua y Saneamiento Rural, PRAGUAS). The PRAGUAS project was designed amid the worsening socio-economic crisis of the late 1990s, with GDP per capita falling, public debt increasing, and Ecuador defaulting on its external debt payments in September 1999. According to the Bank's 1999 report "Crisis, Poverty, and Social Services in Ecuador", nationwide incidence of extreme poverty rose from 12 percent to 17 percent between 1995 and 1998, and from 23 percent to 30 percent in rural areas. According to government figures,² by the time of project start up, only 39 percent of households in rural areas had access to water supply and 30 percent to improved sanitation services.

1.4 The Adaptable Program Loan (APL) – the first phase of three planned operations -- was designed against the backdrop of Ecuador's worsening socio-economic crisis and specifically targeted investments to the rural areas and small towns where two thirds of the country's poor reside. Lessons were drawn from the US\$3 million pilot project which introduced the first demand-responsive approach in the country. This Project Performance Assessment Report (PPAR) assesses the first phase of the APL known as PRAGUAS and also takes into account other literature and analysis related to the PRAGUAS project

¹ Jamil Mahuad, July 1998 - January 2000, Gustavo Noboa, January 2000-January 2003, Lucio Gutierrez, January 2003-April 2005, Alfredo Palacios, April 2005-January 2007, Rafael Correa January 2007 to the present.

² Política Nacional de Agua, Julio 2002. According to updated indicators presented by the Joint Monitoring Program (WHO/UNICEF updated 2010), pipe water supply access at the time of project startup was 55 percent.

(Guerra-Garcia 2005; Quintero-Rojas 2006; Rojas-Ortrute 2005; Ortiz Anderson 2006; Bermudez & Asociados 2007).

2. Project Design

Development Objectives

2.1 The overall objective of the APL was to increase the coverage and effective use of sustainable water and sanitation services in Ecuador, with a focus on the poorer populations in rural communities and small towns. An associated objective of the program was to support the government in the implementation of an overall WSS sector reform program, covering both urban and rural areas.

2.2 The project development objective (PDO) in the Project Appraisal Document (PAD) of the first phase of the APL, the PRAGUAS project, was: “the execution of investments for increased WSS service coverage and quality for about 350,000 rural and small town beneficiaries in about 40 rural municipalities as well as in about 6 municipal capitals. In addition, the project development objective includes the improvement of sector performance through the application of coherent policies, and the strengthening of sector institutions at the central and local levels.” The PDO in the Loan Agreement (LA) was “to increase the coverage and effective use of sustainable water and sanitation services with a focus on the poorer populations in rural communities and small towns.”

2.3 The objectives in the PAD and the LA are compared in Table 2.1. Both include coverage of WSS in their objectives. Sector performance and service quality are not included in the LA, while effective use of WSS services and clear poverty focus are included in the LA but not in the PAD. However, the objectives in the PAD are nevertheless broadly consistent with those in the LA if one considers improved sector performance as evidence of “effective use of sustainable WSS services.” Likewise, service coverage to the poor would imply not only access to physical infrastructure, but to a minimum level of quality. Consistent with the objectives of the LA, this PPAR will assess the following outcomes: (a) coverage with a focus on the poor, including indicators of both access and service quality; and (b) effective use of sustainable WSS services, with the evidence in terms of improved sector performance (implementation of coherent policies, municipal company models with autonomous operators, and strengthening of sector institutions at central and local levels).

Table 2.1. Comparison of the project development objectives and the target groups in the PAD and the LA.

	<i>Loan agreement</i>	<i>PAD</i>
Objectives	“increase the <u>coverage</u> and <u>effective use</u> of sustainable water and sanitation services...”	“...increased WSS service <u>coverage</u> and <u>quality</u> ...” “the <u>improvement of sector performance</u> through application of coherent policies, and the strengthening of sector institutions at the central and local levels”
Target group	“...with a focus on the <u>poorer populations</u> in rural communities and small towns.”	“...for about 350,000 <u>rural and small town beneficiaries</u> in about 40 rural municipalities as well as about 6 municipal capitals.” (for the first part of the objective) Central Government, Local Governments, and Service providers for the second part of the objective

Source: Loan Agreement and PAD.

2.4 The PRAGUAS project was designed as phase one of a three-phase APL operation to improve WSS access to Ecuador’s rural population and to overhaul the WSS sector institutions, policy and legal framework, and the investment and operation and maintenance (O&M) practices at all government levels (Box 1). The Bank was expected to finance this APL through three sequential loans of US\$32 million, US\$48 million, and US\$50 million.

Box 1. Summary of PRAGUAS APL Key Targets for Each Phase

Phase 1 (2001-05): (i) 350,000 people in small towns and rural communities served by new/rehabilitated water and/or sanitation infrastructure; (ii) policy reform initiated and SSA restructured; (iii) SSA strengthening underway; (iv) draft sector legislation prepared; (v) service delegation models tested in at least 8 municipalities.

Phase 2 (2005-08): (i) Policy reform deepened and new financial guidelines widely applied by other sector financiers; (ii) institution building consolidated and expanded; (iii) about 980,000 people in small towns and rural communities are served by new/rehabilitated water and/or sanitation infrastructure (phase 1 + phase 2); and (iv) WSS service provision delegated in 20 small municipalities.

Phase 3 (2008-11): (i) Policy reform consolidated; (ii) improved sector efficiency, complete O&M and investment cost recovery and widespread private sector participation in service delivery achieved; (iii) a total of about 1.6 million additional people in small towns and rural communities are served by new/rehabilitated water and/or sanitation infrastructure (phase 1 + phase 2 + phase 3); and (iv) WSS service provision delegated in 50 municipalities.

Source: Project Appraisal Document

Components

2.5 PRAGUAS had four project components: (1) Sector reform and institutional development which included restructuring of SSA and policy reform, strengthening of municipal governments, non-governmental organization (NGOs), and private WSS operators; (2) Water and sanitation subprojects in rural areas which included promotion, community

development, engineering designs and supervision, water and sanitation infrastructure, community training, and hygiene education; (3) Water and sanitation sub-projects in municipal capitals which included engineering studies and supervision and civil works; and (4) Project Management (Table 2.2).

2.6 Under Component 1, the project intended to support far-reaching institutional reforms at the central and local government levels and to introduce the creation of water beneficiary associations (WBA) at the community level, locally called “juntas” in Spanish, to carry out the O&M of WSS in the rural areas. The institutional reforms aimed at strengthening policy and national strategic planning at the central level and responsibility for implementation of investments at the local government level. For the long-term operational phase of investments, the project envisioned the commercialization of water utilities in the participating small towns and the mainstreaming of WBAs at the rural community level.

2.7 Under Component 2, the project supported water and sanitation investment subprojects at the rural community level. These subprojects were identified by each participating municipality covering the rural communities using participatory approaches that incorporated stakeholders and direct beneficiaries in the decision making process of the investments throughout the project period. To enhance beneficiary ownership of the WSS systems, upfront contributions from the households in the case of rural schemes, and also from municipal water utilities in the case of small towns were adopted. Beneficiary contributions would range between 10 percent and 30 percent of the total investment costs. The Project cycle for WSS investments included:

1. **Promotion of sub-projects at the rural community level.** This involved the Project Management Unit (PMU), the Provincial WSS Team, the Municipal WSS Team, and a non-government Implementation Assistance Agency,
2. **Pre-selection of rural community sub-projects** was carried out by the provincial and municipal WSS teams and the communities. Upon completion of this phase, a sub-project preparation grant agreement was signed between the SSA and the involved municipality,
3. **Pre-investment** which involved the establishment of a WBA with help of an Implementation Assistance Agency and the provincial and municipal WSS teams. Upon completion of this phase an investment grant agreement was signed by SSA and the involved municipality,
4. **Investment**, which involved the tendering of the project to local contractors by the municipal WSS team through two separate contracts for construction and supervision.
5. **Follow Up**, which involved the collection of relevant information by municipal WSS team for monitoring and evaluation purposes.

