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PROJECT PERFORMANCE ASSESSMENT REPORT



SRI LANKA

Second Community Water Supply
and Sanitation Project

Report No. 115781
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PROJECT PERFORMANCE ASSESSMENT REPORT

SRI LANKA

SECOND COMMUNITY WATER SUPPLY AND SANITATION PROJECT

(CH035)

June 26, 2017

Currency Equivalents (annual averages)

Currency Unit = Sri Lankan rupees (SL Rs)

2003	US\$1.00	SL Rs 96.450
2005	US\$1.00	SL Rs 104.400
2007	US\$1.00	SL Rs 107.380
2009	US\$1.00	SL Rs 111.419
2011	US\$1.00	SL Rs 108.300
2016	US\$1.00	SL Rs 140.930

Abbreviations and Acronyms

ADB	Asian Development Bank
CBO	community-based organization
CWSSP	Community Water Supply and Sanitation Project
DNCWS	Department of National Community Water Supply
ERR	economic rate of return
FGD	focus group discussion
GDP	gross domestic product
ICR	Implementation Completion and Results Report
ISR	Implementation Status and Results Report
IDA	International Development Association
IEG	Independent Evaluation Group
JICA	Japan International Cooperation Agency
M&E	monitoring and evaluation
MOH	medical officers of health
NWSDB	National Water Supply and Drainage Board
PPAR	Project Performance Assessment Report
RSC	regional support center
RWS	Rural Water and Sanitation Section
RWSS	rural water supply and sanitation
SDR	special drawing rights

All dollar amounts are U.S. dollars unless otherwise indicated.

Fiscal Year

Government: January 1 – December 31

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<p>This report was prepared by Katsumasa Hamaguchi, who visited Sri Lanka along with Ramachandra Jammi and Nilakshi De Silva. The report was peer reviewed by Richard W. Pollard and panel reviewed by Ridley Nelson. Romyne D. Pereira provided administrative support.</p>
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Principal Ratings

	ICR*	ICR Review*	PPAR
Outcome	Moderately satisfactory	Moderately satisfactory	Moderately satisfactory
Risk to development outcome	Moderate	Moderate	Substantial
Bank performance	Satisfactory	Moderately 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

Project	Task Manager or Leader	Division Chief or Sector Director	Country Director
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IEG Mission: Improving World Bank Group 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 World Bank's self-evaluation process and to verify that the World 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 World 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 World 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 World 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 a Project Performance Assessment Report (PPAR) by the Independent Evaluation Group (IEG) for the Second Community Water Supply and Sanitation Project, supported by the World Bank.

The project was approved on May 6, 2003, for a total cost of \$62.4 million. Total project cost at completion was \$69.1 million. The project was closed on December 31, 2010, one-and-a-half years after the original closing date of June 30, 2009.

The PPAR mission was carried out in parallel with the Asian Development Bank (ADB)-Japan International Cooperation Agency (JICA)-World Bank joint case study on water and sanitation in Sri Lanka (ADB, JICA, and the World Bank Group 2017).

The project supported the government's ongoing commitment to expanding rural water supply and sanitation services. IEG selected the project for assessment because of potential lessons from the experience of improving access to water and sanitation services for rural beneficiaries. In addition, the findings and lessons from this assessment would be inputs to IEG's major sector study on the evaluation of the World Bank Group's support for water supply and sanitation services.

The assessment is based on a review of all relevant documentation, interviews with World Bank staff at headquarters and in the country office, and the findings of an IEG mission that visited Sri Lanka during August-September 2016. Project performance was discussed with government, state, and municipal officials engaged with the projects; representatives of donors; staff of the World Bank's country office; and beneficiaries in different regions through interviews and focus group discussions. The list of persons met during the mission is attached in appendix C. Their cooperation and assistance in preparing the report is gratefully acknowledged.

Following standard IEG procedures, copies of the draft PPAR were sent to government officials and implementing agencies for their review. No comments were received.

Summary

This Project Performance Assessment Report (PPAR) assesses the development effectiveness of the Second Community Water Supply and Sanitation Project in Sri Lanka.

The project was approved on May 6, 2003, for a total cost of \$62.4 million. Total project cost at completion was \$69.1 million. The project was closed on December 31, 2010, one-and-a-half years after the original closing date of June 30, 2009. The objective of the project was to increase service coverage and achieve effective and sustained use of water and sanitation services in rural communities in Sri Lanka.

Project Performance and Ratings

The overall development outcome of the project is rated **moderately satisfactory**. This overall assessment is based on the following.

Relevance of the development objective is rated **substantial**. The project objective was relevant to the government's priorities and to the World Bank's country assistance strategies, both at project appraisal and at closure, with respect to expanding water and sanitation service delivery for the rural population using demand-responsive approaches. Relevance of project design is rated **substantial**.

The main components of the project, such as physical investments, implementation support, and program management and capacity building were linked logically to the project's objective of increasing service coverage and achieving effective and sustained use of water and sanitation services in rural communities. However, several smaller components, such as the Kirindi-Oya River Basin study, lacked a clear link to the objective and to the main project components.

Regarding the achievement of project objectives, the first objective—increasing service coverage of water and sanitation services in rural communities—is rated **modest**, due to modest achievement of key indicators, such as the number of people provided with access to improved water sources and new piped household water connections established. This modest achievement was partially the result of reallocation of funds following the tsunami in 2004 and overly ambitious targets for increasing service coverage at the design stage. The second objective—achieving effective and sustained use of water and sanitation services in rural communities—is rated **substantial**. Although there have been some challenges in ensuring reliability and water quality, such as the lack of 24-hour supply and water contamination, the project has contributed to providing adequate, affordable, and relatively sustainable water services and to ensuring convenience and time saving for the beneficiaries. Through a Sanitation Revolving Fund, the project has also contributed to achieving and maintaining a high percentage of toilet availability for rural households.

Efficiency is rated **substantial**. The project provided access to improved water sources to fewer people, with slightly greater costs, than estimated at appraisal. At appraisal, the project had planned to serve 1,230,000 people for \$62.4 million. By completion, the

project had served 384,100 people, or 31 percent of the original target and 48 percent of the revised target of 793,483 people. Actual spending at completion was \$69.1 million. However, the economic rates of return (ERR) calculated at closing were still favorable, at 30 percent for gravity schemes and 18 percent for pumping schemes.

Risk to development outcome is rated **significant**. Many community-based organizations (CBOs) have technical, financial, and organizational sustainability challenges. Technical challenges responsible include repair of pumps and water contamination. Some of these matters can be handled by the CBOs themselves, but others are beyond the capacity of community members. In terms of financial sustainability, while a few CBOs are financially sustainable due to a large number of connections, many are barely surviving. As for organizational challenges, some CBOs suffer from a shortage of volunteers. Despite these challenges, the institutional arrangement for supporting CBOs has been unclear. The Department of National Community Water Supply (DNCWS) was created in 2014 as the institution responsible for supporting CBOs, but it is still in its infancy and lacks resources. Most CBOs are receiving support from local authorities or the National Water Supply and Drainage Board (NWSDB) wherever possible. The system of tracking service delivery outcomes has also been unclear since the closing of the project. The NWSDB has a database on rural water schemes, but data coordination between the NWSDB and the DNCWS and the use of the database have been unclear. The Water Supply and Sanitation Improvement Project, approved in 2015 as a follow-on project, is intended to mitigate these risks by supporting capacity development of the DNCWS.

World Bank performance is rated **moderately satisfactory**, based on moderately satisfactory quality at entry and moderately satisfactory quality of supervision. The quality of appraisal and preparation of the project were generally good, with moderate shortcomings, including uneven design of the monitoring and evaluation (M&E) framework. The main shortcoming of supervision was that key project indicators and targets were not formally revised after the Tsunami Fund diversion and the impact of the related price inflation in the country became evident. Instead, revisions were made informally in an Implementation Status and Results Report a few months before project closure.

Borrower performance is rated **moderately satisfactory**, based on moderately satisfactory government performance and moderately satisfactory implementation agency performance. The government showed its commitment through the formulation of the national policy, but the ministry responsible for project coordination changed four times during project implementation, and the borrower's financial contribution was \$8.9 million at completion, compared with \$11.4 million at appraisal. The implementing agency provided quick follow-up in response to Bank mission recommendations and actively promoted stakeholder consultation. However, the implementing agency had problems ensuring a sound M&E framework, resulting in limited use of M&E during implementation.

Lessons

Lack of continuity in M&E and its utilization by an implementing agency beyond project completion undermines sustainability of development outcomes. In this project, the monitoring function for rural water schemes weakened after project completion. Currently, the Rural Water Supply Division of the NWSDB maintains a rural water schemes database. However, there is no clear evidence that this data is shared with relevant institutions or used to identify and prioritize critical support needs for CBOs managing water supply schemes.

Technical soundness of initial design and quality of construction affect performance of CBOs. In this project, poor CBO performance in sampled cases could be traced to poor technical design, resulting from several factors: (i) insufficient time and resources spent on identifying a suitable water source; (ii) lack of local knowledge or capacity of consulting firms; and (iii) insufficient oversight by technical experts such as NWSDB staff. These factors often led to water source depletion, water quality problems and frequent repair needs.

Strong and consistent institutional and technical support is needed to achieve sustainable service delivery in CBO schemes. In this project, CBOs were expected to be fully in charge of construction and management of rural water supply schemes. However, technical aspects regarding operation and maintenance and financial supervision were often beyond the capacity of the CBO members. While units of the Rural Water Supply Division of the NWSDB and Pradeshiya Sabhas are providing support in this regard, there appears to be great variation in the capacity and interest among these units to carry out this function, depriving needy CBOs of timely support in some cases, and affecting their performance.

Proactive and adaptive project supervision in response to exogenous events can help safeguard project efficacy. In this project, there are positive and negative examples: on the one hand, the task team responded nimbly to the tsunami by taking actions, including reallocating some of the funds to an emergency project and changing some project locations; on the other hand, the response was less nimble in taking steps to adjust the project targets to the decrease in available funds and an inflation surge, which affected project outcome.

José C. Carbajo Martínez
Director, Financial, Private Sector, and
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Independent Evaluation Group

1. Background and Context

Country Background

1.1 Sri Lanka is a lower-middle-income country with a growing economy and declining poverty. Following 30 years of civil war that ended in 2009, Sri Lanka's gross domestic product (GDP) grew at an average 6.4 percent per year during 2009–15, and its per capita GDP in 2015 was \$3,926. This economic growth has translated into shared prosperity—the national poverty headcount ratio declined from 15.2 percent in 2006 to 6.7 percent in 2012 (Sri Lanka, Department of Census and Statistics 2015). Despite decades of war, Sri Lanka ranks high on the UN Human Development Index and has also achieved most of the Millennium Development Goals.

1.2 However, there is uneven development across the urban, rural, and estate sectors (table 1.1). Rural areas account for close to 80 percent of the population and have almost three times the incidence of poverty seen in urban areas. At the same time, there is wide variation within the rural sector, with pockets of poverty in some areas and substantial development in others. The estate sector, though accounting for a small share of the population, has the highest incidence of poverty. Providing better access to services is essential to reducing poverty, but also to meeting the demand created by rising living standards and expectations.

