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The World Bank

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Report No: PAD775

INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED GRANT IN THE AMOUNT OF SDR 10.2 MILLION
(US\$15.7 MILLION EQUIVALENT)

AND A

PROPOSED CREDIT IN THE AMOUNT OF US\$14.3 MILLION

TO THE

REPUBLIC OF NICARAGUA

FOR A

SUSTAINABLE RURAL WATER SUPPLY AND SANITATION SECTOR PROJECT

February 18, 2014

Latin America and the Caribbean Water Supply and Sanitation Unit
Sustainable Development Department
Nicaragua Country Management Unit
Latin America and Caribbean Region

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CURRENCY EQUIVALENTS
(Exchange Rate Effective December 18, 2013)
Currency Unit = Nicaraguan Córdoba (NIO)
NIO 29.595 = US\$1

FISCAL YEAR
January 1 – December 31

ABBREVIATIONS AND ACRONYMS

ANA	<i>Autoridad Nacional del Agua</i> (National Water Authority)
ARAS	<i>Asesor Regional de Agua y Saneamiento</i> (Regional Water and Sanitation Advisors)
CAPS	<i>Comités de Agua Potable y Saneamiento</i> (Water Supply and Sanitation Committees – includes regional variants of CAPS, such as UCASH for the Caribbean Coast)
CERC	Contingency Emergency Response Component
CPS	Country Partnership Strategy
DA	Designated Account
ESMF	Environmental and Social Management Framework
ENACAL	<i>Empresa Nicaragüense de Acueductos y Alcantarillados Sanitarios</i> (Nicaraguan Water and Sewerage Enterprise)
FISE	<i>Fondo de Inversión Social de Emergencia</i> (Emergency Social Investment Fund)
FM	Financial Management
GDP	Gross Domestic Product
IAPPF	Indigenous and Afro-Nicaraguan Peoples Planning Framework
IBRD	International Bank for Reconstruction and Development
ICB	International Competitive Bidding
IDA	International Development Association
IFR	Interim Financial Report
INAA	<i>Instituto Nicaragüense de Acueductos y Alcantarillado Sanitario</i> (Nicaragua WSS regulator)
INIDE	<i>Instituto Nacional de Información de Desarrollo</i> (National Development Statistics Institute)
IRM	Immediate Response Mechanism
IRM CC	Immediate Response Mechanism / Contingent Component
JMP	Joint Monitoring Programme (of the World Health Organization/UNICEF)
M&E	Monitoring and evaluation
MAPAS	<i>Monitoreo de los Avances del País en Agua y Saneamiento</i> (Monitoring Country Progress in Rural Water and Sanitation)
MDGs	Millennium Development Goals
MEPAS	<i>Manual de Ejecución de proyectos de Aguas y saneamiento</i> (Execution Manual for WSS Projects)
MHCP	<i>Ministerio de Hacienda y Crédito Público</i> (Ministry of Planning and Public Credit)
NCB	National Competitive Bidding
NGO	Nongovernmental organization
NLTA	Non Lending Technical Assistance
OASH	<i>Oficina de Agua, Saneamiento e Higiene</i> (Water Supply, Sanitation, and Hygiene Office of FISE)
ORID	<i>Oficina de Regulación, Investigación y Desarrollo</i> (Bureau of Regulation, Research, and Development)

PACCAS	<i>Proyecto de Adaptación al Cambio Climático en Agua y Saneamiento</i> (Adaptation of Nicaragua’s Water Supplies to Climate Change Project)
PDO	Project Development Objective
PGC	<i>Proyectos Guiados por la Comunidad</i> (Community-driven Development Project, CDD)
PISASH	<i>Programa Integral Sectorial de Agua y Saneamiento Humano de Nicaragua</i> (National Water and Sanitation Sector Strategy Plan)
PRASNICA	<i>Proyecto de Abastecimiento de Agua en las Zonas Rurales</i> (Nicaragua Rural Water Supply and Sanitation Project)
PNDH	<i>Plan Nacional de Desarrollo Humano</i> (National Human Development Plan)
RAAN	<i>Región Autónoma del Atlántico Norte</i> (Northern Atlantic Autonomous Region)
RAAS	<i>Región Autónoma del Atlántico Sur</i> (Southern Atlantic Autonomous Region)
RAP	Resettlement Action Plan
RoN	Republic of Nicaragua
RPF	Resettlement Policy Framework
SDR	Special Drawing Rights
SEPA	<i>Sistema de Ejecución de Planes de Adquisiciones</i> (Procurement Plan Execution System)
SIAF	<i>Sistema Integrado de Administración Financiera</i> (Integrated Financial Administration System)
SIASAR	<i>Sistema de Información de Agua y Saneamiento Rural</i> (Rural Water and Sanitation Information System)
SICPRO	<i>Sistema de Información de Control de Proyectos</i> (FISE’s information system for Project monitoring)
SOE	Statement of Expenditures
UMAS	<i>Unidad Municipal de Agua y Saneamiento</i> (Municipal Water and Sanitation Unit – includes regional variants of UMAS, such as UMASH for RAAS and RAAN and UTASH for Alto Wangki y Bokay)
UNICEF	United Nations Children’s Fund
US	United States
WSP	Water and Sanitation Program
WSS	Water Supply and Sanitation

Regional Vice President:	Hasan A. Tuluy
Country Director:	Carlos Felipe Jaramillo
Sector Director:	Ede Ijjasz-Vasquez
Sector Manager:	Wambui Gichuri
Task Team Leader:	Lilian Pena Pereira Weiss