2.8 Under component 3, the project intended to support delegated management models for the commercialization of water and sanitation services of small municipalities. For doing so, an incentive based financing policy was proposed according to which, those municipalities that agreed to implement such delegated management models were going to receive 100 percent grant to prepare expansion/rehabilitation projects and grant financing of

Table 2. 2. Project Components, Financing, and Subcomponents

<i>Components</i>	<i>Subcomponents</i>
<p>1. Sector Reform and Institutional Development <i>Appraisal:</i> US\$4.5 million; <i>Actual:</i> US\$2.35 million</p>	<ul style="list-style-type: none"> • <i>Institutional Development and Policy Reform</i> – Assistance to: (i) SSA to assume its new role in the sector including (a) formulating sector policies and norms, setting general regulatory guidelines, and (b) preparing new water and sanitation sector law; and (ii) create a new unit in SSA to provide TA to municipalities for service planning and delegated management. • <i>Strengthening of Municipal Governments, NGOs, and Private Sector Service Providers</i> – (i) design and implementation of models for WSS service provision through autonomous (preferably private) operators,; and (ii) capacity building of local private sector operators, small engineering firms and NGOs who are expected to be involved at various stages in WSS service provision in rural areas, using demand driven approaches.
<p>2. Rural Water Supply and Sanitation <i>Appraisal:</i> US\$39 million; <i>Actual:</i> US\$39 million</p>	<ul style="list-style-type: none"> • <i>Sub project Promotion and Pre-investment activities (US\$5 million)</i> – Promotion to stimulate municipalities to participate in the project. Pre-investment, such as community organization and formation of WBAs, selection of preferred service level, complete engineering designs, community training in contract administration, hygiene education, and selection of management models for RWSS. • <i>Civil works and Community Training (US\$34 million)</i> – Construction and/or rehabilitation of WSS infrastructure in rural communities, and provision of training to WBAs in the operation and maintenance of WSS services. Water supply systems would include technical and service level options, such as simple hand pumps, rainwater catchments, and small piped systems. Sanitation options will focus on on-site systems including improved traditional latrines and "basic sanitation units" with shower, sink and a flush toilet.
<p>3. Small Towns Water Supply and Sanitation <i>Appraisal:</i> US\$3 million; <i>Actual:</i> US\$0.71 million</p>	<ul style="list-style-type: none"> • <i>Engineering Studies</i> – Preparation of technical designs and tender documents for water supply rehabilitation and/or expansion investments in the municipal capitals (with population below 10,000 people) that take steps to transfer the operation of their WSS services to autonomous public or private operators. • <i>Civil Works</i> – Expansion and rehabilitation of water supply and sanitation systems up to agreed investment levels.
<p>4. Project administration <i>Appraisal:</i> US\$3.4 million; <i>Actual:</i> US\$2.73 million</p>	<ul style="list-style-type: none"> • Establishment of the Project Management Unit in the SSA/Quito and its provincial subunits including, inter alia, purchasing of office equipment, maintenance of its financial management and Project monitoring systems, incremental operating costs, preparation of external Project audits, and consultancies.

Source: Project Appraisal Document

50 percent of investments needed. The balance was going to be financed by the utility's tariff revenues (30 percent) and by a municipal budget contribution (20 percent).

2.9 Under component 4, the project financed a PMU whose main objective was to facilitate the work of the project implementation agencies. The project implementation

agency for component 1 was MIDUVI/SSA; the project implementation agencies for components 2 and 3 were the relevant municipal governments.

Implementation Arrangements

2.10 As described above, PRAGUAS was implemented by the MIDUVI/SSA through a dedicated PMU for components 1 and 4 and small municipalities (populations less than 10,000 inhabitants) were the implementing agencies for components 2 and 3. Given that the small municipalities had limited project implementation experience in general and no familiarity with Bank procurement guidelines, support was provided by specialized firms hired by SSA.

2.11 The responsibility for investments and project implementation was transferred from MIDUVI/SSA to the municipalities under the project through provision of support for design and implementation of WSS investments in the participating municipalities. However, this shift was accepted only reluctantly by MIDUVI, because the MIDUVI/SSA staff was not ready to give up their role and resisted the reform through continuing to construct water supply schemes without ensuring financial contribution from the beneficiaries. This led to the application of inconsistent financing policies in different parts of Ecuador, hampering the sustainability of the sector investments in general, as described in the section on Efficacy.

3. Implementation experience

Project Costs

3.1 Actual project cost was US\$45.57 million, or 91 percent of planned total cost of US\$50.25 million. The Bank loan (US\$32 million) was fully disbursed, but about US\$4 million was reallocated to the Rural WSS component (component 2) from the remaining three components. The Bank's planned financing for the Rural WSS component was US\$22 million and actual financing was about US\$26 million (Table 3.1). Reasons for reallocation include:

- Strong interest of rural municipalities in participating in sanitation sub-projects – under component 2 - for which they were not requested to contribute any of their own cash;
- Low priority given by the Government to restructure MIDUVI/SSA (financed by component 1).
- Municipalities' limited interest in getting financing from the PRAGUAS project for investments for which they could get financing on softer terms from other sources.
- Lower than estimated expenses incurred by the Project management unit.

3.2 Counterpart funding was expected to be about US\$ 18.25 million: US\$8.05 million from municipalities and US\$10.2 million from project beneficiaries. Actual contributions from the counterparts were US\$13.01 million, 71 percent of the original estimate (plus US\$0.56 million contributed by the Central Government to fill the cost overrun, Table 3.2) due to the following.

- Municipal government contributed less than planned because: (i) they were more interested in implementing the sanitation projects, which required no counterpart funding; (ii) fewer than expected water systems were implemented for which municipalities had to contribute 20-50 percent of the project cost.
- Beneficiaries contributed less than expected because there was less demand for the investments which required community contribution. In some cases other entities (for example, NGOs and municipal governments) contributed the necessary cash on behalf of the communities. Beneficiary financing reported in Table 3.2 represents the US dollar value of labor contributions.
- The central government contributed US\$0.56 million for additional spending on component 2 due to increased demand for sanitation facilities financed by the project.

Table 3. 1. PRAGUAS, Planned and Actual Project Costs by Component (US\$ million)

<i>Components</i>	<i>Total project</i>		<i>Bank Financing</i>		
	<i>Planned</i>	<i>Actual</i>	<i>Actual/ Planned (%)</i>	<i>Planned</i>	<i>Actual</i>
1. Sector Reform/Institutional Development	4.5	2.35	52	4.5	2.35
2. Water and Sanitation Sub-projects in Rural Areas	39	39.08	100	22	25.89
3. Water and Sanitation Sub-projects in Municipal capitals	3	0.71	24	1.75	0.71
4. Project Management	3.42	2.73	80	3.43	2.73
Total Project Costs	49.93	44.87	90	31.68	31.3
Project Preparation Facility (PPF)		0.38	-		.38
Front-end fee (IBRD only)	0.32	0.32	-	0.32	0.32
Total Financing Required	50.25	45.57	91	32	32

Source: Final Financial Audit of PRAGUAS Project, July 2007.

Table 3. 2. PRAGUAS Planned and Actual Financing (US\$ million)

<i>Sources of financing</i>	<i>Planned</i>	<i>Actual</i>	<i>Actual/planned (%)</i>
Central Government	0	0.56	-
Locally generated funds	18.25	13.01	71
Municipal Governments	8.05	6.2	77
Beneficiaries of projects	10.2	6.9	68
IBRD	32	32	100
All sources of funds	50.25	45.57	91

Source: Final Financial Audit of PRAGUAS Project, July 2007.

Project Implementation

3.3 The original implementation schedule was four years and the project was expected to be completed by October 31, 2004. The first extension was granted for 18 months to catch up on implementation delays. These delays were due to the nine months it took to make the loan effective, and the slow start of investments attributed to a weak capacity of municipal teams to manage the procurement process.

3.4 The complex demand-driven project cycle which involved various agencies at the central, provincial, and local levels, and the creation of institutions that did not exist prior to project implementation were time consuming and led to a significant disbursement lag before the project reached full implementation speed. It also took time to choose the right technologies for the rural WSS systems.

3.5 Difficulties in convincing beneficiaries and municipalities to participate in a project that required them to make 10-30 percent up-front cash contributions when other projects were asking for nothing, also stalled the startup. By the mid-term review in September 2001, the Bank project team and its counterparts in Ecuador had outlined ways to overcome these difficulties, including: (i) the option for the municipalities to contract out the integrated subproject design and supervision to experienced regional contractors, (ii) the option for the municipalities to use a trust-fund (fideicomiso) to contribute to the sub-project co-financing; and (iii) in the rural areas/WBAs reduction of up-front beneficiary contribution to the capital costs from 10 percent to 5 percent. Implementation sped up shortly thereafter as evidenced from the increase in annual disbursement from \$1.9-\$3.8 million in FY02-03 to \$7.1-\$11.3 million in FY04-05, after the mid-term review.