Table 1.1. Uneven Development across the Urban, Rural, and Estate Sectors

Sector	Population (%)	Mean Household Income (SL Rs)	Poverty Headcount (%)
Urban	18.2	69,880	2.1
Rural	77.4	41,478	7.6
Estate	4.4	30,220	10.9

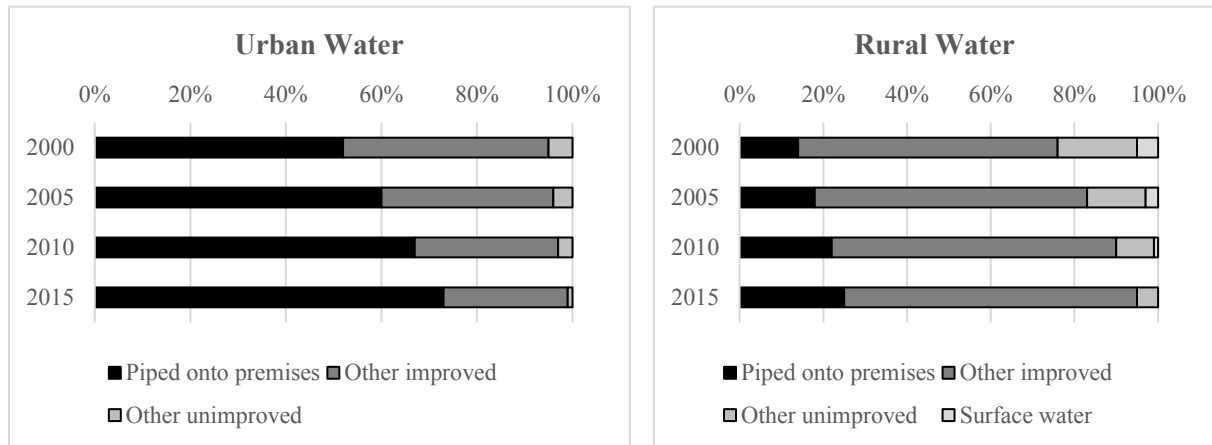
Source: Department of Census and Statistics 2015.

1.3 The estate sector is a residual anomaly stemming from the colonial period. While living standards have improved in recent years, there is still substantial poverty and vulnerability within the sector. Workers continue to be largely dependent on the plantation management for many basic needs, such as housing, and their access to services and quality of services are low in comparison to both the urban and rural sectors.

Sector Background

1.4 Although access to improved water supply is relatively high at the country level, water service levels in urban and rural areas has been quite uneven. In urban areas, the population with access to piped water increased from 52 percent in 2000 to 73 percent in 2015, while rural population with access to piped water was only 14 percent in 2000 and it is still as low as 25 percent in 2015 (figure 1.1).

Figure 1.1. Trend of Access to Improved Water Supply, 2000–15 (percentage of population with access)



Source: WHO/UNICEF Joint Monitoring Programme (JMP) for Water Supply and Sanitation <https://www.wssinfo.org/>

1.5 For sanitation, the rural population has better access to improved facilities than the urban population. In urban areas, the population with access to improved sanitation increased slightly, from 85 percent in 2000 to 88 percent in 2015. In contrast, the rural population with access to improved sanitation dramatically increased, from 80 percent in 2000 to 97 percent in 2015 (figure 1.2).

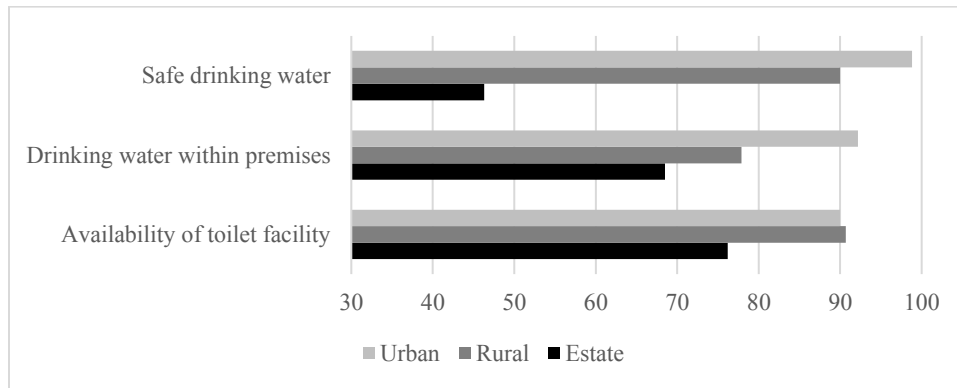
Figure 1.2. Trend of Access to Improved Sanitation, 2000–15 (percentage of population with access)



Source: WHO/UNICEF Joint Monitoring Programme (JMP) for Water Supply and Sanitation <https://www.wssinfo.org/>

1.6 The estate sector has the lowest service level in both water supply and sanitation. According to the Household Income and Expenditure Survey 2012/13 (Sri Lanka, Department of Census and Statistics 2015), only 46 percent of the estate population has access to safe drinking water, while more than 90 percent of the urban and rural population enjoy such access. For sanitation as well, only 76 percent of the estate population has access to a toilet facility, while more than 90 percent of urban and rural population do (figure 1.3).

Figure 1.3. Percentage Distribution of Households by Water Supply and Sanitation Services, 2012/13

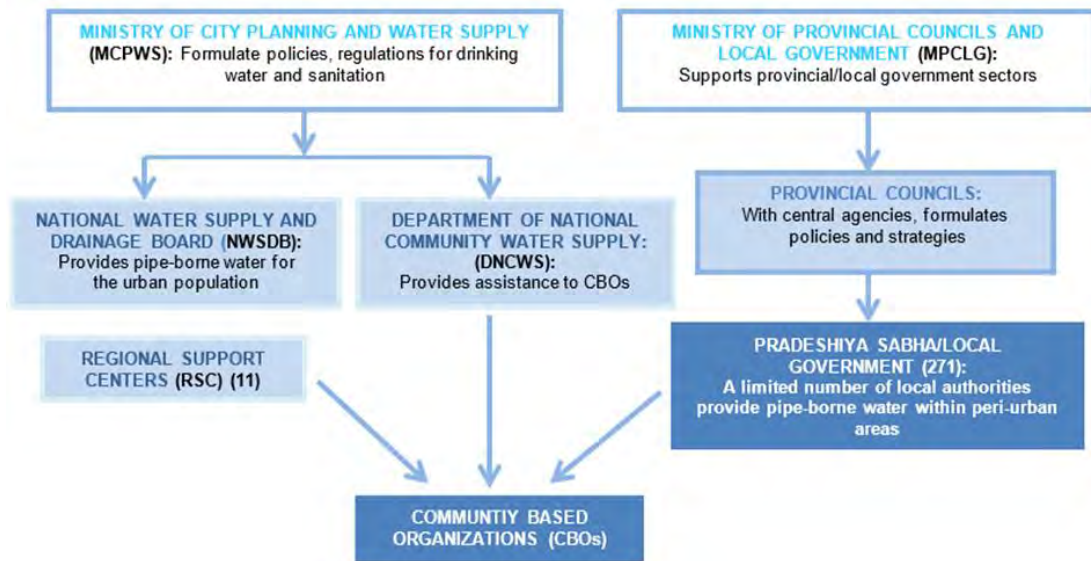


Source: Sri Lanka, Department of Census and Statistics 2015.

1.7 Over the past decade, there have been some notable changes related to the institutions tasked with rural water supply and sanitation. Service delivery for rural water supply is not allocated to any agency. There is no institution for the rural or estate sectors comparable to the National Water Supply and Drainage Board (NWSDB), which provides water supply services in urban areas. While the Ministry of City Planning and Water Supply has primary responsibility for guiding rural water supply, until the establishment of the National Community Water Trust (NCWT) in 2011, there was no single unit or department tasked with managing the rural water supply sector. In 2014 the NCWT was replaced by the Department of National Community Water Supply (DNCWS), established within the Ministry of City Planning and Water Supply, as the nodal agency with primary responsibility for rural water supply. Schemes to supply water in rural areas are generally provided through a large number of community-based organizations (CBOs) that operate and maintain water supply facilities in villages. In addition to the DNCWS, CBOs are supported by the NWSDB's regional support centers (RSC) and local authorities that provide technical and managerial support to CBOs. Figure 1.4 summarizes the institutional structure for rural water supply.

1.8 There is also no institution in rural sanitation that is responsible for providing services. Default responsibility for managing sanitation requirements is largely left with individual households. Oversight of sanitation aspects resides with local authorities and the Ministry of Health, operationalized at the local level through Medical Officers of Health (MOH) and public health inspectors. In some areas, local authorities provide septic removal services, but overall, local authorities have varying levels of capacity to regulate, monitor, and supervise rural sanitation facilities (figure 1.5).

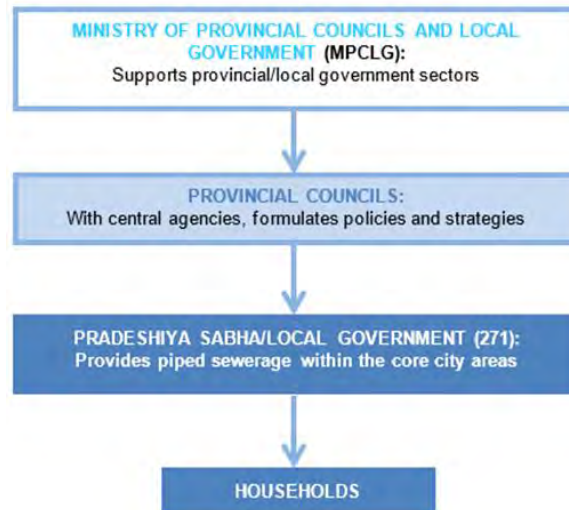
Figure 1.4. Institutional Structure for Rural Water Supply in Sri Lanka



Source: ADB, JICA, and World Bank 2017.

Note: Arrows represent supervisory roles.

Figure 1.5. Institutional Structure for Rural Sanitation in Sri Lanka



Source: ADB, JICA, and World Bank 2017.

Note: Arrows represent supervisory roles.

1.9 In 2001, the government of Sri Lanka adopted the National Policy for the Rural Water Supply and Sanitation Sector (Sri Lanka, Ministry of Urban Development, Construction, and Public Utilities 2001). Key principles of the policy include (i) demand-responsive and participatory approaches to service delivery and (ii) beneficiary contributions to the capital costs and full responsibility for operation and maintenance. The policy makes it clear that service delivery is the responsibility of the communities themselves and allocates a supervisory, monitoring, and technical support and capacity development role to provincial and local authorities.

World Bank Support

1.10 The World Bank's involvement in rural water and sanitation in Sri Lanka started with the Community Water Supply and Sanitation Project (P010409), which was approved in 1992 and closed in 1998 with a satisfactory rating. The project played a major role in introducing the community-based approach to Sri Lanka on a large scale and successfully developed systems and procedures for community-based planning, implementation, and operation and maintenance of rural water supply and sanitation. Following this success, the Second Community Water Supply and Sanitation Project (P058067), assessed in this report, was approved in 2003.

1.11 Following the completion of the Second Community Water Supply and Sanitation Project in December 2010, the Water Supply and Sanitation Improvement Project (P147827) was approved in June 2015 to increase access to piped water services and improved sanitation in selected districts and to strengthen the capacity of associated institutions.

2. Objectives, Design, and Their Relevance

2.1 According to the Development Grant Agreement, the objective of the project was "to increase service coverage and achieve effective and sustained use of water and sanitation services in rural communities in Sri Lanka" (World Bank 2003a, p. 16). The statement of objectives in the project appraisal document is identical.