NICARAGUA
SUSTAINABLE RURAL WATER SUPPLY AND SANITATION SECTOR PROJECT

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PAD DATA SHEET*Nicaragua**NI Sustainable Rural Water Supply and Sanitation Sector (P147006)***PROJECT APPRAISAL DOCUMENT***LATIN AMERICA AND CARIBBEAN**WATER SUPPLY AND SANITATION UNIT*

Report No.: PAD775

Basic Information			
Project ID P147006	EA Category B - Partial Assessment	Team Leader Lilian Pena Pereira Weiss	
Lending Instrument Investment Project Financing	Fragile and/or Capacity Constraints []		
	Financial Intermediaries []		
	Series of Projects []		
Project Implementation Start Date 30-Aug-2014	Project Implementation End Date 30-Dec-2018		
Expected Effectiveness Date 30-Jun-2014	Expected Closing Date 31-Jul-2019		
Joint IFC No			
Sector Manager Wambui G. Gichuri	Sector Director Ede Jorge Ijjasz-Vasquez	Country Director Carlos Felipe Jaramillo	Regional Vice President Hasan A. Tuluy
Borrower: Republic of Nicaragua, Ministry of Finance and Public Credit (MHCP)			
Responsible Agency: Emergency Social Investment Fund (FISE)			
Contact: Telephone No.:	América Zeledón 505-278-1664	Title: Email:	Director of Planning azeledon@fise.gob.ni
Project Financing Data(in USD Million)			
[] Loan	[] Grant	[] Guarantee	
[X] Credit	[X] IDA Grant	[] Other	
Total Project Cost:	32.00	Total Bank Financing:	30.00
Financing Gap:	0.00		

Financing Source	Amount
BORROWER/RECIPIENT	2.00
International Development Association (IDA)	14.30
IDA Grant	15.70
Total	32.00

Expected Disbursements (in USD Million)

Fiscal Year	2014	2015	2016	2017	2018	2019	0000	0000	0000
Annual	0.00	5.00	7.00	8.00	7.00	3.00	0.00	0.00	0.00
Cumulative	0.00	5.00	12.00	20.00	27.00	30.00	0.00	0.00	0.00

Proposed Development Objective(s)

The Project Development Objectives (PDOs) are: (a) to increase the access to sustainable WSS services in selected poor rural areas of Nicaragua through the consolidation of rural WSS sector institutions and the provision of adequate infrastructure; and (b) to improve Nicaragua's capacity to respond promptly and effectively to an eligible emergency.

Components

Component Name	Cost (USD Millions)
Component 1: Strengthening of the Rural Water Supply and Sanitation Sector	7.00
Component 2: Increase Sustainable Water Supply and Sanitation Coverage in Rural Areas	21.00
Component 3: Innovations in Rural Water, Sanitation and Hygiene	2.00
Component 4: Contingent Emergency Response	0.00

Institutional Data

Sector Board

Water

Sectors / Climate Change

Sector (Maximum 5 and total % must equal 100)

Major Sector	Sector	%	Adaptation Co-benefits %	Mitigation Co-benefits %
Water, sanitation and flood protection	Water supply	40		
Water, sanitation and flood protection	General water, sanitation and flood protection sector	30		
Water, sanitation and flood protection	Sanitation	30		

Total	100		
<input checked="" type="checkbox"/> I certify that there is no Adaptation and Mitigation Climate Change Co-benefits information applicable to this project.			
Themes			
Theme (Maximum 5 and total % must equal 100)			
Major theme	Theme	%	
Public sector governance	Other public sector governance	20	
Rural development	Rural services and infrastructure	40	
Rural development	Rural policies and institutions	40	
Total		100	
Compliance			
Policy			
Does the project depart from the CAS in content or in other significant respects?	Yes []	No [X]	
Does the project require any waivers of Bank policies?	Yes []	No [X]	
Have these been approved by Bank management?	Yes []	No [X]	
Is approval for any policy waiver sought from the Board?	Yes []	No [X]	
Does the project meet the Regional criteria for readiness for implementation?	Yes [X]	No []	
Safeguard Policies Triggered by the Project	Yes	No	
Environmental Assessment OP/BP 4.01	X		
Natural Habitats OP/BP 4.04	X		
Forests OP/BP 4.36	X		
Pest Management OP 4.09		X	
Physical Cultural Resources OP/BP 4.11	X		
Indigenous Peoples OP/BP 4.10	X		
Involuntary Resettlement OP/BP 4.12	X		
Safety of Dams OP/BP 4.37		X	
Projects on International Waterways OP/BP 7.50	X		
Projects in Disputed Areas OP/BP 7.60		X	
Legal Covenants			
Name	Recurrent	Due Date	Frequency
Implementation Staff – Schedule 2 Section I.A.1	X		Annually

Description of Covenant			
The Recipient shall cause FISE to maintain, throughout Project implementation, professional staff required for Project implementation as set forth in the Operational Manual, all with qualifications and experience satisfactory to the Association.			
Name	Recurrent	Due Date	Frequency
Project Committees – Schedule 2 Section I.A.2	X		Annually
Description of Covenant			
Prior to carrying out any activity under Part 2.B. of the Project , the Recipient shall establish and thereafter operate and maintain throughout Project implementation a Project Committee for each area covering the RAAS, RAAN and the Alto Wangki y Bokay Area, with composition and terms of reference as set forth in the Operational Manual and satisfactory to the Association.			
Name	Recurrent	Due Date	Frequency
External audits – Schedule 2 Section II.B.4		Not later than six months from the Effective Date	
Description of Covenant			
The Recipient shall ensure that the services for the carrying out of the external audits for Parts 1, 2, and 3 of the Project are contracted by FISE pursuant to requests for proposals (and terms of reference included therein) satisfactory to the Association.			
Name	Recurrent	Due Date	Frequency
Annual Technical Audits – Schedule 2, Section V.A	X	Starting on November 30 of the year following the year of the Effective Date	Annually
Description of Covenant			
The Recipient shall cause FISE to contract independent auditors for a technical audit each year by November 30, produce and share the report with the Association by April 30, review it with Eligible Municipalities by May 31. An action plan is to be submitted by the Recipient no later than 30 days after the review.			
Name	Recurrent	Due Date	Frequency
Annual Procurement Audits – Schedule 2, Section V.B	X	Starting on November 30 of the year following the year of the Effective Date	Annually
Description of Covenant			
The Recipient shall cause FISE to contract independent auditors for a procurement audit each year by November 30, produce and share the report with the Association by April 30, review it with the Association by May 31. An action plan is to be submitted by the Recipient no later than 30 days after the review.			