3.6 The second extension of six months was granted to enable overlap with the second phase of the APL, in particular to allow for the uninterrupted financing of the core project staff. The project closed on October 31, 2006.

Fiduciary

3.7 Overall project financial management performance was poor due to shortcomings related to: (i) limited financial management capacity of municipal governments that prevented them to furnish timely financial reports; (ii) lack of systematic information regarding cash contributions of local communities and other stakeholders; (iii) lack of a systematized monitoring process of transfers made to municipalities; and (iv) delays in the submission of timely support documentation.

Safeguards

3.8 The environmental category of PRAGUAS was B (Partial Assessment). Given the small scale of the WSS investments implemented in the rural areas and small towns, no major issues were reported. Minor environmental impacts, including proper disposal of construction wastes and erosion control, were addressed by appropriate guidelines that were incorporated in the technical specifications governing the work of construction contractors.

Appropriate environmental screening criteria for WSS sub-projects were incorporated in the project evaluation manual.

3.9 As for the social aspects, proper social assessment was carried out according to the Bank guidelines. PRAGUAS created special mechanisms to include indigenous people, since about 40 percent of the potential beneficiaries self-identified as indigenous people of Ecuador. Technical options in indigenous languages or interpreters were available for this group. The backbone of the project was community participation and stakeholder consultation in WSS investments, and there were no adverse effects experienced with regards to social safeguards aspects.

4. Monitoring and Evaluation

4.1 IEG assesses the quality of M&E **negligible** because of no baseline information, little implementation, and no utilization of the M&E system.

Design

4.2 Monitoring and evaluation (M&E) was to be done by SSA with the support of qualified consultants. In each province, the provincial project units (EPPs) and in each Municipality, the Sanitation Municipal Teams (EMS) were expected to track PRAGUAS program communities for a period of three years after water supply and sanitation systems had gone into operation. This would include following-up on the social indicators and the effectiveness of financial and operational arrangements.

4.3 This M&E framework would consist of three information systems:

- The Management Information System (MIS) designed to track contracts and financial flows associated with the PRAGUAS project as well as other indicators that track the performance in project implementation;
- The Social Impact Information System (SIIS) designed to capture the baseline surveys information undertaken in communities where PRAGUAS intervened;
- The Integrated Water, Sanitation, Sewerage and Solid Waste Monitoring System designed to capture the operational and financial performance of water service providers in the country. It was designed as a comprehensive sector information system that would benchmark performance of municipal water companies, whether or not they participated in the project.

Implementation

4.4 The PMU was responsible for the implementation of the MIS and SIIS systems, however, these systems were never developed according to the initial plans and there was no working MIS to provide management with information related to project outputs and financial flows. A major reason for this shortcoming was that the PMU never took full responsibility for approvals of investments under the PRAGUAS project and was not obligated to implement the MIS. Approvals were done by the Budget Directorate (under MIDUVI) and there was no real linkage between the two units. An Institutional Assessment

of PRAGUAS stated in 2005 that PRAGUAS did not actually have a proper project management unit and recommended that a PMU for PRAGUAS be established with full responsibility for all activities, including budget approvals and financial management (Guerra-Garcia Picasso 2005). Without an MIS, PRAGUAS overcommitted financial resources for studies for basic sanitation units. As a result, the last PMU director had to handle the management of such overcommitted financial obligations. SIIS was not implemented as expected either; records – electronic or hard copies – regarding baseline information requested by the IEG mission during the visit to Quito were not available at MIDUVI. The early closing of the follow-on APL II project and its PMU could also explain the lack of available information on the first Phase APL.

4.5 As for the Integrated Water, Sanitation, Sewerage, and Solid Waste Monitoring System, SSA/MIDUVI has been unable to make it a part of its daily routine as the focus was more on project implementation. Investment project implementation could have been used as a leverage to introduce the Integrated Water, Sanitation, Sewerage and Solid Waste Monitoring System rather than to introduce it in parallel to project implementation activities.

4.6 The M&E system, as it was envisaged at appraisal, was never put in place during the life of the project. In relation to SIIS, the impact evaluation undertaken at the end of the project, which included a survey on a sample of 1752 households in 72 communities, reported that the baseline information for many communities did not exist in the case of water services (Quintero-Rojas-Duenas 2006).

4.7 In relation to the Integrated Water, Sanitation, Sewerage and Solid Waste Monitoring System, none of the municipalities visited by the IEG mission had any M&E systems to track water and sanitation indicators in their rural areas. Staff working at both MIDUVI/SSA and at the PRAGUAS project gave the following reasons for the poor implementation of the M&E system: (i) cumbersome design of the data entry formats for feeding information into the Integrated Water, Sanitation, Sewerage and Solid Waste Monitoring System databases which produced user unfriendly reports; (ii) insufficient data cleaning mechanisms; and (iii) lack of incentives to use information systems properly. For example, on the last point, there was no financing for activities related to the generation and proper use of information produced by the Integrated Water, Sanitation, Sewerage and Solid Waste Monitoring System.

Utilization

4.8 Because of the identified issues, appropriate data were not evaluated and used for informed decision-making and resource allocation. In practice, contract data, for example, were managed using an EXCEL spreadsheet in parallel to official information systems.

5. Relevance

Relevance of Objectives

5.1 **Relevance of project objectives was Substantial.** Project objectives were consistent with the priorities of both the most recent country assistance strategy (CAS) covering the period 2003-2007³ and the CAS at the time of project preparation (March 1996), which considered water supply and sanitation as key services through which to improve rural welfare and alleviate poverty. At project appraisal, access to water supply and sanitation services in rural Ecuador was among the lowest in Latin America; only 39 percent of rural households had access to safe drinking water and 30 percent had access to improved sanitation. Improving the WSS access to the lower income population was identified as one of the important tasks for the country.

5.2 Project objectives were also consistent with the April 2003 CAS's focus of strengthening governance. The Water and Sanitation Sub-Secretariat (SSA) at the Ministry of Urban Development and Housing (MIDUVI), was the central government agency in charge of sector policy, planning and institutional development functions but its capacity was limited and required strengthening. By devolving the implementation of WSS service delivery from the central government to the municipalities who are closer to the consumers, the project aimed to improving social accountability and governance frameworks.

5.3 Project objectives are still relevant at present. At the time of the IEG mission in December 2010, institutional and policy changes were taking place under a new constitution approved in 2008. Before embarking on the actual decentralization of investment functions, the government is intending to put in place minimum accounting, budgeting, reporting, and control standards. Also, under the umbrella of a new decentralization law, Código Orgánico de Organización Territorial, Autonomía y Descentralización, the National Secretary of Planning and Development (SENPLADES), along with the Ministry of Finance, are redefining investment planning, implementation, and budget allocation responsibilities, and the roles of various sector ministries and the governments at all levels. MIDUVI/SSA has proposed to decentralize its core functions to eight regions. The current government has also given high priority to improvements in access to WSS services by the poor.⁴

Relevance of Design

5.4 **Relevance of project design was Modest.** Use of the Adaptable Program Loan (APL) as the lending instrument was well suited to a progressive process of major reforms, one after the other, over the medium and long term. If the key triggers had been realistic and achievable, and proper performance incentives had been in place, the triggers would have been achieved by the country and the sustainability of the program would have been better assured.

³ The Bank has not prepared any CAS since April 2003.

⁴ National Plan for Improving Living Conditions, 2009 - 2013, SENPLADES, 2009 (Plan Nacional Para el Buen Vivir) issued by Executive Decree 1577, February 2009.

5.5 The sector reform and institutional development component in PRAGUAS contained a large part of the reform elements which included the formulation of the sector policies and norms as well as the preparation of new water and sanitation sector law. While the components were relevant for achieving the overall objectives, key elements of reforms supported by PRAGUAS were too complex and ambitious given the limited project time frame in a potentially politically sensitive period. For example, transferring the responsibility of implementing the WSS investments to the municipal level was premature as the decentralization of national public financial management was not even taking place in Ecuador during project preparation. In addition, choosing the municipalities to be the implementing agencies of the investment components 2 and 3 delayed the implementation of the sub-projects because the project design overestimated the municipalities' capacity to acquire the skills to undertake procurement according to Bank guidelines in a speedy manner.