Components and Costs

2.2 The project aimed to implement demand-responsive and sustainable rural water supply and sanitation services for 1.23 million people in the Central, North West, and North East Provinces, and to strengthen capacities of key stakeholders, including central and local governments, communities, and partner organizations to deliver and manage sustainable water supply and sanitation services.

2.3 The project comprised five components. The fifth component was added under a "Part Z" adjustment to the Credit Agreement in February 2005 following the tsunami that hit the country in December 2004.

2.4 **Physical Investments** (cost at appraisal, \$38.40 million; at completion, \$34.10 million; \$6.70 million was reallocated to the fifth component). This component aimed to finance a share of the capital costs for service improvements in water supply, wastewater, drainage, and on-site sanitation. Beneficiaries, represented by CBOs, were to be responsible for management and implementation of construction works and subsequent operation and maintenance of water supply and sanitation systems. The majority of the schemes were to be implemented in rural villages, communities in the estate sector, and small towns eligible initially on a pilot basis. In addition, the project would finance completion of selected subprojects initiated by the government in the North West Region.

2.5 **Implementation Support** (cost at appraisal, \$4.40 million; at completion, \$3.39 million). This component aimed to support partner organizations and strengthen their

capacity to assist communities in implementing water and sanitation works through: (i) publicity and awareness campaigns; (ii) assistance to communities in preparing funding applications; (iii) formation of CBOs; and (iv) work with CBOs to identify, plan, design, supervise, and implement water supply and sanitation schemes. In addition, it was to assist local governments in: (v) processing and supervising subprojects and (vi) providing in situ training and capacity building to CBOs to enable them to assume project management responsibilities and ensure effective use and maintenance of facilities created under the project.

2.6 Program Management and Capacity Building (cost at appraisal, \$12.60 million; at completion, \$11.64 million). This component aimed at building the capacity of national units, local governments, and CBOs in implementing the project with the following subcomponents: (i) technical assistance and training; (ii) consultancies, studies, and policy formulation (various technical studies); (iii) incremental operating costs to support project administration and operating costs; (iv) a project-wide groundwater survey to identify potential water-resource constraints; and (v) a detailed study to consider financing activities to address the water scarcity in Hambantota District of the Southern Province.

2.7 North East Provincial Council (cost at appraisal, \$7.00 million; at completion, \$6.54 million). This component was to finance various preparatory and implementation activities related to subprojects in the North East Province, including technical assistance, training, and capacity building.

2.8 Tsunami Assistance for Recovery, Rehabilitation, and Reconstruction Activities (cost at appraisal, \$0.00 million; at completion, \$6.70 million). This component included two subcomponents. The first was carrying out of emergency recovery and reconstruction activities in tsunami-affected areas in various sectors, including, but not limited to, health, education, infrastructure, roads, housing, capacity building, long-term hazard-and-risk management, training, and support for small and medium-size enterprises, by providing goods, services, training, operating costs, and subgrants, and carrying out works required for this purpose. The second component included cash grants for livelihood support to individuals and families in the affected areas in accordance with acceptable assistance criteria, including, but not limited to, various sectors, including health, education, infrastructure, roads, and housing, capacity building, support for small and medium-size enterprises, and establishing a civil society fund.

2.9 The project costs at closing were \$69.1 million, or 11 percent higher than the \$62.4 million estimated at appraisal (table 2.1). After the tsunami in 2004, special drawing rights (SDR) 4.6 million (about \$6.7 million) of the International Development Association (IDA) grant was reallocated to the Tsunami Emergency Recovery Project. Due to this reallocation, the budget for component A was reduced from SDR 19.9 million to SDR 16.0 million. As a result, some activities—for example, service delivery to small towns—were dropped. Nevertheless, the cost of component A in dollars was slightly increased, mainly because of appreciation of the SDR against the U.S. dollar and the inflation that hit the country immediately after the tsunami.

Table 2.1. Project Costs by Component (in US\$, millions)

	Appraisal	Actual	Percent of Appraisal
Component A	38.4	40.8	106
Component B	4.4	3.4	77
Component C	12.6	11.6	92
Component D	7.0	6.5	93
Component Z	0.0	6.7	NA
Total project costs	62.4	69.1	111

Sources: World Bank 2003c, 2011; Operations Portal.

Note: NA = not applicable.

Financing and Duration

2.10 IDA financed SDR 28.9 million as planned, which was equivalent to \$39.8 million at appraisal and \$43.6 million at closing (table 2.2). The difference in U.S. dollars is because of appreciation of the SDR against the dollar, which enabled the project to cover a part of the reallocation of funds to the Tsunami Emergency Recovery Project.

2.11 The borrower's contribution was less than expected, while that of the local communities was much higher than expected. The borrower contributed \$8.91 million, or 78 percent of the \$11.40 million planned at appraisal, while local communities contributed \$17.31 million, or 45 percent more than \$11.90 million planned at appraisal (table 2.2). Local communities' contributions were in both labor and cash. The increase of local communities' contribution in dollars is significant, given the depreciation of the SL Re against the dollar over the project period.

Table 2.2. Financing (in US\$, millions)

	Appraisal	Actual	Percent of Appraisal
Borrower	11.4	8.9	78
Local communities	11.9	17.3	145
IDA grant	39.8	43.6	110
Total	63.1	69.8	111

Sources: World Bank 2003c, 2011a; Operations Portal.

2.12 The project period was extended for 18 months. The project was to close on June 30, 2009, six years from commencement. However, to enable the completion of works, the project closing date was extended until December 31, 2010.

Relevance of Objectives

2.13 Relevance of the project objectives is rated *substantial*. The project objectives were relevant to the government's priorities as well as to the World Bank's country assistance strategies, both at project appraisal and closure.

2.14 Project objectives were relevant to the government's priorities at appraisal and closure. The Rural Water Supply and Sanitation Sector Policy, adopted in 2001 (Sri

Lanka, Ministry of Urban Development, Construction, and Public Utilities 2001), remains the guiding policy document for rural water supply and sanitation. It promotes demand-responsive and participatory approaches to service delivery as well as contributions by beneficiaries to the capital costs and their full responsibility for operation and maintenance of facilities. In addition, the project's objectives are consistent with the government's vision for economic development laid out in the Mahinda Chintana, a 10-year development framework (Sri Lanka, Ministry of Finance and Planning 2005) that focuses on three main areas over the period 2006–16: (i) achieving more equitable development through accelerated rural development; (ii) accelerating growth through increased investment in infrastructure; and (iii) strengthening public service delivery.

2.15 At appraisal, the project's objectives were consistent with the World Bank's country assistance strategy for 2003–06 (World Bank 2003b). Under its three core areas of peace, growth, and equity, expanding rural access to safe water and sanitation was specifically identified under promoting equity. At closure, the project objective directly responds to the stated "Strategic Objective 1: Expanding Economic Opportunities in Lagging Regions" of the country assistance strategy for 2009–12, which includes increasing access of rural households to improved water sources, with special focus on the North East Province. In addition, the World Bank's strategy strongly emphasizes community-focused and community-driven projects facilitated through local and provincial governments.

Relevance of Design

2.16 Relevance of project design is rated *substantial*. The main components and results framework were generally clear and logically linked to the project's objectives. However, a small component lacked a clear link to the objective and to the other components, and the results framework did not have enough indicators to measure achievement in the demand side of the objectives.

2.17 The project's main components of physical investments—water and sanitation as well as capacity building for partner organizations, national government units, local authorities, and CBOs—were logically linked to the objectives of increasing service coverage and achieving effective and sustained use. The capacity-building components were designed to bolster skills and capacity for procurement, community mobilization, planning, and financial management.

2.18 The proposed Kirindi-Oya River Basin study—a minor project component—was ill-suited to the project development objectives and was of low relevance, given the institutional and scaling-up challenges faced by the rest of the project.

2.19 The results framework was generally clear, and it had indicators logically linked to the objectives, but it did not have enough indicators to measure the achievement on the demand side of the objectives: effective and sustained use of water and sanitation services. The four project development objective indicators (number of people provided with access to improved water sources, new piped household water connections, beneficiaries' level of satisfaction, improved water points constructed or rehabilitated)

and two intermediate outcome indicators (number of water supply subprojects completed and operational, number of latrines constructed and operational) were mostly about the achievement on the supply side: service coverage, except for beneficiaries' level of satisfaction.

Monitoring and Evaluation

2.20 Monitoring and evaluation (M&E) is rated **modest**, because the M&E design was not clear, implementation was weak, and utilization of M&E results was modest.

2.21 The M&E design was not clear and comprehensive. The project was to monitor input, process, output, and outcome/impact, supported by independent audits, periodic health surveys (later omitted at the suggestion of the Quality Assurance Group), and independent sociological impact assessments during project implementation and at completion. The indicators had no clear distinction by sector, province, and subproject level, so the project impacts could not be disaggregated. Water quality, though identified repeatedly as a problem, had no indicators and was not monitored. Project benefit and beneficiary assessments were missing. Similarly, there were no measures to assess capacity development improvements resulting from the project. Further, the North East Province was not part of the M&E framework.

2.22 M&E implementation was weak. The project was to utilize a computerized management information system, but the system faced numerous problems. It was abandoned at an early stage of project implementation, and it took three years for the new systems to become effective. At the Pradeshia Sabha level, a paper-based monthly monitoring system was used, and Provincial Councils were responsible for data entry to the system. The Bank missions repeatedly pointed out the problems with data reliability. Further, many planned M&E activities were not undertaken— for example, socioeconomic impact assessments at mid-term and project completion, independent audits for technical quality of subprojects, safeguard compliance monitoring, and implementation of grievance redress mechanisms.

2.23 The indicators were changed to align with the core IDA water sector indicators in November 2009. The Implementation Completion and Results Report (ICR) (World Bank 2011a) states that the target values for the indicators were revised in May 2010, only seven months before closing, although IEG could not find formal evidence of revising the target values. The task team leader explained that the key reasons for reducing the target values were reallocation of funds consequent to tsunami, and significant cost escalation of construction materials after the tsunami.

2.24 A mid-term review was conducted in October 2006. The review found that the project was making good progress overall toward achieving its development objectives, except in the North East component. Commencement of this component had been delayed initially by the tsunami and by the deteriorating security situation. The mission also identified two issues related to M&E: low quality of data presented by the Rural Water Supply and Sanitation Division and absence of monitoring of the performance of local authorities.

2.25 M&E utilization was modest. The monitoring data was used to summarize progress reports and revise some planning parameters, such as costs. The task team leader explained that revision of target values of project indicators was based on the monitoring data, but given the timing of the revision, it is difficult to conclude that the monitoring data were effectively used for setting targets.

3. Implementation

3.1 In December 2004, 16 months after project effectiveness, a tsunami hit the country and coastal areas were severely damaged. Given the emergent needs for recovery in the affected areas, the Credit Agreement was amended in February 2005 to allow reallocation of SDR 4.6 million (about \$6.7 million) to the Tsunami Emergency Recovery Project. Because of this reallocation, funds available to the project were decreased. The target for key indicators, however, was not adjusted at this stage. The project team did adjust the target values in its Implementation Status and Results Report (ISR) (World Bank 2011b) in May 2010, seven months before closing, without any formal process. For example, the number of people provided with access to improved water sources under the project was reduced to 793,483, or 64.5 percent of 1.23 million planned at appraisal.