Name	Recurrent	Due Date	Frequency
Immediate Response Mechanism - Schedule 2. Section V.C.1 and 2	X		Annually
<p>Description of Covenant</p> <p>In order to ensure the proper implementation of Part 4 of the Project (“Contingent Emergency Response”) (“IRM Part”), the Recipient shall take the following measures: (a) prepare and furnish to the Association for its review and approval, an operations manual which shall set forth detailed implementation arrangements for the IRM Part, including: (i) designation of, terms of reference for and resources to be allocated to, the entity to be responsible for coordinating and implementing the IRM Part (“Coordinating Authority”); (ii) specific activities which may be included in the IRM Part, Eligible Expenditures required therefor (“Emergency Expenditures”), and any procedures for such inclusion; (iii) financial management arrangements for the IRM Part; (iv) procurement methods and procedures for Emergency Expenditures to be financed under the IRM Part; (v) documentation required for withdrawals of Emergency Expenditures; (vi) environmental and social safeguard management frameworks for the IRM Part, consistent with the Association’s policies on the matter; and (vii) any other arrangements necessary to ensure proper coordination and implementation of the IRM Part; (b) afford the Association a reasonable opportunity to review said proposed operations manual; (c) promptly adopt such operations manual for the IRM Part as shall have been approved by the Association (“IRM Operations Manual”); (d) ensure that the IRM Part is carried out in accordance with the IRM Operations Manual; provided, however, that in the event of any inconsistency between the provisions of the IRM Operations Manual and this Agreement, the provisions of this Agreement shall prevail; and (e) not amend, suspend, abrogate, repeal or waive any provision of the IRM Operations Manual without prior approval by the Association. The Recipient shall, throughout the implementation of the IRM Part, maintain the Coordinating Authority, with adequate staff and resources satisfactory to the Association.</p>			
Conditions			
Name			Type
Subsidiary Agreement			Effectiveness condition
Description of Condition			
The Subsidiary Agreement has been executed on behalf of the Recipient and FISE .Article 5.01 (a) of the Financing Agreement.			
Name			Type
Operational Manual			Effectiveness condition
Description of Condition			
The Operational Manual, in form and substance satisfactory to the Association, has been prepared and adopted by FISE, as provided in Section I.D.1 of Schedule 2 to the Financing Agreement. Article 5.01 (b) of the Financing Agreement.			
Name			Type
Procurement of external auditors			Effectiveness condition

Description of Condition

The final requests for proposals (and the terms of reference included therein) for the procurement of the external auditors for the Project, all in form and substance acceptable to the Association, have been prepared by FISE, and delivered to the Association. Article 5.01 (c) of the Financing Agreement.

Name	Type
Immediate Response Mechanism - Schedule 2. Section V.C.3	Component 4 Effectiveness

Description of Condition

The Recipient shall undertake no activities under the IRM Part (and no activities shall be included in the IRM Part) unless and until: (a) the Recipient has determined that an Eligible Emergency has occurred, , and the Association has agreed to include said activities in the IRM Part in response to said Eligible Emergency;; and (b) the Recipient has prepared and disclosed all safeguards instruments required for said activities, in accordance with the IRM Operations Manual, the Association has approved all such instruments, and the Recipient has implemented any actions which are required to be taken under said instruments.

Name	Type
Emergency Expenditures - Schedule 2. Section IV.B.1	Disbursement

Description of Condition

For Emergency Expenditures under Part 4 of the Project, unless and until the Association is satisfied, and notified the Recipient of its satisfaction, that all of the following conditions have been met in respect of said activities: (i) the Recipient has determined that an Eligible Emergency has occurred, , and the Association has agreed to include said activities in the IRM Part in order to respond to said Eligible Emergency;; (ii) the Recipient has prepared and disclosed all safeguards instruments required for said activities, and the Recipient has implemented any actions which are required to be taken under said instruments, all in accordance with the Legal Agreement; (iii) the Recipient's Coordinating Authority has adequate staff and resources, in accordance with the Legal Agreement, for the purposes of said activities; and (iv) the Recipient has adopted an IRM Operations Manual in form, substance and manner acceptable to the Association and the provisions of the IRM Operations Manual remain or, if applicable, have been updated in accordance with the Legal Agreement

Team Composition

Bank Staff

Name	Title	Specialization	Unit
Shideh Hadian	Senior Infrastructure Economist	Peer Reviewer	SASDU
George Soraya	Lead Municipal Engineer	Peer Reviewer	EASIS
Patricia De la Fuente Hoyes	Senior Finance Officer	Senior Finance Officer	CTRLN
Parameswaran Iyer	Lead Water and Sanitation Specialist	Peer Reviewer	EASVS
Nelson Antonio Medina	Water & Sanitation	Water & Sanitation	TWILC