5.6 The project design adopted a demand-driven investment approach, with paramount importance placed on the participation of small municipal governments following beneficiary consultations. However, rules for sub-project investments were overly complex⁵ and relied on very weak implementing agencies (i.e., small municipalities) who took a long time to familiarize themselves with World Bank procurement guidelines. Given the weak capacity and heavy political influence that the municipalities faced, the relevance of the implementation arrangements was modest.

6. Efficacy

6.1 The project performance indicators proposed in the Project Appraisal Document (PAD), along with their original targets and achievements at project completion are shown in Table 6.1. Data to track progress in achieving the objectives was not produced by the project on a systematic basis due to the weakness of the M&E system. The data presented in this

⁵ The rules for sub-projects were: (i) Provincial Water and Sanitation Teams (EPPs) prioritize and select the participating municipalities; (ii) selected municipalities set up a special water and sanitation team (EMS) which prepare a list of rural communities that will participate; (iii) EMS and EPP pre-select subproject communities; (iv) municipalities sign a preparation grant agreement with SSA; (v) EMS contracts out promotion support from local private sector using the grant; (vi) private contractors prepare preliminary designs for communities, select best technical alternative, and do final design while collecting financial contributions from the communities; (vii) municipal government sign an investment grant agreement with SSA; (viii) EMS contracts out construction companies and supervise them.

Table 6. 1. PRAGUAS Summary of PDO Indicators

<i>Project Development Objectives</i>	<i>Indicators</i>	<i>Target value</i>	<i>Value 2007</i>	<i>% of Target Achieved by 2007</i>	
Increased WSS coverage with a focus on the rural poor	Access: Number of people reached	350,000	288,152	82	
	Access: Number of municipalities reached	40	109	272	
	Quality: 24 hours water supply in rural areas (percent)	100	80	80	
	Quality: Water treatment (percent)	100	75	75	
Increase in the effective use of sustainable WSS	O&M cost recovery (Percent)	Towns	100+	40	40
		Rural	100	100	100
	% of investments that comply with PRAGUAS finance policy		90	30	33
	Municipalities with delegated WSS		8	28	285

Source: Objective #1, # beneficiaries, hardcopy of list of project intervention provided by MIDUVI; quality indicators taken from Ex Post Evaluation and IEG visit to 4 municipalities and 20 communities. For objective #2, information collected during interviews with MIDUVI officers, confirmed by visit to municipalities and communities.

table are estimates based on the Ex Post Impact Assessment commissioned at the end of the Project and the information provided by MIDUVI/SSA and project sites visited by the IEG mission.

6.2 Table 6.2 summarizes the ratings for the achievements of the PDO.

Table 6. 2. Summary of PRAGUAS Efficacy Ratings, by Objective and Outcome

	<i>Rating</i>	<i>Overall Rating</i>
Objective 1: Increased service coverage with focus on the poor		Substantial
Increased WSS access	Substantial	
Improved quality of WSS services	Modest	
Focus on the poor	Substantial	
Objective 2: Increase in effective use of sustainable WSS		Modest
Implementation of coherent policies	Modest	
Municipal company models with autonomous operators	Modest	
Strengthening of sector institutions at central level	Modest	
Strengthening of sector institutions at local level	Substantial	

Increased WSS Coverage with a Focus on the Rural Poor

6.3 The PAD proposed proxy indicators for coverage which were the “number of beneficiaries” and “the number of rural municipalities” benefiting from the project. The project activities, especially those under the component on the water and sanitation subprojects, have resulted in the following results.

ACCESS

6.4 According to MIDUVI the project increased water and sanitation services for about 288,000 beneficiaries, of whom 145,000 were connected to small piped water systems only, 14,000 received sanitation facilities only (mostly flush toilets, hand washer sink and shower facilities), and 129,000 received both water connections and sanitation facilities. The target number of beneficiaries was 350,000; the project achieved about 82 percent of this target.⁶

6.5 Since there was no baseline provided in the project documents, IEG used the 2000 and 2008 service coverage data collected by WHO/UNICEF (2010) to assess the achievement to date. Nationally, the share of the rural population with access to water rose from 78 to 88 percent between 2000 and 2008, a 10 percentage point increase over a period broadly corresponding to the project implementation period. This corresponds to an estimated 316,400 people who have gained rural water supply access; the number of project water supply beneficiaries (274,000) corresponds to 87 percent of this increase (or about 9 percentage points nationally). The share of the rural population with access to sanitation rose from 70 to 84 percent over this same period; the 14 percentage point increase corresponds to an estimated increase of 515,200 people to have gained rural sanitation access. The number of project beneficiaries who gained access to sanitation was 143,000 -- about a quarter (28 percent) of the total increase, or 3½ percentage points nationally. While some of the 274,000 and 143,000 project beneficiaries may have gained “improved” access rather than “new” access, it is likely that the project has largely contributed to the improvements in the sector. This outcome is therefore substantially achieved. According to MIDUVI, three years after project completion, it is estimated that 80 percent of systems provide continuous (24 hours/day, seven days/week).

6.6 PRAGUAS reached 109 municipalities for the rural sub-projects, exceeding the target of 40, with many of the additional municipalities located in the poorest provinces (Cotopaxi, Chimborazo, and Bolivar) that were not in the original list. This target was therefore also substantially met. While reaching a larger than planned number of municipalities is remarkable, in reality this was the result of municipalities’ lower than expected financial capacity and interest to participate in the project. Because the original 40 municipalities could not provide sufficient counterpart funding due to budget limitations for the sub-projects, PRAGUAS reached out to additional municipalities and encouraged them to participate. The objective of increasing the access to WSS is rated as **substantial**.

QUALITY OF SERVICES

6.7 Indicators for tracking quality of service were not proposed in the PAD. The PPAR has taken the indicators used in the Ex-Post PRAGUAS Evaluation Report prepared by Quintero-Rojas-Duenas. For assessing the quality of service, daily frequency of service and treatment to make water potable are used. Based on a sample of 1,752 households in 72 communities, the Ex Post PRAGUAS evaluation found 80 percent of the piped systems built

⁶ The ICR report shows a 417,000 as number of beneficiaries; but this number includes double accounting of 129,000 beneficiaries that received both water and sanitation services; i.e., 288,000 + 129,000 = 417,000. The targets were not set separately for water supply and sanitation.

by PRAGUAS had daily service at the time of project completion, and 20 percent had service with extreme rationing. Departments where the service is rationed include Manabi (where the majority of systems were built) and Cotopaxi (Box 2). The beneficiary survey also reported that insufficient attention was given by the WBAs to water quality. In many systems, proper disinfection procedure was not followed, resulting in insufficient chlorine residuals in the network. In a few cases, a poor choice of surface water source (prone to contamination or high in turbidity) resulted in high costs of disinfection. There was no assessment of water sources or planning/budgeting for protection of water sources in the majority of projects assessed.

6.8 Since general WSS coverage in the rural population of Ecuador was low prior to the project, there is some indication that the beneficiaries who are connected to water supply networks under PRAGUAS have improved water quality. However, access to water alone would not indicate quality service because quality could be affected by many factors, including the intermittent supply and contamination of the water source, for which data were not available.

6.9 PRAGUAS implemented flush toilets in rural households which might have contributed to higher quality of sanitation service; however, indicators along with a baseline and a comparison group to measure the functioning and use of sanitation services, changes in hygiene behavior, and health impact on the development outcome were not available at the time of the evaluation.

6.10 The efficacy of improving the quality of WSS is therefore rated as **modest**.

Box 2. Service Quality in PRAGUAS Sub-projects

In general, 88 percent of the population with water connections supported by PRAGUAS has daily service. However, in Cotopaxi and Manabí, frequency of service is once a week for 23 percent and 44 percent of the population in the project areas, respectively.

(Source: Quintero-Rojas-Duenas 2006, Page 17)

The IEG mission visited 15 rural communities that benefited from PRAGUAS. Based on the information collected from the beneficiaries, the findings of the ex post review were confirmed: 80 percent of visited systems have 24 hours of service per day, seven days a week, with good pressure; 20 percent were not functioning at the time of the visit, but were reported to work on a limited schedule (some hours during the day). 10 percent of water systems reported some levels of turbidity during times of heavy rains, which is low.