3.2 Project implementation was planned in four successive batches, with a six-year implementation time frame, with the North East component to join after an initial study. This has allowed for building on the momentum slowly, based on implementation experiences. By the original closing date (June 2009), except in the North East, schemes in almost all four batches had completed implementation. An 18-month extension was needed to complete multi-village schemes and to accommodate slow implementation performance of the North East component.

3.3 North East Province suffered from slow progress because of various problems during implementation. The deteriorating security situation in the North East and the tsunami in 2004 forced the project team to move to relatively safer locations within the North East Province: Trincomalee and Ampara Districts. Further, North East continued to face implementation challenges, including lack of coordination among stakeholders, lack of labor contributions, low capacities of local governments for implementation and capital contribution, and difficulty mobilizing consultants and People's Organizations. Some counter-measures, such as mobilizing new consultants and community facilitators, were implemented toward the end of the project.

3.4 The estate sector subcomponent, though it initially appeared to be running smoothly, has faced problems during implementation. The estate managements were not ready to contribute to costs or to deal with the social issues that cropped up between the populations in different divisions of one estate (Kotiyagala). With this experience, the World Bank team advised the government not to go for the final phase of investment, but it continued to help the implementing agencies to identify solutions for various technical and social issues and by participating in dialogue with stakeholders.

3.5 Despite several institutional changes, government commitment for community water supply and sanitation through the RWSS central unit remained stable. The RWSS

Unit was under the Ministry of Housing and Plantation Infrastructure at appraisal. It was then housed under the Ministry of Urban Development and Water Supply, Ministry of Urban Development and Sacred Area Development, and Ministry of Water Supply and Drainage. The director-general of the RWSS Unit did not change during the project implementation period, which contributed to continuity, despite frequent institutional changes.

Safeguards and Fiduciary Compliance

3.6 The project was classified as an Environmental Category A under Operational Policy 4.01–Environmental Assessment at appraisal, because the project included a water resource study for the Kirindi-Oya River Basin in the Hambantota District. However, the required environmental assessment of the Kirindi-Oya River Basin was not carried out before starting work, and the World Bank canceled this component.

3.7 A sectoral environmental assessment was prepared, and it highlighted the problem of drinking water quality and scarcity. Even so, only limited water source protection was part of the project because of a lack of funding and low capacity at the local-government level. The ICR neither describes the overall monitoring of environmental safeguards during project implementation, nor indicates if there were any compliance or capacity problems.

3.8 The Project Performance Assessment Report (PPAR) mission found no significant social safeguard issues. The ICR has no discussion of the beneficiary assessments proposed for the mid-term and at project closing, or of grievance or redress mechanisms to deal with complaints under the project. Sixteen ISRs rated all safeguard items satisfactory throughout the project period.

3.9 The project mainly involved small works, undertaken by communities and coordinated by provincial and local government. Delay in training, compounded by the absence of a dedicated implementing agency procurement officer, adversely affected overall procurement management. According to the ICR (World Bank 2011a, p. 10), "at the Credit closing, two cases of misprocurement were declared." The two cases involved 0.7 percent of total procurement, according to the borrower's comments on the ICR (p. 47). However, the project team subsequently informed IEG that the implementing agency made a genuine mistake in procuring two items. The Bank did not declare misprocurement; instead, it made these expenditures ineligible.

3.10 At appraisal, the financial management risk was rated as substantial, due to capacity constraints of CBOs and local government. High implementing agency staff turnover and delayed and partial commissioning of the computer-based financial management system were the main issues anticipated. According to the ICR, financial management reports were improved in 2010, and no major issues were reported in the official audits.

4. Achievement of the Objectives

4.1 The objectives of the project are assessed in two parts to distinguish the achievements in the supply and demand sides: (i) to increase service coverage and (ii) to achieve effective and sustained use of water and sanitation services in rural communities in Sri Lanka.

4.2 To gather information to assess the efficacy of the project, the PPAR mission visited a total of seven project sites, three of which were chosen for in-depth focus group discussion (FGD). The project sites were chosen to cover the varying status and size of the community water supply schemes and beneficiaries, taking access into consideration. The locations visited are summarized in table 4.1. The results of the FGDs were also used as inputs into the ADB-JICA-World Bank Group joint case study on water and sanitation in Sri Lanka (ADB, JICA, and World Bank Group 2017), which was carried out simultaneously with this PPAR mission.

Table 4.1. Project Sites Visited by the PPAR Mission

Project Site	District	Province	In-Depth FGD	Connected Household/ Total Household	Status of Use
1. Pallekotuwa	Kandy	Central	Yes	57/115	In use, resource capacity insufficient to provide more
2. Werapitiya	Kandy	Central	Yes	181/221	In use, resource capacity sufficient to provide more connections
3. Serunuwara	Trincomalee	Eastern	Yes	NA/360	Extremely poor quality of water
4. Adikaragama	Nuwara Eliya	Central	No	1,125/2,147	In use, large-scale CBO
5. Galagedera	Kandy	Central	No	60/110	In use, barely surviving CBO
6. Nikagolla	Matale	Central	No	0/200	Stopped operation mainly due to resource depletion
7. Deevilla	Matale	Central	No	140/182	In use

Note: NA = not available.

Objective 1: To Increase Service Coverage

OUTPUTS

4.3 The number of water supply subprojects completed and operational increased after project closing and exceeded the revised target. A total of 737 water supply schemes, or 86.4 percent of the revised target¹ of 853, were completed at the end of the project. However, according to the rural water supply database maintained by NWSDB, 860 schemes were completed as of 2016, against the revised target of 853. The main reason for the increase is the completion of the subprojects in the last batch that could not be completed within the project period (table 4.2).

4.4 The project built 45,660 latrines, or 91.3 percent of the originally targeted 50,000, or 83.8 percent of the revised target of 54,500 (table 4.2). The task team leader explained that the target value had been increased based on the updated data provided by the implementing agency and the high demand observed at that time.

Table 4.2. Key Output Indicators

Indicator	Original Target	Revised Target	At Completion	NWSDB-RWS Database, 2016
Number of water supply subprojects completed and operational	C & NW 940	812	709	821
	NE NA	41	28	39
	Total NA	853	737	860
Number of latrines constructed and operational	50,000	54,500	45,660	NA

Sources: World Bank 2011a and NWSDB-RWS database.

Note: NA = not available; C = Central Province; NW = North Western Province; NE = North Eastern Province.

OUTCOMES

4.5 The PPAR mission found an increase in the number of people provided with access to improved water sources under the project after completion, but the number is still below the original and revised targets. The project provided access to improved water sources to 384,100 people, or only 31.2 percent of the originally targeted 1,230,000, or 48.4 percent of the revised target of 793,483 people at completion. The PPAR mission confirmed with the NWSDB-RWS database that the achievement increased further after closing to 553,325 people, or 50.0 percent of the original target, or 69.7 percent of the revised target (table 4.3). Again, this increase is mainly due to the completion of the subprojects in the last batch and people's gradual uptake after the completion of the project.

4.6 The PPAR mission found an increase in new piped household water connections under the project after completion, but the number is still below the original and revised targets. The project contributed to 92,000 new household connections, or 56.7 percent of the revised target of 162,300 connections. The PPAR mission confirmed with the NWSDB-RWS database that the achievement subsequently increased significantly, to 143,856 connections, or 88.6 percent of the revised target (table 4.3). This is mainly due to the completion of the subprojects in the last batch and further uptake after the completion of the project.

4.7 There were two major reasons for this modest achievement. First, available funds decreased because of the reallocation of funds caused by the tsunami in 2004, and the inflation triggered by the tsunami reconstruction further affected the real value of the remaining funds. Second, the target was set at too ambitious a level, but it was never formally revised, despite above-mentioned reduction in funds.

4.8 Achievement of the first project development objective—to increase service coverage—is rated **modest** due to modest achievement of the key indicators.

Table 4.3. Key Outcome Indicators

Indicator	Original Target	Revised Target	At Completion	NWSDB-RWS Database 2016
Number of people provided with access to improved water sources under the project	C & NW 1,100,000	719,700	NA	506,397 (46.0%/70.4%)
	NE 130,000	73,783	NA	46,928 (36.1%/63.6%)
	Total 1,230,000	793,483	384,100 (31.2%/48.4%)	553,325 (50.0%/69.7%)
New piped household water connections that are resulting from the project intervention	C & NW NA	NA	NA	132,124
	NE NA	NA	NA	11,732
	Total NA	162,300	92,000 (56.7%)	143,856 (88.6%)

Sources: World Bank 2011a and NWSDB-RWS database.

Note: NA = not available; C = Central Province; NW = North Western Province; NE = North Eastern Province.

Objective 2: To Achieve Effective and Sustained Use

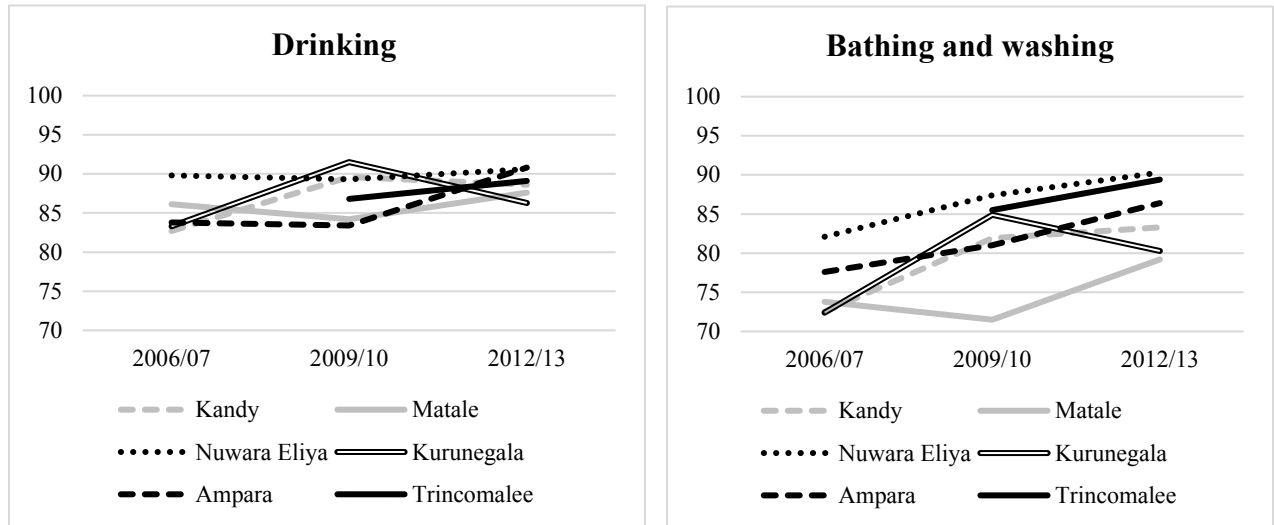
4.9 This objective deals with demand-side outcomes in the use of the services. To reflect various aspects of the demand-side outcomes, the following elements were assessed: satisfaction, adequacy, reliability, convenience and time saving, water quality, affordability, and sustainability of services.

4.10 **Satisfaction.** Satisfaction of the beneficiaries was generally high. An independent audit done at closing of the project found that 88 percent of beneficiaries of the completed water schemes indicated they were satisfied with their access against an originally targeted 80 percent, although the sample size was only 100 subprojects and only in the Central and North West Provinces, covering 14 percent of completed subprojects in those provinces.