Rocha	Specialist	Specialist			
Lilian Pena P. Weiss	Sr Water & Sanitation Spec.	Team Lead	LCSWS		
Enrique Antonio Roman	Financial Management Specialist	Financial Management Specialist	LCSFM		
Christian Borja-Vega	Economist	Economist	TWIWP		
Marcelo Hector Acerbi	Senior Environmental Specialist	Senior Environmental Specialist	LCSSEN		
Elizaveta Perova	Economist	Economist	LCSPP		
Francisco Rodriguez	Procurement Specialist	Procurement Specialist	LCSPT		
Fernanda Balduino de Oliveira	Finance Analyst	Finance Analyst	CTRLN		
Antonio Manuel Rodriguez Serrano	Sr Water & Sanitation Spec.	Water & Sanitation Specialist	TWILC		
Ramiro Ignacio Jauregui-Zabalaga	Counsel	Counsel	LEGLE		
Sofia De Abreu Ferreira	Counsel	Counsel	LEGEN		
Julie Biau	Junior Professional Associate	Junior Professional Associate	LCSWS		
Elizabeth Sanchez	Team Assistant	Team Assistant	LCSWS		
Carlos Ignacio Aguilar Delfin	Sr Water & Sanitation Spec.	Sr Water & Sanitation Spec.	LCSWS		
Mary Rose Parrish	E T Consultant	E T Consultant	LCC2C		
Clémentine Stip	Junior Professional Associate	Junior Professional Associate	LCSWS		
Non Bank Staff					
Name	Title	Office Phone	City		
Ximena Traa-Valarezo	Social Development Specialist	2022154661	Washington DC		
Franz Rojas		5916709755	La Paz		
Locations					
Country	First Administrative Division	Location	Planned	Actual	Comments
Nicaragua	Entire Country	Entire Country	X		

I. STRATEGIC CONTEXT

A. Country Context

1. **Despite improvements in both poverty levels and equality in recent years, Nicaragua remains one of the poorest countries in the Latin America region.** The country has sustained an annual growth of roughly 3.2% of GDP over the past years, but its Gross National Income per capita was only US\$1,650 in 2012¹. Approximately 42.5% of the country's 5.9 million inhabitants still live below the poverty line and 14.6% live in extreme poverty². During 2005-09, income for the bottom 40% grew at 4.8% per year -almost five times as fast as income for the population as a whole (1.02%), surpassing regional performance for Latin America and the Caribbean and for Central America³. However, challenges remain on poverty reduction and shared prosperity given that most of the poor live in rural areas⁴ (43%)⁵, and many in remote communities where access to basic services is constrained by limited infrastructure. Indigenous peoples, at 5% of the total population, have historically experienced economic deprivation and social exclusion.

B. Sectoral and Institutional Context

2. **Nicaragua has important coverage gaps in water and sanitation services, particularly in poor rural areas.** Nationally, Nicaragua had 85% of improved water coverage and 52% of improved sanitation in 2011, up from 80% and 48% respectively in 2000⁶. It is thus likely that Nicaragua will achieve the targets for water (87%), but not sanitation (72%). There is a large disparity between access in urban and rural areas, both for water (98% urban compared to 68% rural) and for sanitation (63% urban but only 37% rural). Within the country's departments, the Caribbean Coast (Northern Atlantic Autonomous Region (RAAN), Southern Atlantic Autonomous Region (RAAS) regions, and Alto Wangki y Bokay) have the lowest coverage levels. There are also important disparities in access by income level. The economic costs of poor water and sanitation on health, water resources, and tourism in 2009 were estimated at US\$95 million (1.5% of GDP)⁷ and preliminary projections carried out by the Republic of Nicaragua (RoN) suggest that the total investment needed to achieve a 20 percentage point increase in coverage levels for both rural water supply and for sanitation (WSS) may be in the order of US\$300 million⁸.

3. **In addition to coverage challenges, one of the central issues facing the sub-sector is**

¹ Estimate in current US\$ (Atlas Method), World Development Indicators database.

² Nicaragua's moderate poverty line is US\$568.65 per person per year (US\$1.56 per day), and its extreme poverty line is US\$334.79 per person per year (US\$0.92 per day). Source: INIDE (2009).

³ 4.0% and 0.6%, respectively. Source: World Bank Equity Lab.

⁴ Rural areas in the context of the water and sanitation sector in Nicaragua are defined as dispersed communities and small towns with less than 5,000 inhabitants that are not served by the national utility, ENACAL.

⁵ The World Bank Group's Poverty Reduction Strategy Paper for Nicaragua (Report No. 53710-NI) states that general poverty is 2.5% higher than the national average in rural areas and 3.2% higher on the Caribbean coast.

⁶ UNICEF/WHO (2013), "United Nations Joint Monitoring Program, 2013 Update".

⁷ Water and Sanitation Program, World Bank (2013), "Economics of Sanitation Initiative - NICARAGUA: The Cost of Inadequate Sanitation".

⁸ Government of Nicaragua (2013), "Programa Integral Sectorial de Agua y Saneamiento Humano en Nicaragua".

the quality of the service provided and the medium and long term sustainability of rural WSS systems. Rural WSS systems in Nicaragua are managed by volunteer water boards elected at the community level (*Comités de Agua Potable y Saneamiento*, CAPS). This arrangement is fragile, especially as the CAPS and their WSS systems have traditionally received very precarious technical and social post-construction support from municipal or national authorities. This jeopardizes the sustainability and functionality of these systems, generating premature need for reconstruction. Data compiled in 2013 by Nicaragua's Social Investment Fund (*Fondo de Inversión Social de Emergencia*, FISE) reveals that only 48% of CAPS report monthly income greater than costs; only 29% of them receive technical assistance; and only 64% of communities with operational WSS systems receive above 16 hours of water service a day⁹. Although Bank support has made headway on improving sustainability of rural WSS systems, there is still a need to better organize the sector, by strengthening the CAPS' support structure at municipal, regional and national levels and by building capacity at national level to lead sector policy.