FOCUS ON THE POOR

6.11 According to the LA the focus would be on the poorer populations in rural communities and small towns, and the PAD stated that the project targeted the municipalities with low service coverage rates, high poverty indicators, and a high community demand for improved services. PRAGUAS reached 109 municipalities (of 219 in total in Ecuador) for the rural sub-projects, exceeding the target of 40, with many of the additional municipalities located in the poorest provinces (Cotopaxi, Chimborazo, and Bolivar) that were not in the original list. Results of the survey carried out during project preparation showed that nearly

100 percent of the potential direct beneficiaries lived below the World Bank's estimated poverty line.⁷ The achievement of this sub-objective is therefore rated as **substantial**.

Increase in the Effective Use of Sustainable WSS

6.12 The increase in effective use of sustainable WSS services was to be achieved by improved sector performance, through the application of coherent policies and the strengthening of sector institutions at the central and local levels. This PPAR will assess the achievement of the objective through analyzing the three areas that characterize effectiveness of the sector, proposed by PRAGUAS; (i) coherent policies⁸ in the areas of investment financing and cost recovery, (ii) municipal company models with autonomous operators; (iii) strengthened sector institutions at the central level; and (iv) strengthened sector institutions at the local level.

COHERENT APPLICATION OF SECTOR POLICIES

6.13 *Investment Financing Policy:* By the end of PRAGUAS, only 30 percent of the sector investments complied with PRAGUAS financial policy (summarized in Table 6.3) and therefore it didn't achieve the 90 percent target.

6.14 In the small towns, the proposed financing policy has not been implemented as expected, mainly because of Municipal governments' poor financial capacity and reluctance to increase tariffs to generate funds for investments.

6.15 In rural areas, PRAGUAS financing policy was difficult to implement because of the low ability of the beneficiaries to contribute 10 percent of investment costs. According to the Ex-Post Evaluation of the PRAGUAS Project, the proportion of families that contributed cash to the financing of water supply projects varied across provinces from 8 percent to 90 percent.⁹ The amount of cash contributed by family was also highly variable, from US\$12/family (about 1.7 percent of the average US\$700 investment cost per connection) to US\$70/family.

6.16 At present PRAGUAS financial policy is not implemented officially by the government or any donor agency. The WSS investments in the urban perimeter of the municipalities are funded by a combination of central government grants and municipalities' budget contributions without beneficiary contributions. In rural areas, WSS financing policies are defined on a project-by-project basis.

⁷ World Bank's estimated poverty line was US\$2.13 per capita per day. An average income of US\$ 1.05 per capital per day was reported after monetary income was adjusted upward by 40 percent to capture on-monetary income in rural areas

⁸ These policies are also interlinked. For example, the financing and cost recovery policies would be adopted in the municipal management model.

⁹ Quinteros-Rojas Duenas, Evaluacion Expost Programa Praguas, Quito Enero 2006, Page 20.

**Table 6. 3. Proposed Investment Financing Policy for rural areas and small towns:
Share of total investments by financing source in percent**

<i>Sources of financing</i>	<i>Rural Areas</i>	<i>Small Towns</i>
Beneficiaries/WBAs cash up front	10	
Beneficiaries/through tariff revenues		30
Beneficiaries cash during construction	20	
Municipal governments	20	20
Central Government	50	50
Total	100	100

Source: Project Appraisal Document

6.17 The ICR stated that PRAGUAS played an important role in establishing the rules for allocating Special Consumption Tax (ICE tax) revenues to the water utilities for funding their O&M and other costs. The financial policy governing the use of the ICE tax for WSS was formally adopted by Presidential Decree in February 2005. However, at the time of this review, the ICE tax for WSS was being phased out and there was no consistent financial policy for the sector.

6.18 **Operation and maintenance cost recovery:** PRAGUAS envisaged training at least 210,000 people in rural communities in the areas of administration, O&M, and hygiene education. By the end of the project, the target was exceeded three-fold and 660,000 people were trained. The impact of these activities on the project outcome, however, is difficult to assess because there are no clear causal linkages with the project's intended outcome. Most

Box 3: O&M cost recovery by WBAs

The IEG mission found that the beneficiaries interviewed during the field visits to the sample WBAs were fully aware of the tariff setting procedures, and emphasized the importance of setting the water tariffs in accordance with revenue requirement principles which is to cover 100 percent of O&M costs. This principle is followed by most WBAs that have benefited from the PRAGUAS project.

WBAs have implemented a 100 percent O&M cost recovery policy over the project period and up to the time of the IEG evaluation. PRAGUAS promoted such cost recovery, including procedures to set tariffs to cover O&M costs (See Box 3 and Table 6.4). The WBA model raised the beneficiaries' understanding of their rights and obligations as well as the rules for their WBA organizations. The application of cost recovery policies in the areas of PRAGUAS intervention resulted in an average household water bill of about US\$21 per year and an average consumption of 70 liters per capita per day (lpcd). Both the average bill (equivalent to about US\$1.5 per month) and the consumption per capita are consistent with the population's ability to pay and the 60 lpcd minimum consumption set by the World Health Organization. According to the Ex Post Evaluation report, by the end of project completion 85 percent of WBAs collected enough funding for O&M through tariff revenues, which gives high confidence to the finding of the IEG mission.

6.19 Good O&M cost recovery has translated into proper O&M, and this is evidenced by the IEG mission which did not find any major issues with the physical sustainability of the

WSS schemes constructed under the project. This practice is likely to extend the life of the assets and reduce the investment costs in the future.

Table 6. 4. PRAGUAS Project - Tariffs, Cost Recovery, Water Consumption, and Revenue per Connection

	<i>WBAs</i>	<i>Towns</i>
Average tariff (US\$/m ³) ^{a)}	0.15	0.12
Cost coverage (percent)	100	50
Consumption (Liters per capita-day)	70	217
Revenue per Connection per year (US\$)	21	47

a) At project appraisal in 1999, average tariffs for residential customers were below US\$0.03/m³.

Source: Sample information collected by IEG mission in 20 WBAs and 4 small town water systems.

6.20 For the municipal WSS companies, O&M cost recovery was about 50 percent on average at the time of project completion. The major reason for municipal utilities failing to achieve cost recovery is the resistance of municipal councils to approve tariff increases (to avoid political costs). In Ecuador, at present, tariff approval authority rests with the municipal council which considers water as a social service. Municipal council members often run their campaigns offering water for free.

6.21 Overall, the objective was **modestly** achieved because the key sector policies have not been implemented in Ecuador in a coherent and consistent manner.

MUNICIPAL COMPANY MODELS WITH AUTONOMOUS OPERATORS

6.22 The PRAGUAS project provided technical assistance and financial incentives to municipalities interested in delegating their WSS services to autonomous (public, private, cooperative etc.) operators. Out of the eight municipalities that received such incentive packages, six chose the autonomous municipality-owned company model,¹⁰ one chose to be a cooperative owned by beneficiaries, and one chose to be a mixed shareholding company (49 percent of shares held by customers and 51 percent by the municipality). The autonomous municipal company delivers the services and carries O&M of infrastructure financed by a combination of tariff revenues and recurrent transfers from municipal governments. The municipal companies work on annual operating plans and report to their Board of Directors appointed by the municipal councils. The mixed shareholding company and the cooperative models, on the other hand operate more independently from the municipalities based on commercial principles, according to 10 year performance contracts, and reporting to the Board of Directors appointed by the shareholders. However, in all types of municipal companies, tariffs approved by the municipal councils are typically not sufficient to cover the

¹⁰ The ICR reports that at the time of project closure, out of 219 municipalities nationwide, 28 had adopted municipal company model, against a target of 6, but IEG assesses that this good result cannot be fully attributed to the success of the PRAGUAS project because only eight utilities received the incentive packages to undertake their transformation. The eight utilities that received investment financing from the project as condition to implement a form of municipal company model. The municipal utilities were: Caluma, Cayambe, Echeandia, Guaranda, Pedro Moncayo, Pujili, and Riobamba.

O&M costs. In all cases, investments have been financed by a combination of central government grant funding and limited municipal government contribution.

6.23 The objective of implementing municipal company models is **modestly** achieved because they are unlikely to be financially sustainable.

STRENGTHENING OF SECTOR INSTITUTIONS AT THE CENTRAL LEVEL

6.24 PRAGUAS envisaged reorganizing the Sub-Secretariat of Water and Sanitation (SSA) with full staffing structure, training, and portfolio of services in place in accordance with the restructuring plan. However, only limited progress was achieved.

6.25 The Sub-Secretariat of Water and Sanitation has been replaced by the Sub-Secretariat for Water, Sanitation and Solid Waste Management (SSA, same acronym for simplicity) and a directorate of Water, Sanitation and Solid Waste Management has been created.