4.11 **Adequacy.** Adequacy of water volume for beneficiaries has been improved over the project period. Household Income and Expenditure Surveys (2006/07, 2009/10, and 2012/13; Sri Lanka, Department of Census and Statistics 2008, 2011, 2015)) show a general trend of improved water adequacy in Kandy, Matale, Nuwara Eliya, Kurunegala, Ampara, and Trincomalee, where the project contributed to increasing water coverage (figure 4.1). According to the household survey, with a limited sample of 100 subprojects, average water consumption per capita per day increased substantially, from 28 to 68 liters.

4.12 FGDs suggest that in most cases, beneficiary households do not look to project water to meet all their needs (see table 4.4). Existing alternative sources often supplement project water. The demand for project water by connected households drops during the wet season, when other sources are plentiful, and rises during the dry season.

Figure 4.1. Households with Sufficient Water for Drinking, Bathing, and Washing, by District



Sources: Sri Lanka, Department of Census and Statistics 2008, 2011, 2015.

Table 4.4. Source of Water by Use in CBOs Where FGDs Took Place

Site and District	Drinking	Cooking	Bathing and Washing Clothes	Gardening
1. Pallekotuwa, Kandy	1. Project water	1. Project water 2. Own sources	1. Project water and well/stream	1. Well and stream
2. Werapitiya, Kandy	1. Own source 2. Project water	1. Project water 2. Own sources	1. Project water and spring/well/canal	1. Project water 2. Well, streams
3. Serunuwara, Trincomalee	1. Private provider	1. Private provider 2. Other sources	1. Irrigation canal /well 2. Project water	1. Irrigation canal/well 2. Project water

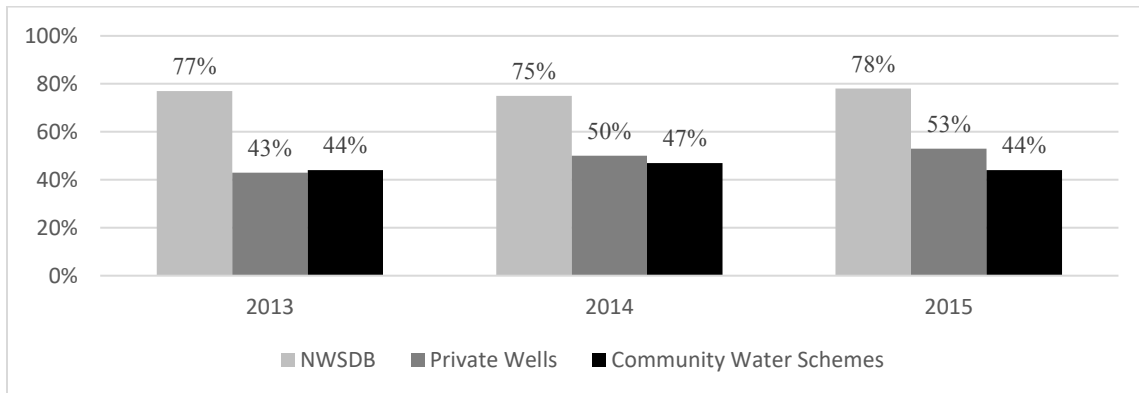
Source: FGDs.

4.13 Reliability. Community water schemes constructed under the project are generally reliable, but there are some challenges. At completion of the project, the household survey, based on a small sample of 100 subprojects, indicated that about 46 percent of the schemes provided continuous water supply, and 78 percent of households received piped water every day. Seven years after project closing, none of the CBOs visited by the PPAR mission provided a 24-hour supply. For example, CBOs in Werapitiya and Serunuwara provide water for a prearranged number of hours per day, while Pallekotuwa supplies water only once in two days, and it was reported that four households had disconnected due to unreliable supply and frequent failures in the water supply scheme. According to CBO leadership, scheduling supply helps to ensure equitable distribution when water is limited. Other reasons for scheduling include the manpower needed to operate the pumps, the cost of electricity, and the need to prevent wastage due to overflows. In general, households are aware of the supply schedule and have water storage facilities to hold sufficient water for use until the next scheduled

supply period. Most households with about five members use 500-litre overhead tanks, and thus ensure uninterrupted water from taps. Smaller and poorer households store water in large containers placed near the water taps.

4.14 Convenience and Time Savings. The project brought a benefit of time savings. The household survey, with the small sample of 100 villages in the Central and North West Provinces, indicated that household connections led to time savings of around 70 minutes per household per day. FGD results also show that time savings is one of the benefits provided by the water supply schemes appreciated by the beneficiaries, and it is experienced by both women and men. As the caregivers for both children and the elderly, women are indirectly responsible for making water available in the house. They were also often the ones at home, and available to carry water. For women, therefore, a reliable source in the compound has obvious benefits. For men who are the primary economically productive members of a household, being released from spending considerable time and energy on collecting water means they have increased leisure time. For the elderly, the benefit is beyond general convenience, because they are incapable of accessing water that requires a long walk or a steep or irregular climb.

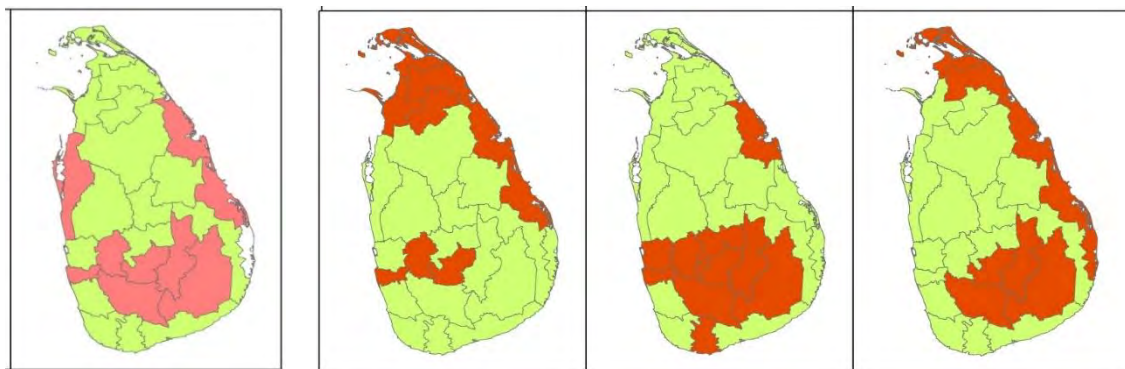
Figure 4.2. Satisfactory Ratio of Sampling Tests



Source: Water quality surveillance, MOH.

Figure 4.3. Water Quality and Water-Borne Disease

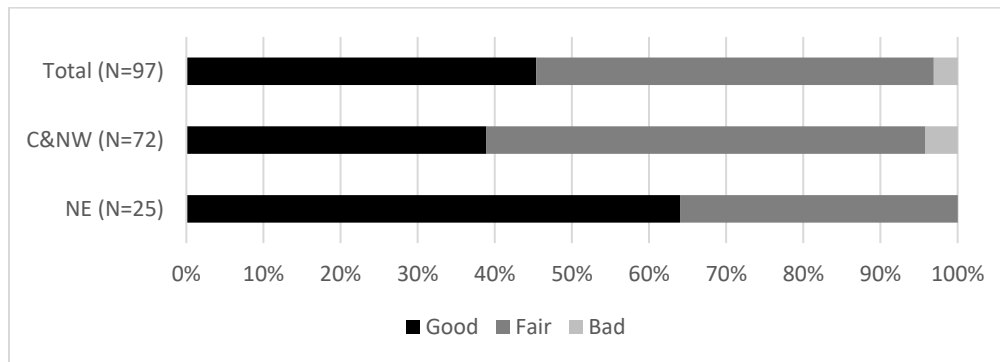
Water Quality 2015 Q4 Typhoid 2015 Hepatitis 2015 Dysentery 2015



■ Districts with highest % of unsatisfactory samples
 ■ Districts with highest incidence of water borne diseases

Source: Water quality surveillance, MOH.

Figure 4.4. CBO's Self-Assessment of Water Quality of Schemes Supported by the Project



Source: NWSDB-RWS database.

Note: Total number of schemes, 860: 821 from the C&NW (Central and North Western Provinces), and 39 from the NE (North Eastern Province). The database contained water quality information for only 97 schemes at the time of evaluation.

4.15 Water Quality. Water quality remains a challenge for rural beneficiaries. In Sri Lanka, quality of water provided by CBOs is tested by the MOH as well as the NWSDB labs.² According to MOH's sampling tests, the satisfactory ratio for community water schemes was only 44 percent, while those for NWSDB and private wells were 78 percent and 53 percent respectively in 2015 (figure 4.2). The same source also shows a high correlation between unsatisfactory water samples and the incidence of water-borne diseases such as typhoid, hepatitis, and dysentery (figure 4.3). However, despite these sampling results, NWSDB-RWS data show that among 97 schemes, or 11.3 percent of 860 schemes supported by the project, 97 percent of the scheme owners noted that their water quality is good or fair.

4.16 CBOs are encouraged to check their water quality at the point of source. However, there is some element of discretion, with the regularity of testing depending on the CBO leadership (table 4.5).

4.17 In all locations visited by the PPAR mission, the rural water supply scheme included design elements to filter and aerate the water as well as to chlorinate it. However, few CBOs are chlorinating the water, citing unavailability of chlorine, including issues related to bulk purchase and storage. Over time, the CBOs expect water quality to be ensured by the proper working of the treatment plants and the periodic testing of water, for which the CBO is responsible.

4.18 As noted in the FGDs, beneficiary households are largely unaware of quality testing mechanisms and test results, and operate on the basis of trust. CBO water is expected to be of acceptable and consistent quality because of the professional and formal design, construction, and management of the system. Most households engage in the practice of boiling water for drinking, especially for consumption by children.

4.19 Affordability. There is widespread acceptance among the rural beneficiaries that the benefit of CBO water is worth the cost. This is due to convenience and time saving, rather than to savings on expenditure. Each CBO has its own tariff scheme, and typical tariffs consist of a fixed service charge and a variable charge per unit. Tariffs for CBO

water are higher than NWSDB and Pradeshiya Sabha tariffs. During FGDs, beneficiaries noted this discrepancy, but stated that they saved by settling the bill within the village itself because the cost of traveling to the closest town to pay the NWSDB, for example, would exceed the cost of the water bill.

4.20 None of the schemes visited by the PPAR mission has a specific poverty or vulnerability focus in identifying beneficiaries within the village, but there were project design features that assisted vulnerable households in meeting the initial cost of connection. In CBO schemes, the option of providing labor in lieu of cash provided households with a cash and noncash choice. In Serunuwara Samurdhi, welfare beneficiaries were entitled to a lower connection charge. Overall, most CBOs follow a sympathetic orientation for households accepted as vulnerable when connections are requested or defaults occur. During FGDs, households that have no alternative source of water, households with elderly and disabled persons, helpless households, and the like were mentioned as examples of vulnerability. Because households within the community are well known to the CBO, such flexibility is possible.

4.21 **Sustainability.** The project achieved relatively high sustainability at closing. Eighty-three percent of the CBOs were financially sustainable according to an independent audit done at closing of the project, based on a sample of 100 subprojects, or 14 percent of all subprojects. Further, assessment done by the University of Peradeniya in 2011 shows that 14 of 20 randomly selected CBOs among those supported under the project in Kandy District were found to be sustainable (Mimrose, Gunawardena, and Nayakakorala 2011). This assessment looks at five aspects: physical condition, operation and maintenance, consumer satisfaction, financial management, and willingness to sustain the system.