4. **In view of these challenges, the RoN has made sustainable rural WSS service provision a national priority and has appointed FISE to lead this effort.** The increase of WSS access, associated with more sustainable and higher quality services, is one of the pillars of Nicaragua's 2012-2016 National Plan for Human Development¹⁰ and an essential element of the World Bank Group's Country Partnership Strategy (CPS) 2013-2017¹¹. In 2013, the RoN developed a national plan to this effect (*Programa Integral Sectorial de Agua y Saneamiento Humano*, PISASH) and officially confirmed FISE¹² as the institution in charge of the rural WSS sector at national level. Although this decision has yet to be fully operationalized in terms of funds and staffing, FISE has a recognized role at the head of the sector, and is supported in this capacity by a valid legal mandate and by technical capacity developed through its experience as implementing agency of Bank-financed rural WSS projects. Nevertheless, FISE still requires specialized technical assistance to fulfill its role, and has requested the Bank's support to help it tackle the challenges identified in the PISASH. In response, the Bank has structured a package of technical assistance for the sector¹³, in parallel to the proposed operation to inform its preparation and implementation, which includes development of the PISASH's rural component, an evaluation of the sector's performance using the Monitoring Country Progress in Rural Water and Sanitation (MAPAS) methodology and other activities.

5. **Other institutions are involved in the country's water sector, with which FISE must coordinate in its role as the Government agency in charge of rural WSS.** These include the national water utility ENACAL (in charge of urban WSS), the WSS regulator (INAA), the recently-created National Water Agency (ANA), which has the mandate of protecting and managing the country's water resources, and the Ministry of Environment. Additionally, many non-governmental organizations and faith-based organizations are active in the rural WSS sector.

⁹ FISE (2013). Data compiled using the rural water and sanitation information system (SIASAR).

¹⁰ PNDH (2012-2016). Policy and Strategic Program for Water and Sanitation (Page 131-132).

¹¹ Report no. 69231-NI, discussed by the Executive Directors on November 13, 2012.

¹² FISE was created in 1990 with the role to build emergency multi-sector infrastructure in the country. In 2004, the RoN gave sole responsibility for the rural WSS sector to FISE. However, FISE's internal structure is still designed for physical investments and multi-sector roles. The urban sector is covered by the national WSS utility, ENACAL.

¹³ WSP NLTA *Strengthening Rural WSS Sector Institutional Policy and Planning Capacity in Nicaragua*, P132171. This NLTA was developed in coordination with the Swiss Cooperation.

One of FISE's objectives under the PISASH is to harmonize these actors' work in the sector (for more information, see external project document "Sector Background").

6. The World Bank is the largest donor in Nicaragua's rural WSS sector, and has established itself as the RoN's leading partner in rural WSS. It currently finances the Rural WSS Project (PRASNICA, P106283), a US\$20 million IDA grant/credit for expanding WSS access in rural areas (launched in 2008), which was scaled up in 2013 through an Additional Financing of US\$6 million. PRASNICA is implemented by FISE, with some activities carried out by sub-national entities or communities. The Bank (through the Special Climate Change Fund) also finances the Adaptation of Nicaragua's Water Supplies to Climate Change Project¹⁴ (PACCAS, P127088). The other main donors in the rural WSS sector, active on a much smaller scale, are the Swiss Agency for Development and Cooperation and (until recently) UNICEF. The Bank coordinates closely with the sector's other donors to align implementation approaches.

7. PRASNICA, as implemented by the Republic of Nicaragua has had a large influence on the way rural WSS projects are implemented in Nicaragua. Most of PRASNICA's funds are used to increase "sustainable" coverage, not only expanding access to WSS services, but ensuring that these are provided in a sustainable way. This includes providing adequate infrastructure, with technical solutions and level of service tailored to the context of each community. During PRASNICA's preparation, the rural WSS sector was characterized by conflicting intervention models, depending on the donor and by an institutional framework in transition with overlapping responsibilities within national, regional and local Government institutions. PRASNICA has attempted to address these challenges. To date, PRASNICA has benefited 20,000 people with sustainable¹⁵ access to water and 21,000 people with access to improved sanitation. Institutional achievements include (i) development of a participatory project cycle with community involvement and strict financing policies defined in the Manual for WSS Projects Implementation (MEPAS) that guides intervention criteria and the project cycle for rural WSS, adopted by multiple donors; (ii) creation of a WSS sectoral bureau within FISE; (iii) a 100% increase (from 24% at baseline to 48% currently) in the numbers of CAPS in Project municipalities working in a sustainable way¹⁶; and (iv) support to the country's rural WSS institutional structure ("sustainability chain"). This sustainability chain is a support structure that links all rural WSS institutional levels, from FISE at central level (responsible for coordination of the sector, policymaking, financing and planning) to regional sector advisors (decentralized FISE staff that oversee the sector's needs at departmental level) to municipal/territorial WSS units (UMAS, in charge of providing technical assistance to CAPS within their municipality) and to the CAPS in each community (in charge of operating and maintaining the rural WSS systems). FISE's interaction with the various other levels of the sustainability chain consists of providing training and guidance to UMAS, and supporting them in their role of assisting communities. The proposed Project would strengthen these arrangements by providing capacity building at each

¹⁴ The PACCAS is still in an early implementation phase, and is expected to pilot the mainstreaming of climate change adaptation into water resources management and water supply in rural areas.