6.26 Although SSA prepared a new Water and Sanitation Sector Policy in 2002,¹¹ achieving consensus to implement such policy proved to be challenging. There was limited progress in defining and implementing other key policy areas to improve overall sector performance as well. To this day, there is no clear policy for the regulatory framework, allocation of responsibilities for undertaking sector investments at the national and sub-national levels, and rules for asset ownership in the sector. This objective is therefore **modestly** achieved.

STRENGTHENING OF SECTOR INSTITUTIONS AT THE LOCAL LEVEL

6.27 The project supported the capacity enhancement of municipal government, NGOs, and the private WSS operators. As described above, PRAGUAS reached 109 municipalities for the rural sub-projects, exceeding the target of 40. All 108 municipalities were strengthened to oversee service provision in their jurisdiction and 28 delegated service provision to an autonomous operator.

6.28 To build the capacity of the private sector and NGOs, PRAGUAS envisaged increasing the capacity of at least 50 local implementation organizers through training and certifications. By the end of the project, the target was exceeded four-fold and 206 local implementation organizers had been trained by two large engineering and social consulting firms. However, it is not known the extent to which this contributed to the performance of the autonomous municipal models or the functioning of the WBAs. Overall, this objective is **substantially** achieved.

¹¹ Ministerio de Desarrollo Urbano y Vivienda, Sub Secretaria de Agua Potable y Saneamiento Basico - Política Nacional de Agua y Saneamiento, Quito Julio 2002.

7. Efficiency

7.1 The ex-ante economic rate of return (ERR) was calculated based on a sample of 19 sub-projects implemented during preparation, with an average ERRs of 28 percent within a range of 13.6 to 54.1 percent. Average net present value (NPV) at appraisal was US\$35,543.

7.2 The Implementation Completion and Results Report's ex-post ERR was calculated for a sample of 28 sub-projects chosen randomly, including all relevant technologies and located in all regions (Coastal, Mountains, and Jungle). Based on this sample, the ICR estimates a 31 percent average ERR and an average NPV US\$ 109,724, both higher than those estimated at appraisal. And based on this estimates, the ICR extrapolates to conclude that the NPV for the project is US\$60.6 million. This sample, however, represents only about 5 percent of the total number of schemes implemented and therefore the characteristics of the water schemes in the 28 sub-projects may not be generalized for the whole project. As the number of beneficiaries (288,152) served by the project was lower than the number of beneficiaries estimated at appraisal (355,000), the per beneficiary costs ended up being higher than those estimated at appraisal and this would result in lower ERR and NPV.

7.3 Another factor that affects the efficiency is the time it took to implement the project. With effectiveness delays and the two extensions the project took almost a year and a half longer to complete, while the objectives and the target performance indicators remained the same. On balance, however, IEG assesses that the benefits exceed the costs associated with the project and therefore rates the efficiency of the project as **substantial**.

8. Outcome

8.1 **The outcome is rated moderately satisfactory.** Relevance of the objectives is rated substantial and relevance of design is rated modest. Efficiency is rated substantial. While the objective related to increasing WSS coverage with focus on the poor has substantially been achieved, the key objective related to the reform aspects of the project that ensure sustainability of the investments has only been achieved modestly.

9. Risk to Development Outcome

9.1 **The risk to development outcome is Significant.** Critical risks related to the challenging sector reform elements, including the weak capacity of the municipalities and the WBAs to carry out the investments and MIDUVI to take ownership of SSA restructuring were identified, but the associated risk mitigating measures proposed in the PAD were not sufficient. Many risks remained high even five years after project closure. In this PPAR, financial, O&M, Institutional, and Political/Government Ownership risks were identified to be the main risks to development outcomes.

- *Financial risk* – While the rural communities are achieving their O&M cost recovery, in small towns the tariff revenues cover only 50 percent of O&M costs.

This indicates the high uncertainty about the financial sustainability of the water supply schemes constructed under the project. In the absence of external regulatory control, proper incentives, and other measures to set proper tariffs, and collect revenues, the financial risk would continue to be high. The discontinuation of ICE tax also decreases the predictable financing for investments in the water sector. Financial risk is therefore rated significant.

- *O&M risk* – In both small towns and in rural areas, there is no institutionalized oversight function that ensures adequate maintenance of public infrastructure assets, introducing the risk of rapid infrastructure asset deterioration or malfunctions due to lack of maintenance, even if funding may be available. During the life of project, municipalities were supposed to play the role of external oversight of WBAs, but this does not have the force of law. O&M risk is therefore rated significant.
- *Institutional risk* – During the life of the project and up to the present time the water and sanitation sector (including rural and small towns) has worked under an uncertain legal and institutional framework. Until a new sector law is passed, the sector will continue facing legal uncertainty working under the old laws. The institutional risk is rated significant.
- *Political / Government Ownership risks* – Small town water utilities, and to a lesser extent WBAs' Boards are vulnerable to political changes. In addition to the utility level risks, there are higher political risks at the country level which the three-phased water sector APL has suffered from. For example, during six years of the project, Ecuador had four Presidents, eight Ministers of Urban Development and Housing, and eight Subsecretaries of the Subsecretariat for WSS and Solid Waste. This caused difficulties and delays in project implementation. The political changes have affected the sector program as the new Administration cancelled a large portion of the loan in the second phase APL which resulted in an early closing of the project. While there is an indication that the sector may be getting ready for the intended reforms, the uncertainties faced by the political risk remains significant.

10. Bank Performance

10.1 Bank Performance is rated **Moderately Satisfactory**. Quality at entry and quality of supervision are assessed below.

Quality at Entry

10.2 Quality at entry is rated **Moderately Satisfactory**. The Bank team learned from the US\$3 million pilot project where the first demand responsive approach was introduced in the country, and designed PRAGUAS based on the lessons and Bank experience from other community-driven development projects. The lessons include the importance of involving the communities to ensure sustainability, building the capacity, and appropriate legal framework. The project objective has been relevant throughout the implementation period, and the project included innovative service delivery models given the country context. The choice of an APL recognized the time needed to achieve meaningful

reforms. While the PAD reckoned the required reform elements for PRAGUAS to be modest, the assumption that the first phase of the APL and the related activities could be implemented in 4 years may have been too ambitious especially in a potentially politically sensitive time period. This is because the degree of reform required was significant, the capacity of the municipalities was very weak to begin with, and the demand-driven project cycle was complex and time-consuming. Delays in the reform component could have been mitigated if the key elements in the institutional and financial policies, such as the investment responsibilities were formalized prior to project initiation. Given that so many time-bound indicators were set at appraisal, no proper arrangements were made to collect data or to monitor them at the central government level. The project paid sufficient attention to the economic analysis, but financial and affordability analysis to ensure the viability of the cost recovery policies were not carried out.

Quality of Supervision

10.3 Quality of supervision is rated **Moderately Satisfactory**. A dedicated Bank team enabled the project to partially succeed in an unfavorable political environment. This entailed a continuous process of repeatedly briefing and motivating the ever-changing government leaders the project had to work with. It also meant standing firmly against political pressures to change key community-driven development implementation features of the project. The Bank team was technically strong. However, the collection of the baseline data was not done systematically, and the M&E was not implemented. The poor project M&E hampered the achievement of the outcomes.

11. Borrower Performance

11.1 Borrower Performance is rated **Moderately Satisfactory**. Government performance and implementing agency performance have been assessed below.

Government Performance

11.2 Government performance is rated **Moderately Satisfactory**. Government performance varied widely over time. During project preparation, support was generally good; a strong preparation team was appointed, and the new community mobilization approach was tested. However, performance was less forthcoming during project implementation; a period of political turmoil, characterized by a rapid turnover of political appointees caused great fluctuations in commitment. Also, implementation decisions were often delayed, the SSA restructuring proceeded slowly, and there were frequent pressures by politicians to reduce the counterpart contributions of municipalities and communities. Without the Bank's strong advocacy role during this period, the project might well have failed. Nevertheless, performance picked up towards the end of the project.

Implementing Agency Performance

11.3 Implementing agency performance is rated **Moderately Satisfactory**. The PMU was committed and strongly staffed. Multi-year contracts provided continuity and shielded the staff from the political turbulence affecting government's performance. High technical

and executive competence enabled strong support for the municipalities and acted as a buffer against the political volatility during implementation. The continuity and technical performance of PMU staff was the most important determinant in allowing a complex demand-driven project with a long gestation period to succeed. However, monitoring and evaluation and general reporting systems were weak.