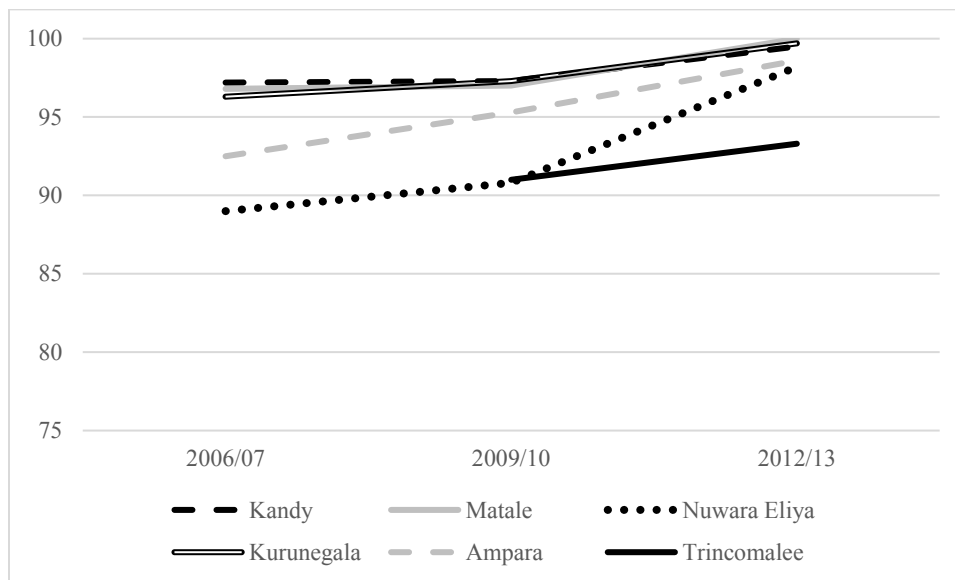
4.22 The PPAR mission confirmed that most of the schemes constructed under the project were still working seven years after project closing (table 4.3), except for a few cases of water-resource depletion. For example, in Nikagolla, Matale District, the CBO ceased operation one year after establishment due to water-source depletion. The most important success factors for operational efficiency of CBOs appear to be the technical soundness of the initial design, particularly the choice of water source, and the quality of construction. Poor technical design can be traced to insufficient time and resources spent on identifying a suitable water source, lack of local knowledge or capacity on the part of consulting firms, and insufficient oversight by technical experts such as NWSDB staff. These factors often led to water source depletion, water quality problems and frequent repair needs. The mission also noted several challenges in technical, financial, and organizational sustainability, which will be discussed further in the risk to development outcome section of chapter 6.

Table 4.5. Water Quality Testing by CBOs Where FGDs Took Place

Sample Site and District	Testing: Who Is Responsible? How Is It Done?	When Was Last Test, by Whom?	What Was Last Result? How Was It Used?	Pre-Project Major Loss of Quality, Issues	Tested at Design and Construction Stage	Purification/ Filtering Plant Available?	Post-Project Major Loss of Quality, Issues
1. Pallekotuwa, Kandy	NWSDB. CBO takes it to the NWSDB in Kandy.	6 months ago, by NWSDB.	Only serious result was the initial excess of iron. Action: construction of filter in 2008.	Water in this area is good. It comes from upper slopes.	Yes	Yes Filter system	Tested high iron content, monkeys contaminating. Beneficiaries particularly noted the water was yellowish and muddy prior to the filter being installed. Now they are happy with quality.
2. Werapitiya, Kandy	Maintenance officer collects sample and gives to NWSDB	Every 3 months.	The result showing bacteria contamination precipitated the steps being taken to move the storage tank.	No major issues. Village water is of good quality.	Yes	Yes Purification / filter system	Early stage of project high levels of bacteria and households were advised to boil water for drinking.
3. Serunuwara, Trincomalee	Assume it is public health inspector or NWSDB. No one does.	Not done in years	No. No purification, filtering or chlorinating ever done.	Nothing specific but water was always a problem.	Yes	No	There was a very severe outbreak of hepatitis in 2015. The MOH advised not to use the water for drinking. The project water is not purified in any way; the quality is bad.

4.23 **Sanitation.** Households' access to a toilet facility has been improved over the project period. According to Household Income and Expenditure Surveys (2006/07, 2009/10, and 2012/13; Sri Lanka, Department of Census and Statistics 2008, 2011, 2015), the percentage of households that have access to a toilet facility increased in Kandy, Matale, Nuwara Eliya, Kurunegala, Ampara, and Trincomalee (figure 4.5), where the project facilitated expansion of sanitation coverage through a Sanitation Revolving Fund. The Sanitation Revolving Fund achieved 78 percent of the target of providing safe latrine access to households at project closing (according to government monitoring data). Households were willing to contribute about \$18 per latrine under the Sanitation Revolving Fund. Some community members have mobilized other sources of financing apart from the Fund to build toilets.

Figure 4.5. Households with Toilet Facility (including sharing with another household)



Sources: Sri Lanka, Department of Census and Statistics 2008, 2011, 2015.

4.24 Although there have been some challenges in ensuring reliability, water quality, and sustainability, the project has contributed to providing adequate and affordable water services and to ensuring beneficiaries' convenience and time saving. Through the Sanitation Revolving Fund, the project has also contributed to achieving and maintaining a high percentage of toilet availability for rural households. Therefore, achievement of the second project development objective—to achieve effective and sustained use of water and sanitation services—is rated **substantial**.

5. Efficiency

5.1 The project provided access to improved water sources to fewer people, with slightly more costs, than estimated at appraisal. At appraisal, the project had planned to serve 1,230,000 people for \$62.4 million. By completion, the project had served 384,100 people, or 31 percent of the original target and 48 percent of the revised target of 793,483 people. Actual spending at completion was \$69.1 million. The PPAR mission confirmed

that the number of people provided with access to improved water sources rose to 553,000 people, or 50 percent of the original target and 70 percent of the revised target, at the time of evaluation.

5.2 At appraisal, ERR and net present value (NPV) were estimated based on six different technology scenarios that were projected to constitute 80 percent of the total investment costs. Benefits taken into account at appraisal only included time savings. The ERR and NPV per household for all technology options ranged from 14.9 percent to 51.1 percent and SL Rs 42 to SL Rs 25,170, respectively. The estimated time savings based on different technology schemes ranged from 60 to 120 minutes per day. Sensitivity analysis also showed that a significant reduction in time saving would make investments economically nonviable. Unquantified benefits, especially health-related benefits, were not taken into account at appraisal.

5.3 At completion, ERR and NPV were estimated for the two most popular piped water supply technologies (piped gravity and pumping schemes) that provided private yard-tap connections for households and accounted for 91 percent of the water capital costs. Benefits considered at completion included time savings and per capita daily water consumption. On average, the time savings achieved were estimated to be 70 to 77 minutes per household per day—much less than the appraisal estimate for the yard tap connections of 120 minutes. Per capita daily water consumption increased from 29 to 68 liters. The resulting ERR was 30 percent for gravity and 18 percent for and pumping schemes at completion. NPV per household was SL Rs 11,000 for gravity and SL Rs 2,000 for pumping schemes at completion. It needs to be noted that these calculations do not include unquantified benefits, especially health-related benefits.

5.4 Capital costs of construction were higher than estimated at appraisal, and this creates the appearance of inefficiencies. Actual gravity-piped yard-tap connection costs were SL Rs 30,000 per household, compared with the appraisal estimate of SL Rs 13,000. Similarly, actual pumped-piped yard-tap connection costs were SL Rs 44,000, compared with the appraisal estimate of SL Rs 17,000. Given the cost inflation of 180 percent for civil works due to the tsunami, unit cost escalation amounts to 35 percent and 45 percent for gravity and pumping schemes respectively when measured in real terms.

5.5 Efficiency is rated as **substantial**.

6. Ratings

Outcome

6.1 The overall development outcome is rated **moderately satisfactory**. Relevance of the development objective and that of design of the project are both rated **substantial**. In terms of project achievements, the first project development objective—increasing service coverage—is rated **modest**. The second project development objective—achieving effective and sustained use of water and sanitation services—is rated **substantial**. Efficiency is rated **substantial**.

Risk to Development Outcome

6.2 Many CBOs have technical, financial, and organizational sustainability challenges. The PPAR mission found that a number of CBOs are facing technical challenges, such as the need for repair of pumps and water contamination. Some challenges can be handled by the CBOs themselves, but others are beyond the capacity of community members. Some CBOs seek assistance from the NWSDB, others from local authorities, almost none from the DNCWS. There is a need for continued support to maintain and enhance technical capacity. In terms of financial sustainability, while a few CBOs are financially sustainable because of a large number of connections, many are barely getting by. Some CBOs try to improve their financial status by diversifying their activities (for example, microfinance). Effective financial supervision is often provided by the Pradeshiya Sabha, but there is great variation in the capacity and interest of the Pradeshiya Sabhas to carry out this function. As for organizational challenges, some CBOs suffer from a shortage of volunteers. Because of recent national economic growth, labor costs are getting higher, even in rural areas. Most CBO executives are unpaid volunteers, and the number willing to volunteer is decreasing.

6.3 The institutional arrangement for supporting CBOs has been unclear since closing of the project. Just after closing, in June 2011, the implementing agency, the Rural Water Supply and Sanitation Division of the Ministry of Water Supply and Drainage, was disbanded. Since then, the NWSDB, National Community Water Trust (NCWT), and local authorities have provided assistance to the communities operating the rural water supply schemes. The DNCWS was created in September 2014 as a successor to the NCWT, with broader responsibility for ensuring the sustainability of community water supply systems. However, the DNCWS is still in its infancy and lacks resources. For example, the PPAR team found that in the Eastern Province, the NWSDB-RSC has four skilled persons, but the department had only two newly employed persons. CBOs are getting support from local authorities or the NWSDB wherever possible. For efficient and effective use of limited resources, the support function is expected to be streamlined.

6.4 The system for tracking service delivery outcomes has also been unclear since closing of the project. The monitoring function of the RWS disappeared at the same time the division was abandoned following closing of the project. It was unclear how RWS monitoring was done by the Trust. The director-general of DNCWS told the PPAR team that they have started to work on the RWS database, but an actual database was not observed. The PPAR team visited the NWSDB-RWS and found that they have an Excel-based RWS database. But data coordination between the NWSDB-RWS and the DNCWS and the use of the database were unclear.

6.5 The Water Supply and Sanitation Improvement Project, approved in 2015 as a follow-on project, is intended to mitigate these risks by supporting capacity development of the DNCWS. For example, for institutional design and capacity strengthening, the project supports preparation of a detailed design of the department and training for staff. It also designs and implements an M&E system to capture indicators of system functionality and sustainability.

6.6 Overall risk to development outcome is rated **significant**.

World Bank Performance

6.7 **Quality at Entry.** The quality of appraisal and preparation of the project was generally good, with moderate shortcomings. Because the World Bank's Quality Assurance Group formally reviewed the project to assess quality at entry in June 2003, most aspects were satisfactory except for the World Bank's inputs and processes. This was because of poor staff continuity during preparation and inadequate attention at appraisal given to affordability issues, particularly by provincial and local government. Even so, project design was sound, based on the experience of the preceding project and of similar projects in India and Nepal. The design of the M&E framework was uneven, and some of the indicators included were too ambitious (for example, for health outcomes). Similarly, the inclusion of the Kirindi Oya River Basin water resources study was not particularly relevant to the project's objectives, which were already institutionally ambitious.