¹⁵ Access to improved rural water supply services is defined as the number of people with access to running water with at least a minimum level of quality and quantity following the Joint Monitoring Programme (JMP) standards (see Annex 1). Sustainable service is defined as services provided by CAPS classified with a ranking "A" or "B" according to the PRASNICA sustainability matrix.

¹⁶ A or B classification, according to PRASNICA methodology.

level of this chain, encouraging skills transfer to the local level, and helping FISE develop its leadership and coordination roles.

8. **However, the rural WSS sector still requires further development, which the Project aims to achieve.** With the Bank's assistance, the RoN and the donor community have developed a common intervention strategy for the sector, centered on the provision of sustainable WSS access. Nevertheless, creating a sustainable sector - in which institutional roles are clearly defined and integrated at all levels, and jointly contribute to the provision of lasting, high quality WSS services - still requires a concerted effort and substantial resources. Further improved structure of the institutional framework is needed, including an analysis of the optimal allocation of roles between actors at different stages of the project cycle, and improving FISE's structure to enable it to take on its new responsibility at the head of the sector. Therefore, the scope of the Project goes beyond the implementation of works, and seeks to improve the sustainability of the rural WSS sector as a whole - with the objective of providing more people in Nicaragua quality access to WSS services that are affordable, tailored to their context, and lasting.

C. Higher Level Objectives to which the Project Contributes

9. **The Project is aligned with the development objectives of the RoN and of the World Bank.** It is consistent with the World Bank Group's CPS for FY2013-2017 (Report no. 69231-NI, discussed by the Executive Directors on November 13, 2012), focused on: (i) improving social welfare by improving access to quality basic services, in particular by poor rural households; and (ii) raising incomes by improving productivity, competitiveness, and diversification. The Project is also aligned with the World Bank's twin goals of ending extreme poverty by 2030 and promoting shared prosperity¹⁷, also shared by the RoN. Firstly, the Project aims to reduce extreme poverty through the provision of basic services in the poorest rural areas of Nicaragua, based on a funds allocation formula that prioritizes municipalities with higher extreme poverty and lower WSS coverage. Secondly, the Project is expected to promote shared prosperity for the country's poorest 40%, by strengthening WSS institutions so that all rural inhabitants reap the benefits of better organized and sustainable service provision, including those who already have access to water and sanitation but would benefit from improved service quality and better service options.

II. PROJECT DEVELOPMENT OBJECTIVE(S)

A. Project Development Objectives (PDOs)

10. **The PDOs are to:** (a) increase the access to sustainable WSS services in selected poor rural areas of Nicaragua through the consolidation¹⁷ of rural WSS sector institutions and the provision of adequate infrastructure; and (b) improve Nicaragua's capacity to respond promptly and effectively to an eligible emergency.

¹⁷World Bank Group Annual Report 2013: "End extreme poverty. Promote shared prosperity".

B. Project Beneficiaries

11. **The Project will bring tangible benefits to households and local institutions across the country.** Direct beneficiaries include: (a) households throughout Nicaragua which will benefit from improved planning of WSS interventions, and from more qualified attention from municipal/territorial WSS units; (b) households in participating municipalities, which will benefit from externalities resulting from improved hygiene practices within their municipality; (c) households of participating communities in the country's poorest municipalities, particularly women, who will benefit from improved access to WSS and from a participatory and gender-sensitive project cycle empowering communities to manage WSS services; (d) indigenous and afro-descendent communities that will benefit from interventions within a culturally sensitive project cycle; (e) authorities and technical staff in participating municipalities and territories, who will benefit from technical assistance, modern decision-making tools, and improved coordination with regional or central authorities; (f) CAPS throughout Nicaragua, which will benefit from a robust support structure; and (g) regional and central Government agencies, which will benefit from improved planning capacities and a portfolio of sustainable projects. The Project will also benefit the country's population generally with increased flexibility to respond to natural emergencies.

C. PDO Level Results Indicators

12. **Outcome indicators to measure progress on the Project's objectives are as follows:**
- (a) Percentage increase nation-wide in improved¹⁸ water supply coverage;
 - (b) Percentage increase nation-wide in improved sanitation coverage;
 - (c) Number of additional beneficiaries with sustainable¹⁹ access to water supply in Project supported rural communities;
 - (d) Number of additional beneficiaries with sustainable access to sanitation in Project supported rural communities;
 - (e) Increase in the percentage of community WSS boards nation-wide that are operating in a sustainable manner; and
 - (f) Time taken to disburse funds requested by Government for an eligible emergency.

III. PROJECT DESCRIPTION

A. Project Components

13. The proposed operation will assist the RoN to increase access to WSS services in rural areas of the country, by helping it to deliver these services in a sustainable way. The proposed Project will finance four components:

14. **Component 1: Strengthening of the Rural Water Supply and Sanitation Sector** (US\$7.0 million). This component will finance the following sub-components:

¹⁸Using the WHO/UNICEF Joint Monitoring Program definitions of improved access (defined in Annex 1).

¹⁹ With an A or B ranking according to the SIASAR Service Provider (CAPS) matrix. (see Annex 1).

15. **Sub-component 1.1: Institutional Strengthening of the Rural Water Supply and Sanitation Sector (US\$1.40 million).** This sub-component will (i) support FISE in the articulation and harmonization of policies, norms, planning instruments, and approaches to enhance institutional coordination at national, municipal, regional and community levels (including through, *inter alia*, the carrying out of sector workshops, knowledge-sharing activities, and communication campaigns); (ii) support the development of PISASH's rural component through the provision of technical assistance; (iii) (a) strengthen FISE's capacity to lead the water supply and sanitation sector, through the provision of technical assistance and training; (b) support the development of a plan for the internal re-organization of FISE; and (c) upgrade FISE's office equipment and carry out minor civil works for refurbishment of office space; (iv) support FISE in the preparation, consolidation, and dissemination of instruments to promote international best practices on water supply and sanitation sector harmonization.