11.4 Municipalities were also the implementing agencies for the project as they implemented the sub-projects carried out under the rural and municipal WSS components. Local municipalities' weak budget and financing management capacity constituted a major obstacle to their participation as effective implementing agencies.

12. Lessons

Sector reform and the related shift in institutional culture require political support and time.

12.1 It is important to identify the potential risks up front, to carry out proper stakeholder analysis, and to make a realistic projection of the time it takes to change the roles of the Government agencies and to devolve the WSS investment and O&M responsibilities to the local government or the community level.

12.2 Ecuador attempted to achieve the difficult reform objective of shifting investment responsibility from the central government level to the municipal government level during the first phase of the APL in a five-year time period. The reforms were particularly difficult because the institutional culture of the Ecuadorian Institute of Sanitary Works (Instituto Ecuatoriano de Obras Sanitarias), a central government agency that controlled the water sector for almost 30 years, was still dominant at the time of the project, although its responsibilities had been transferred to the Ministry of Urban Development and Housing (Ministerio de Desarrollo Urbano y Vivienda, MIDUVI)/ Subsecretariat of Environmental Sanitation (Sub-secretaría de Saneamiento Ambiental, SSA). The new organization under MIDUVI/SSA was established eight years before the project was approved, but the WBA model under the jurisdiction of municipal governments was introduced by PRAGUAS. The project's overly ambitious reform agenda aimed to establish 588 WBAs in the first phase of the APL at the same time as building the capacity of the municipalities to implement the investments.

Formalization of consistent policies is critical for reform

12.3 While it may not be sufficient for implementation of reform, sector policies and institutional responsibilities need to be formalized through legal decrees and approvals by the Congress as a precondition for the enforcement of financial and investment policies, especially as the countries face political changes. In Ecuador, the main elements of the institutional and financial policies were not formalized prior to project initiation. Instead, arrangements were agreed to on an investment-by-investment basis, sending mixed signals and incentives to communities and reducing the incentives for community contributions. While PRAGUAS required community contributions to investment financing, other projects led by the government provided new rural WSS systems for free. Lack of formal sector

policies has caused the ad hoc approaches to community participation in WSS investments and undermined the importance of community ownership through beneficiary contributions. This has hampered the sustainability of WSS sector investments.

The conventional WBA model shows stronger financial sustainability compared to the municipal models, in which tariffs are approved by municipal authorities

12.4 The physical sustainability of the investments depends not only on the level of cost recovery from operations and maintenance, but on other factors such as the capacity and incentives of the service providers to carry out proper maintenance. However, long-term financial sustainability depends on whether the institutional arrangements for implementing cost recovery policies are sound and responsive to local conditions. In Ecuador's municipal company models, in which private sector operators are paid for their services out of tariff revenues, cost recovery is self-enforced, provided tariffs are set according to the cost recovery rules. This is because the contractual obligations with the PSOs include clauses related to tariff adjustments to compensate for cost increases. However, water utilities in these small towns are experiencing difficulties recovering operations and maintenance costs, as the tariffs are typically set too low. The municipalities' Boards of Directors include local politicians who see water supply as a public service that ought to be free. They believe that general municipal revenues will be used to cover any deficits resulting from low tariff revenues. In rural areas, WBAs won't be able to operate and maintain their water supply schemes if they do not collect sufficient tariff revenues. Knowing that cost recovery can help avoid service interruption, local rural communities in both countries seem to be disposed toward paying the necessary tariffs.

Post construction support enhances the sustainability of community participatory water supply services

12.5 Demand-responsive, community participatory water supply services are key to ensure successful implementation of the rural areas and small towns. For the water systems to be sustainable, there also needs to be an institutionalized arrangement for technical assistance and post-construction support for continuous capacity building of WBAs. The WBAs in Ecuador that do not have such institutionalized systems for support are experiencing sustainability issues, as the systems cannot be easily repaired or replaced by the WBAs and the communities themselves

13. Epilogue

13.1 There were two triggers each for the APL Phase II in the areas of Policy Reform and Institution Building, and one trigger for the investment program. The progress on these triggers at the time of the PPAR is summarized in Table 12.1. IEG assesses that while the physical investments have been completed and the institution-building is making progress, policy reform is lagging behind.

13.2 In July 2006, three months before the closing of PRAGUAS, the follow-on PRAGUAS II (the APL Phase II) was approved by the Board. The second Phase of the APL was planned to continue supporting the Government with its reform process; however, the

change in the central government in 2007 brought in a new administration with concerns over some of the PRAGUAS activities, including the organization of a national hand-washing campaign and the provision of technical assistance for policy discussions.

13.3 In January 2008 the Government decided to cancel US\$36 million of the total PRAGUAS II loan amount of US\$48 million. The remaining US\$12 million was used to complete the ongoing activities and commitments. The project eventually closed in March 2009, two years before its original completion date. All steps made in terms of sector reforms came to a halt by the time the APL Phase II closed.

13.4 According to the ICR for the second APL, the Government failed to recognize the growing disconnect between the technical work carried out by the PMU and its own policies and strategies. The decision to dismiss high and intermediate level staff of the PMU that had been hired through independent, competitive processes and the subsequent weaknesses due to the high turnover in key personnel and the lack of key staff to perform project planning and implementation activities, severely affected project implementation after December 2007.

Table 12. 1 Status of Triggers for Phase II

Indicator Category	Triggers for Phase II	Status of Achievement at the time of the PPAR
Policy Reform	Draft Water Sector Law presented to Bank for review	There is still no consensus for the Congress to approve the draft law supported under PRAGUAS.
	Consistent financial policies (including tariffs and subsidies) are applied by all sector financiers	Financial policies are still applied on an ad hoc basis. There is no consistent financial policy across the sector.
Institution Building: SSA/MIDUVI Municipalities, service providers	SSA restructured and responsive to new sector policies	MIDUVI reformed its Internal Processes reaffirming the role of SSA to define the sector policy, carry out national strategic planning, and define the technical standards for WSS service provision. SSA has also been mandated to define norms related to control and regulatory framework in the WSS sector in Ecuador.
	At least five cases of WSS service delegation by municipal authorities to autonomous operators have been conducted in municipal capitals	Eight municipalities received incentive packages and implemented various kinds of municipal company models. Six chose autonomous municipality-owned companies, one a cooperative owned by the beneficiaries, and one mixed shareholding company.
Investment Program (regional sequencing)	90% of APL-1 funding for rural component is committed	According to the Final Financial Audit of PRAGUAS, July 2007, 118% of the rural component and 91% of the total project costs were utilized.

a) MIDUVI Acuerdo Ministerial No 58, February 2010 – Reforma Integral de Estatuto Organico de Procesos del Ministerio de Desarrollo Urbano y Vivienda.

Source: Project Appraisal Document of Second Rural and Small Towns Water Supply and Sanitation Project, June 2006 and IEG misión findings.

With a new constitution approved in 2008, the National Secretary of Planning and Development (SENPLADES) along with the Ministry of Finance is currently redefining investment planning, implementation and budget allocation responsibilities, and the roles to

be played by various sector ministries and at all government levels. In February 2010 MIDUVI reformed its Internal Processes Code, reaffirming the role of SSA to define the sector policy, carry out national strategic planning, and define the technical standards for WSS service provision. SSA has also been mandated to define norms related to control and regulatory framework in the WSS sector in Ecuador. MIDUVI/SSA also proposed to decentralize its core functions to eight regions

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Annex A. Basic Data Sheet

ECUADOR – RURAL AND SMALL TOWNS WATER SUPPLY AND SANITATION PROJECT (LOAN 7035-EQ)

Key Project Data (amounts in US\$ million)

	<i>Appraisal estimate</i>	<i>Actual or current estimate</i>	<i>Actual as % of appraisal estimate</i>
Total project costs	50.25	45.57	90.7
Loan amount	32.0	32.0	100.0
Cancellation	-	-	-

Cumulative Estimated and Actual Disbursements

	<i>FY01</i>	<i>FY02</i>	<i>FY03</i>	<i>FY04</i>	<i>FY05</i>	<i>FY06</i>	<i>FY07</i>
Appraisal estimate (US\$M)	6.8	14.2	22.9	32.0	32.0	32.0	32.0
Actual (US\$M)	0.0	1.9	4.3	12.9	24.1	31.8	32.0
Actual as % of appraisal	-	13.4	18.8	40.3	75.3	99.4	99.7
Date of final disbursement: 09/31/06							

Project Dates

	<i>Original a)</i>	<i>Actual</i>
Negotiations		07/31/2000
Board approval	5/2/2000	10/17/2000
Signing		04/11/2001
Effectiveness	03/01/2001	07/11/2001
Closing date	02/28/2005	10/31/2006

a) Original effectiveness date and closing date are taken from the PAD.