6.8 The project was conceptualized to replicate and improve on the previous investment project, the Community Water Supply and Sanitation Project. Therefore, the main focus of the project is the development of rural water supply schemes using a CBO approach. Past evaluations (Parker and Skytta 2000, for example) show that community cost sharing and decision making through a participatory process lead to more cost-effective and sustainable investments. It also allows poorer communities to choose technology they could afford. Where communities have invested in cash or in kind in water scheme projects, they have a greater stake in completing works and finding creative ways of lowering costs. They are also more likely to operate and maintain completed infrastructure in an effective manner. Given the experiences of the First and Second Community Water Supply and Sanitation Projects, the CBO approach has grown in popularity in Sri Lanka, and several development partners, including the Asian Development Bank (ADB), have funded projects to establish CBO-based rural water supply schemes (ADB 2016).

6.9 The project was designed to reflect both interproject and intraproject learning. For interproject learning, the project had incorporated key lessons extracted from the experience of the First Community Water Supply and Sanitation Project, as well as a similar project in India. The lessons included requiring a 20 percent contribution from beneficiary communities for raising the CBOs' ownership, securing legal status of CBOs, and investigating reliable water resources prior to community mobilization. To promote intraproject learning, the design was based on a pilot, followed by a phased approach to implementation through four successive batches, which allowed the project to build on lessons learned.

6.10 Quality at entry is rated **moderately satisfactory**.

6.11 **Quality of Supervision.** Key staff members who worked throughout the project contributed to maintaining project continuity. Despite the nature of the project, a social specialist only started providing inputs two years after the project commenced. Supervision budget and staff weeks on the project almost doubled in the last two years before project closing. According to the project team, the reason for high supervision costs was the rapid growth of the project in its last two years, during which 300 of the

700 water supply schemes were implemented. Thus, supervision efforts increased in response to increased needs.

6.12 Fiduciary matters and safeguards generally received adequate attention after 2005, although reporting on safeguard issues was weak.

6.13 The Bank team managed the project adaptively in response to various events during implementation. For example, the World Bank team responded to the unexpected natural disaster, the tsunami of 2004, by reallocating some of the funds to the Tsunami Emergency Recovery Project. Further, given the deteriorating security situation in North East Province, the World Bank team, in agreement with government, also changed the project locations to safer districts within the province such as the Trincomalee and Ampara Districts.

6.14 The main shortcoming of supervision was that key indicators and targets were not formally revised to take into account the impact of the Tsunami Fund diversion and after the national price inflation associated with the tsunami became evident. Instead, revisions were made informally a few months before project closure.

6.15 Quality of supervision is rated **moderately satisfactory**. Overall World Bank performance is rated **moderately satisfactory**.

Borrower Performance

6.16 **Government Performance.** The government showed its commitment through the formulation of the 2001 National Policy for Rural Water Supply and Sanitation (Sri Lanka, Ministry of Urban Development, Construction, and Public Utilities 2001). The ministry responsible for project coordination was changed four times during implementation due to significant government reorganization (Ministry of Housing and Plantations, Ministry of Urban Development and Water Supply, Ministry of Urban Development and Sacred Area Development, and Ministry of Water Supply and Drainage). The financial contribution from the borrower at completion was \$8.9 million, or 8 percent of total financing of \$69.8 million. This was less than the estimated value at appraisal of \$11.4 million, or 18 percent of total financing of \$63.1 million. There was one instance of delay that caused problems for the district councils and CBOs that had to borrow from moneylenders to continue construction on the basis of expected contributions of the provincial councils.

6.17 Government performance is rated **moderately satisfactory**.

6.18 **Implementing Agency Performance.** The implementing agency for the project was the Rural Water Supply and Sanitation Division and its offices in the provinces. Staff continuity was good, with the exception of the accounts section, which experienced a high turnover. The division provided quick follow-up in response to the World Bank recommendations of the World Bank mission, such as drafting of sanitation, tariff, and metering policies; revision of cost-sharing arrangements; responding to staffing needs in the field; and providing implementation support, especially for the North East Region. The division actively promoted stakeholder consultation and facilitated linkages between

suppliers and the CBOs. The division had problems ensuring a sound M&E framework, resulting in limited use of M&E during implementation. Financial compliance lagged with regard to establishment and use of financial management software. Noncompliance with the World Bank's safeguard policies necessitated cancellation of a small component.

6.19 Implementing agency performance is rated **moderately satisfactory**. Overall borrower performance is rated **moderately satisfactory**.

7. Lessons

7.1 **Lack of continuity in M&E and its utilization by an implementing agency beyond project completion undermines sustainability of development outcomes.** In this project, the monitoring function for rural water schemes weakened after project completion. Currently, the Rural Water Supply Division of the NWSDB maintains a rural water schemes database. However, there is no clear evidence that this data is shared with relevant institutions or used to identify and prioritize critical support needs for CBOs managing water supply schemes.

7.2 **Technical soundness of initial design and quality of construction affect performance of CBOs.** In this project, poor CBO performance in sampled cases could be traced to poor technical design, resulting from several factors: (i) insufficient time and resources spent on identifying a suitable water source; (ii) lack of local knowledge or capacity of consulting firms; and (iii) insufficient oversight by technical experts such as NWSDB staff. These factors often led to water source depletion, water quality problems and frequent repair needs.

7.3 **Strong and consistent institutional and technical support is needed to achieve sustainable service delivery in CBO schemes.** In this project, CBOs were expected to be fully in charge of construction and management of rural water supply schemes. However, technical aspects regarding operation and maintenance and financial supervision were often beyond the capacity of the CBO members. While units of the Rural Water Supply Division of the NWSDB and Pradeshiya Sabhas are providing support in this regard, there appears to be great variation in the capacity and interest among these units to carry out this function, depriving needy CBOs of timely support in some cases, and affecting their performance.

7.4 **Proactive and adaptive project supervision in response to exogenous events can help safeguard project efficacy.** In this project, there are positive and negative examples: on the one hand, the task team responded nimbly to the tsunami by taking actions, including reallocating some of the funds to an emergency project and changing some project locations; on the other hand, the response was less nimble in taking steps to adjust the project targets to the decrease in available funds and an inflation surge, which affected project outcome.

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¹ The ICR states that the target was revised, reflecting the reduction of available funds. Although IEG could not find formal evidence of its approval, this report uses the revised target value reported in the ICR, given that the available funds were reduced by the unexpected tsunami in 2004.

² CBOs are expected to send their water for testing to NWSDB labs, usually every six months. In addition, the MOH sends six samples of various water sources within a community to be tested by the government analyst every month. In addition to these routine tests, the MOH tests any source if there is an investigation or a complaint.

Appendix A. Basic Data Sheet

Second Community Water Supply and Sanitation Project (IDA-H0350)

Key Project Data (amounts in US\$, millions)

	Appraisal Estimate	Actual or Current Estimate	Actual As % of Appraisal Estimate
Total project costs	62.4	69.1	111
Loan amount	39.8	43.6	110
Cofinancing	0	0	0
Cancellation	0	0	0

Cumulative Estimated and Actual Disbursements

	FY04	FY05	FY06	FY07	FY08	FY09	FY10
Appraisal estimate (US\$, millions)	5.0	5.6	9.4	9.8	7.6	2.4	0
Actual (US\$, millions)	2.4	2.4	9.0	9.6	5.6	5.8	8.7
Actual as % of appraisal	48.8	43.0	96.0	98.2	73.3	243.7	NA
Date of final disbursement: June 2010							

Note: FY = fiscal year.

Project Dates

	Original	Actual
Board approval		05/06/2003
Signing		06/24/2003
Effectiveness		08/25/2003
Closing date	06/30/2009	12/31/2010

Staff Inputs (staff weeks)

Stage of Project Cycle	Staff time and Cost (Bank budget only)	
	Number of staff weeks	Thousands of dollars (including travel and consultant costs)
Lending		
FY99	--	31.94
FY00	45	132.35
FY01	58	170.47
FY02	71	217.38
FY03	74	191.44
Total	248	743.58
Supervision/ICR		
FY04	23	98.60
FY05	30	119.11
FY06	24	89.09
FY07	37	146.55
FY08	27	130.98
FY09	42	103.84
FY10	50	171.98
FY11	58	200.00
Total	291	1,060.15

Note: FY = fiscal year.

Mission Data

Name	Title	Unit	Responsibility/ Specialty
Lending			
Toshiaki Keicho	Sr. Urban Environmental Spec.	ECSS3	Team leader
Inez Fraile-Ordenez	Knowledge & Learning Coord.	EAPCO	Team leader
Kirsten Hommann	Senior Economist	SASDU	Economic analysis
Philippe Dongier	Sector Manager	TWICT	
Deepal Fernando	Senior Procurement Specialist	SARPS	Procurement
Sumith Pilapitiya	Lead Environmental Specialist	SASDI	Environmental
Parameswaran Iyer	Sr. Water & Sanitation Spec.	MNSWA	
Jan Janssens	Consultant	WBIUR	
Zarafshan Khawaja	Sr. Social Development Spec.	OPCQC	Social development
Jelena Pantelic	Country Manager	BGFWB	Team leader
Enrique Pantoja	Sr. Land Administration Spec.	LCSAR	
Andrea C. Ryan Rizvi	Senior Engineer/Economist	SASDE	Economic analysis
Lilian MacArthur	Program Assistant	SASDO	Administrative
Minatullah M. Khawaja	Consultant		
Sasanka Perera			
Rachel Kaufman			
Anthony G. Lee		SASSD	
Supervision/ICR			

Toshiaki Keicho	Sr. Urban Environmental Spec.	ECSS3	Team leader
Samantha P. Wijesundera	Water and Sanitation Specialist	SASDU	Team leader
Kirsten Hommann	Senior Economist	SASDU	Economic analysis
Raghava Neti	Sr. Infrastructure Specialist	SASDU	ICR author
William Kingdom	Lead Water & Sanitation Spec.	SASDU	
Elisa Muzzini	Economist	SASDU	
Gabriella Aparicio	Junior Professional Associate	SASDU	
Rosanna Nitti	Sr. Urban Specialist	SASDU	
Farahnaz Azoor	Program Assistant	SASDO	Administrative
Lilian MacArthur	Program Assistant	SASDO	Administrative
Samantha L. Forusz	Program Manager	HRSAS	Social development
Asta Olesen	Senior Social Development Spec.	SASDS	Social development
Sumith Pilapitiya	Lead Environmental Specialist	SASDI	Environmental
Amali Rajapaksa	Senior Infrastructure Specialist	SASDT	
Sunethra Chandrika Samarakoon	Procurement Specialist	SARPS	Procurement
Miriam Witana	Procurement Specialist	EAPPR	Procurement
Deepal Fernando	Senior Procurement Specialist	SARPS	Procurement
Paula Reed	Procurement Specialist	SARPR	Procurement
Santhanam Krishnan	Consultant	SASSD	
Tashi Tenzing	Sr Sanitary Engineer	SASDU	Engineering
Jiwanka B. Wickramasinghe	Sr Financial Management Spec.	SARFM	Financial management
Supul Chamikara Wijesinghe	Financial Management Spec.	SARFM	Financial management
Nicholas Pilgrim	Water & Sanitation Specialist	TWISA	
Sriyani de Alwis	Team Assistant	SASDO	Administrative

Other Project Data

Borrower/executing agency:

Follow-On Operations

Operation	Credit No.	Amount		Board Date
		(US\$, millions)		
Water Supply and Sanitation Improvement	IDA-56850	159.0		06/24/2015

Appendix B. Summary of Focus Group Discussions

The PPAR mission was conducted together with the joint case study of the water and sanitation sector in Sri Lanka (ADB, JICA, and World Bank Group 2017) by the Asian Development Bank (ADB), Japan International Cooperation Agency (JICA), and the World Bank Group. A total of seven focus group discussions were conducted for three different institutions as part of the joint case study and the PPAR: three for the World Bank Group, two for the ADB, and two for JICA. The table below shows the three sites visited by the PPAR mission for the Second Community Water Supply and Sanitation Project of the World Bank Group.