16. **Sub-component 1.2: Strengthening of an Integrated Structure for Sustainability of Rural WSS services - "sustainability chain" (US\$2.9 million).** This sub-component will: (i) support the preparation of rural water supply and sanitation plans for Municipalities, and territories located in the Alto Wangki y Bokay Area, which plans shall include, *inter alia*, an assessment of the needs related to training, equipment, staffing, institutional strengthening, capacity building, and investments, of said Municipalities and territories, all selected pursuant to the criteria set forth in the Operational Manual; (ii) support the institutional strengthening and capacity building for the WSS sector of selected UMAS²⁰, the governments of the RAAN and RAAS, and the territorial authorities in the Alto Wangki y Bokay Area; (iii) support the capacity building and training of selected CAPS²¹, and selected communities that are not benefitting from the investments under Component 2 of the Project and which meet the criteria set forth in the Operational Manual²²; (iv) support the strengthening of coordination mechanisms between FISE and sub-national stakeholders; and (v) support the strengthening of SIASAR²³ through provision of data collection equipment, dissemination, coordination activities amongst sector institutions, and support to Municipalities and other stakeholders for the improved access and use of SIASAR. Together, these activities should strengthen the sustainability chain in an 'integrated' manner, meaning improving capacity and coordination at all levels, both vertically (between FISE and sub-national stakeholders) and horizontally (between sub-national stakeholders).

17. **Sub-component 1.3: Project Management, Monitoring, and Evaluation (US\$2.7 million).** This sub-component will support FISE for: (i) the implementation, monitoring and evaluation of the Project, including support for its overall reporting responsibilities under the Project; (ii) the carrying out of (A) technical and procurement audits of the Project; (B) a Project evaluation; and (C) the Indigenous and Afro-Nicaraguan Peoples Planning Framework (IAPPF), the Resettlement Policy Framework (RPF), and the Environmental and Social Management Framework (ESMF).

²⁰ The term "UMAS" indistinctly refers to municipal and/or territorial WSS units in different regions of the Republic of Nicaragua, referred to as UMAS, UMASH, or UTASH.

²¹ The term "CAPS" indistinctively refers to CAPS and UCASH.

²² In communities that receiving works under Component 2, capacity building is integrated into the project cycle.

²³ Rural water and sanitation information system (*Sistema de Información de Agua y Saneamiento Rural*).

18. **Component 2: Increase Sustainable Water Supply and Sanitation Coverage in Rural Areas** (US\$21.0 million): On the basis of the municipal and/or territorial plans for rural WSS developed under sub-component 1.2, this component will support the increased coverage of rural WSS services through the financing of sub-projects to provide technical solutions and level of service tailored to each beneficiary community²⁴. Sub-projects will finance works and tools for their operation and maintenance, including construction or rehabilitation of WSS systems, installing equipment in water systems, water quality improvements, and sanitation solutions. The investments will be made using a community driven approach and the entire project cycle, including formulation, execution, supervision, post-works accompaniment, and technical and social aspects, will be financed. The Operations Manual will define percentages of counterpart financing and subsidy levels depending on the characteristics of communities, infrastructure systems, and the nature of the intervention (new works, rehabilitation or expansion), as explained in Annex 2 (Box 2). Regarding sanitation, the Project will provide demand-driven infrastructure and support household visits and hygiene training as part of the regular sub-project cycle and sanitation marketing options (described in Annex 2). All investments will follow the principles and funds allocation mechanisms defined in the MEPAS, which will be updated to: (i) include lessons learned from PRASNICA in the overall project cycle, (ii) introduce pro-poor eligibility criteria and increase the relative weight of sanitation within the funds allocation mechanism, and (iii) include the sanitation markets approach in the list of interventions.

19. ***Sub-component 2.1: Increase Sustainable Water and Sanitation Coverage in the Pacific, Center, and North regions*** (US\$10.0 million with US\$1.0 million as counterpart funds from municipalities). This sub-component will support Eligible Municipalities in the Pacific, center, and north regions to increase coverage of WSS services in their rural areas through the carrying out of Subprojects. Around 65 municipalities will be supported with priority given to those with greater poverty indices and greater coverage deficits.

20. ***Sub-component 2.2: Increase Sustainable Water and Sanitation Coverage in the Atlantic Regions and Alto Wangki y Bokay*** (US\$10.0 million with US\$1.0 million as counterpart funds from municipalities). This sub-component will support (i) Eligible Municipalities to increase coverage of WSS services in their rural areas through the carrying out of Subprojects in RAAN and RAAS; and (ii) communities in the Alto Wangki y Bokay Area, to increase coverage of WSS services in their rural areas through the carrying out of Alto Wangki and Bokay Investments. Around 20 municipalities will be supported with priority given to those with greater poverty indices and greater coverage deficits.

21. ***Sub-component 2.3: Alliances for sanitation*** (US\$1.0 million). This sub-component will design and implement a strategy (which includes, *inter alia*, the carrying out of a communication campaign) to support the implementation of FISE's sanitation marketing program in Selected Municipalities, which program consists of, *inter alia*, providing financial access to households to acquire sanitary equipment and to improve sanitary facilities. Municipalities in the Pacific, Center, and North regions that fall outside of the pro-poor selection criteria will be prioritized in this program. This approach was piloted under PRASNICA and its methodology creates enabling

²⁴ Criteria for selection of beneficiary communities are described in Annex 2 and will be reflected in the MEPAS.

conditions and social mechanisms to allow families to purchase sanitary facilities, focusing on both demand and supply sides of a sanitation market (thus the name “alliances”). Participating municipalities will be selected during implementation pursuant to criteria in the Operations Manual (see Annex 2 for details).