Staff Inputs (staff weeks)

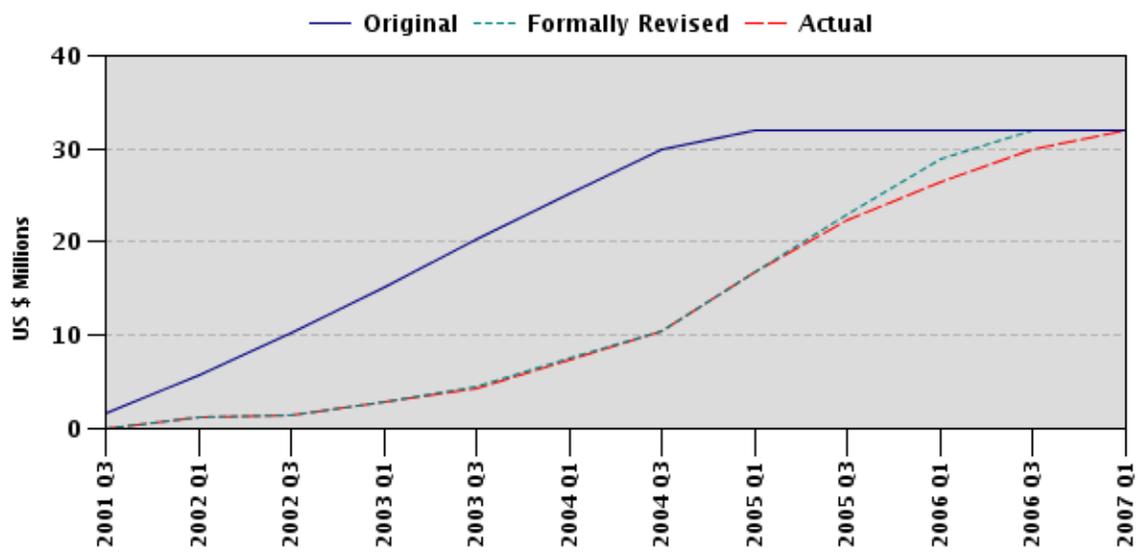
Stage of Project Cycle	Staff Time and Cost (Bank Budget Only)	
	No. of Staff Weeks	US\$ Thousands (including travel and consultant costs)
Lending		
FY97		24.30
FY98		34.15
FY99		76.26
FY00	41	162.11
FY01	17	60.54
Total:	58	357.36
Supervision/ICR		
FY99		1.62
FY00	3	2.58
FY01	7	36.976
FY02	17	91.07
FY03	23	115.64
FY04	15	76.84
FY05	17	90.93
FY06	15	91.57
FY07	5	28.08
Total	102	538.00

Task Team Members

Names	Title	Unit	Responsibility/Speciality
Lending (from Task Team in PAD Data Sheet)			
Oscar E. Alvarado	Sr. Water and Sanitation Specialist	LCSFW	Task Team Leader
Franz Drees	Sanitary Engineer	LCSFW	Co-Task Team Leader
Jennifer Sara	Sr Water & Sanitation Specialist		Rural Water and Sanitation Specialist
Maria Angelica Sotomayor	Economist	LCSFW	Economist
Ximena Traa-Valarezo	Consultant	LCSFW	Social and Gender Specialist
Efraim Jimenez	Sr. Procurement Specialist	LCSPT	Procurement Specialist
Livio Pino	Financial Management Specialist	LCSFM	Financial Management Specialist

Marcelo Romero	Operations Officer		Operations Officer
Marta Molares-Halberg	Sr. Counsel	LEGLA	Lawyer
Guillermo Yepes	Consultant		Sector Institutional Specialist
Lourdes Elena	Rural Water Consultant		Rural Water Specialist
Juan David Quintero	Sr. Environmental Specialist	LCSEN	Environmental Specialist
Issam Abousleiman	Disbursement Officer		Disbursement Officer
Patricia Acevedo	Team Assistant	LCSFW	Team Assistant
Supervision (from Task Team Members in all archived ISRs)			
Franz Drees-Gross	Sector Leader SDN/LC6	LCSSD	Tas Team Leader
Maria Angelica Sotomayor	Senior Economist	LCSUW	Co-Task Team Leader
Marcelo Amador Osorio	Consultant	LCSPT	Procurement Specialist
Oscar E. Alvarado	Sr. Water and Sanitation Specialist	SASEI	Rural Water and Sanitation Specialist
Ximena B. Traa-Valarezo	Consultant	LCSHE	Social and Gender Specialist
Luis M. Schwarz	Sr. Financial Management Specialist	LCSFM	Financial Management Specialist
Patricia M. Acevedo	Program Assistant	LCSUW	Program Assistant
Eduardo A. Perez	Sr. Water & Sanitation Specialist	ETWWP	Water and Sanitation Specialist
Maria Carmen Tene	Consultant	LCSUW	Social/Indigenous People Specialist
Patricia Mc Kenzie	Sr. Financial Management Specialist	OPCFM	Financial Management Specialist
Ana Lucia Jimenez Nieto	Financial Management Analyst	LCSFM	Financial Management Specialist
Lene Odum Jensen	Operations Analyst	ETWWP	Handwashing Specialist
Michele Bruni	ET Consultant	EXTCD	Strategic Communications Specialist
Ernesto Sanchez-Triana	Sr. Environmental Engineer	SASES	Solid Waste Specialist
David Michaud	Water & Sanitation Specialist	LCSUW	Water Supply and Sanitation Engineer
Alejandro Marcos Tapia	ET Consultant	LCSSD	Infrastructure Specialist
Carmen Moreno Rodriguez	Consultant	LCSUW	Sector Specialist
Franz Rojas	Consultant	LCSUW	WSS Service Model Specialist
Patricia Rodriguez	Temporary	LCSUW	Program Assistant

Disbursement profile



Other Project Data

Borrower/Executing Agency:

Follow-on Operations

<i>Operation</i>	<i>Loan no.</i>	<i>Amount (US\$ million)</i>	<i>Board date</i>
Second Rural and Small Towns Water Supply and Sanitation Project	74010	48	October 17, 2000

Annex B. List of Persons Met

Name Of Person	Title	Institution
Hernando Subia Alava	Sub Secretary, Water, Sanitation and Solid Waste Services	MIDUVI
Patricia Aguilar	Director, Directorate of Water, Sanitation and Solid Waste Services	MIDUVI
Mauro Alvear	Deputy Director, Directorate of Water, Sanitation and Solid Waste Services	MIDUVI
Max Argudo	Ex- Project Director, PRAGUAS	MIDUVI
Jorge Noboa	Ex-Project Officer PRAGUAS	MIDUVI
Edgardo Rodriguez	Ex- Consultant Management Models, PRAGUAS	MIDUVI
Eduardo Borja	Ex-Consultant Supervision of Projects, PRAGUAS	MIDUVI
Mariano Curicama Guaman	Governor of Chimborazo Province (Ex Sub Secretary Water, Sanitation and Solid Waste Services, MIDUVI)	Provincial Government of Chimborazo Province
Manuel Chango	Mayor	Municipal Government of Saquisili, Cotopaxi Province “Pedro Moncayo” Municipal Water Company, Pichincha Province
Luiz Andrade	General Manager, (Ex- Consultant Management Models, PRAGUAS)	Cayambe Municipal Water Company, Pichincha Province
David Echevarria	General Manager, Cayambe Water Utility	Pujili Municipal Water Company, Cotopaxi Province
Patricio Fierro Ortiz	General Manager, Pujili Municipal Water Utility	
Other stakeholders		
Helen Conefrey	Cooperation Manager	European Union
Bermudez	Project Auditor	Bermudez and Associates LTD
Rosa Espinosa	Project Auditor	Bermudez and Associates LTD
World Bank Staff		
Maria Dolores Arribas Banos	Country Representative	
Maria Angelica Sotomayor	Senior Economist (Former Task Team Leader)	
David Michaud	Water and Sanitation Specialist (Current Task Team Leader)	

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