The sites were selected to reflect variance in the criteria, including funding partner (World Bank Group, ADB, JICA), settlement type (urban, rural), ecological environment (climatic zone, topography), community characteristics (conflict-affected, livelihood), type of infrastructure (gravity, pump), size of the subproject (number of beneficiaries), period of usage (year of completion), and functioning status. Easy access to sites was also taken into account.

FGD Sites for the World Bank Group

Site and District	Ecology	Type of Infrastructure	Number of Benefited HH /Number of HH	Year of Completion	Status of Use
1. Pallekotuwa, Kandy	High land, wet zone, sloping	Pump method	57/115	2007	In use, capacity insufficient
2. Werapitiya, Kandy	High land, wet zone, sloping terrain	Gravity	181/221	2007	In use, capacity sufficient
3. Serunuwara, Trincomalee	Flat land, dry zone	Pump	360/NA	2008	Very unsatisfactory supply

Source: Author.

Note: HH = households; NA = not available.

Below is the summary of the FGDs for the joint case study.

7.1 This report presents the community-level data collection for the Joint Case Study of the Water and Sanitation Sector in Sri Lanka by the ADB, JICA, and the World Bank Group. The objective of this exercise was to listen directly to the “voice of the people” who are the final beneficiaries of the projects, as well as community members who manage water schemes on behalf of their villages; to explore new issues, and enable existing hypotheses and outcomes to be understood in greater depth; and to triangulate data for greater accuracy to understand how a given issue can be experienced differently by disparate groups and how outcomes can be prioritized differently by these groups.

7.2 A range of methods and data sources were used to meet the above objectives. These included FGDs with final beneficiaries as well as leaders of the community-based organizations (CBOs) that manage the individual projects; key person interviews with

officers of the national Water Supply and Drainage Board Rural Water Supply Unit (NWSDB-RWS), local government (Pradeshiya Saba), and public health service officers working directly with the beneficiary communities; and site visits using portfolio data collection methods.

Respondents, by Data Collection Tool and Gender

Respondent Group	Male	Female	Total
FGDs (with beneficiaries)	30	46	76
FGDs (with CBO leaders)	8	10	18
Key person interviews	9	1	10
Total	47	57	104

Note: FGD = focus group discussion.

7.3 Although the analysis contained in this report draws from a limited number of locations and is not meant to be generalizable to all rural and urban water schemes funded by the development partners, it provides a local perspective. The data have been rigorously triangulated at the local level.

Summary of Findings

IMPROVED ACCESS

7.4 The water supply schemes in the sampled locations have met a felt need; in all locations, the great majority of households have connected to the water supply scheme. Piped water is the primary source for the households because it is convenient and reliable. However, most rural households continue to maintain a variety of sources, such as their own well, rivers, and the like. In the sampled locations, economic constraints were rarely the reason for using alternative sources. Most connected households continue to use alternative water sources because of their high quality (for example, well water for drinking), or because of habit and cultural conditioning—for example, the preference for well, tank, or stream water for bathing and washing clothes.

7.5 The water supply is quantitatively adequate when it is sufficient to meet household needs. None of the community-based organizations (CBOs) sampled provide 24-hour supply because of the need to ensure equitable distribution when water is limited, manpower constraints in operating the pumps, the cost of electricity, and the need to prevent wastage from overflows. Supply days are known to the connected households. Households adjust to available sources and manage availability by storing water and prioritizing usage of “project water” for needs that call for proximity and quality.

7.6 Except for the Serunuwara scheme, all the water projects have design elements incorporated into the infrastructure to improve water quality to bring it up to an acceptable quality for household use. Households are aware that CBO water is not of drinking quality. Most cope with this by boiling it, using water from traditional drinking-water wells, or purchasing water.

7.7 There is widespread acceptance among the rural respondents that the benefit of CBO water is worth the cost. The benefit is most often based on access and convenience, rather than savings on expenditure. Inability to pay the bill was not one of the reasons that households did not connect. Tariffs for CBO water are higher than National Water Supply and Drainage Board (NWSDB) and Pradeshiya Sabha tariffs; most CBO beneficiaries are aware of this difference and accepting of the anomaly.

7.8 Both CBO leaders and beneficiaries felt that most defaults were not due to economic constraints. Defaults were caused by unreliable supply, faulty meters that cause disputed bills, and lack of CBO authority to enforce bill payment. There are, however, a few households that default because of economic constraints. These are households with elderly and/or disabled heads of household or chronically poor households. All CBOs take a sympathetic view of these households, acknowledging their critical need for water despite their inability to pay.

7.9 The findings from the urban sites where NWSDB was providing water differed substantially from the rural sites receiving CBO water. Because there was no CBO involvement, the urban users had no knowledge or opinion on the management of the water supply. They relied on piped water to a much greater extent than rural users. In Alainagar and Jayanagar, the respondents felt the NWSDB tariff rates were unaffordable, and the cost of connections too high.

BENEFITS AND BENEFICIARIES

7.10 All respondents, irrespective of age, gender, and livelihood, cited proximity and reliability as the primary benefits of piped water. The main benefits identified were: convenience of having the water in the compound and not having to travel to get water; reliability of supply during seasonal shortages of alternative sources; and, finally, quality—that is, suitability for drinking. The benefit to the elderly is beyond general convenience, because they are incapable of accessing water that requires a long walk or a steep or irregular climb.

7.11 Water-borne diseases such as dysentery, typhoid, and diarrhea were not reported as an issue in the sites visited. The viral hepatitis epidemic in Serunuwara in 2015 was the most severe directly water-related disease reported. The beneficiaries from the areas most affected by chronic kidney disease of unknown etiology were convinced that early symptoms have been brought under control by drinking reverse-osmosis-purified water. (Though the reverse-osmosis plant is not run by the CBO, it uses the CBO water.)

7.12 A discussion of sanitation was included because it was a focus area of the main study. However, there was no dynamic discussion: respondents felt access to sanitation is generally good, and thus it was not seen by the communities as an issue of significance. The public health inspectors were concerned that despite high levels of awareness, there could be noncompliance with safe practices such as the use of soap in the toilet. In urban sites, illegal discharge of sewage into the rainwater system is causing serious health and pollution impacts.

FACTORS AFFECTING SERVICE DELIVERY

7.13 A basic analysis of the focus group discussion data has identified (1) the initial design and implementation of the project infrastructure, (2) CBO leaders and the institutional structure of the CBOs that manage the water scheme, and (3) external institutional support as the main factors that affected the delivery of water.

7.14 The technical soundness (design and quality of construction) of the infrastructure is fundamental to successful and sustainable service delivery, and it is an enabling factor in CBO management. The choice of the source, capacity of the storage tank, purification methods installed, and so on have a direct impact on the supply of water. Where the infrastructure has been inappropriate or there are quality shortcomings, the CBO has had to incur higher operational costs, and the water supply has suffered. This has caused disruptions in supply and quality, which have caused friction between the CBO and water users.

7.15 In all three of the Second Community Water Supply and Sanitation (CWSSP2) projects visited, there had been a period of extreme uncertainty when collapse of the CBO was imminent. The CBO leaders were unable to find suitable solutions to supply-related problems that arose after the schemes were handed over to them. Weaknesses in the water supply had led to the habit of defaulting on bill payments, which affected the financial sustainability and the authority of the CBO. According to the CBO leaders, they were overwhelmed by the responsibilities and financial issues involved, and had no external institution or authority to turn to for help. However, two CBOs (Pallekotuwa and Werapitiya) overcame these issues when new leaders joined the CBO and succeeded in accessing the NWSDB-RWS for external supervisory assistance.

7.16 Unlike the CBOs set up under the CWSSP2, the Kolongolla CBO, which was funded by JICA under the Eastern Province Water Supply Development Project (EPWSDP), has been stable since inception. The reasons discussed at the focus group discussion with CBO leaders pointed to the continued role of the local government (Pradeshiya Sabha) in supporting the CBO and providing it with authority. Unlike the other three CBOs, the Kolongolla CBO was set up as a Praja Mandalaya, a legal entity endorsed by the Ministry of Local Government and Provincial Councils, and working directly with the Pradeshiya Saba.

Appendix C. List of Persons Met

Department of National Planning, Ministry of National Policies and Economic Affairs

Mr. SS Mudalige, Director General
 Mr. Malarmathy Gangatharan, Additional Director General
 Mr. Mubarak Faleel, Director
 Ms. K. A. H. Kumuduni Perera, Assistant Director

Ministry of City Planning and Water Supply

N D Hettiarachchi, Secretary
 Muinudeen Haniffa, Additional Secretary, Planning
 L. Mangalika, Additional Secretary

National Water Supply and Drainage Board

Mr. K. A. Ansar, Chairman
 Mr. G. A. Kumararathna, General Manager
 Mr. D. U. Sumanasekera, Additional GM (Water Supply Project)
 Mr. R. S. C. George, Additional GM (Policy and Planning)
 Mr. J. R. B. Wadurana, Additional GM (North and Central)
 Mr. T. S. Wijetunga, Deputy GM (ADB)
 Mr. Duleep Goonewardene, Deputy GM (RWS)

Department of National Community Water Supply

Mr. M. I. A. Lathiff, Director General

Ministry of Irrigation and Water Resource Management

R. M. W. Ratnayake, Secretary
 Lalith De Alwis, Director (Water Resources Management)
 W.G. Gnanadase, Director (Technical)
 Janaki Meegasterra, Director (Drainage & Flood)
 Sudharma Elakanda, Project Director, Climate Resilience Improvement Project

World Bank

Idah Z Pswaray-Riddihough, Country Director, Sri Lanka
 Ulrich Schmitt, Program Leader – Sustainability & Resilience, Sri Lanka

ADB

Kamal Dahanayake, Project Officer (Infrastructure), ADB Sri Lanka Resident Mission
 Au Shion Yee, Evaluation Specialist, Independent Evaluation Department

JICA

Kiyosi Amada, Chief Representative, JICA Sri Lanka Office

Takuya Manabe, Representative, JICA Sri Lanka Office

Other

Mr. Piyasena Wellakkage, Former PD of CWSSP, Former DG of Rural Water Supply and Sanitation Division

Visited Communities

Pallekotuwa, Kandy, Central

Werapitiya, Kandy, Central

Galagedera, Kandy, Central

Nikagolla, Matale, Central

Deevilla, Matale, Central

Adikaragama, Nuwara Eliya, Central

Serunuwara, Trincomalee, Eastern