22. **Component 3: Innovations in Rural Water, Sanitation and Hygiene** (US\$2.0 million): This component will support developing, carrying out, monitoring and evaluating Pilot Subprojects selected pursuant to the criteria set forth in the Operations Manual, and acceptable to the Bank, aimed at testing new approaches to needs in the areas of water quality; resilience to climate change and natural disasters; operation and maintenance strategies; and innovative technologies for rural WSS access, all in selected Municipalities. Possible activities may include (but not limited to): (i) training of youth in social accompaniment of rural WSS sub-projects, including water board administration, hygiene practices and operation and maintenance of WSS systems; (ii) preparation of climate change vulnerability studies in selected municipalities, following the methodology piloted in the PACCAS²⁵; and (iii) solar energy pilot projects for water systems.

23. **Component 4: Contingent Emergency Response (IRM CC)** (US\$0): This component will improve Nicaragua’s capacity to respond promptly and effectively to emergencies by providing immediate response to an Eligible Emergency, as needed. The component will only be triggered in the event of an emergency (see details in the IRM Operational Manual).

B. Project Costs and Financing

Project Components	Project cost (US\$)	IDA Financing (US\$)	% Financing
1. Component 1: Strengthening the Rural Water Supply and Sanitation Sector	7.00	7.00	100.00
2. Component 2: Increase Sustainable Water Supply and Sanitation Coverage in Rural Areas	23.00	21.00	91.00
3. Component 3: Innovations in Rural Water, Sanitation and Hygiene	2.00	2.00	100.00
4. Component 4: Contingent Emergency Response	0.00	0.00	0.00
Total Project Costs	32.00	30.00	94.00
Total Financing Required	32.00	30.00	94.00

24. **The lending instrument is an investment project financing for a total amount of US\$30 million, contributing to a total Project cost of US\$32 million.** The Project will be financed through a US\$14.3 million IDA Credit and a US\$15.7 million IDA Grant, both with 100 percent financing of total eligible expenditures. The RoN has selected the single currency option for the credit portion of this operation, deciding on the United States (US) dollar as the

²⁵Municipal climate change adaptation plans to assess the vulnerability of drinking water sources to climate change.

choice of currency. The RoN has analyzed the consequences of this choice and has concluded that the US dollar as the currency of choice is in their best interest, reducing the country's foreign exchange risk; and aligning the Project financing currency with its choice of disbursement currency (US dollar) for its expenses. Furthermore, Nicaragua's currencies and international reserves are closely tied to the US dollar. As part of the single currency credit approval process, the SDR would be converted to the single currency credit at the time of Board approval. Counterpart funds are expected from participating municipalities as a 10 percent cost-sharing of works, totaling US\$2 million. Project costs include physical and price contingencies.

C. Lessons Learned and Reflected in the Project Design

25. **The Project incorporates lessons learned from PRASNICA and international best practices.** In particular: (i) the complexity of the rural WSS sector requires leadership and coordination from dedicated institutions structured for this purpose; (ii) there is a need for a comprehensive approach to the delivery of sustainable WSS services, including both physical investments (works, technology) and institutional aspects (capacity building); (iii) sustainability can be achieved by adopting a participatory project cycle with community involvement and strict financing policies, linking the level of service to the community's financial and operational capacity; (iv) the concept of sustainability can be more effectively mainstreamed if promoted in a harmonized way by all financiers of the sector; (v) infrastructure tailored to local context has greater likelihood of being sustained; (vi) better organized CAPS contribute strongly to the sustainability of WSS systems; (vii) technical solutions (especially for sanitation) need to be carefully reviewed, especially regarding their maintenance needs and their appropriateness to local culture; (viii) households are willing to pay for better sanitation services when an enabling environment and information are in place; and (ix) due to access constraints, investments in the Caribbean Coast of Nicaragua are far more costly than in the rest of the country.

26. **In light of this, the Project tackles two fronts: sustainability and access.** Firstly, it seeks to optimize the institutional structure for the rural WSS sector by building capacity at the central Government level within FISE and by strengthening an integrated "sustainability chain". Secondly, the Project will invest in expanding WSS access through the provision of infrastructure tailored to local context (especially in terms of technical solutions and level of service). The Project will integrate lessons from the PACCAS, when these become available.

IV. IMPLEMENTATION

A. Institutional and Implementation Arrangements

27. **FISE, as the governmental body in charge of investments and management of the rural WSS sector at the national level, will be responsible for implementation of the proposed Project.** FISE is the recognized agency in charge of the sector, and is supported in this capacity by several presidential decrees and by technical capacity developed through experience as implementing agency of the PRASNICA. FISE has performed satisfactorily as the rural WSS agency for the past decade, and has helped to strengthen municipal WSS units throughout the country. FISE will be the implementing agency for the proposed Project and will have sole responsibility for implementation of Component 1 (institutional strengthening) in collaboration

with WSS Sector support institutions. Component 3 (pilot projects) will also be implemented directly by FISE, in coordination with eligible municipalities and WSS sector institutions, as applicable. However, depending on the nature of the pilot subproject, FISE may delegate implementation responsibilities (including financial management and procurement) to participating municipalities for certain activities.

28. Implementation of Component 2 will be undertaken by FISE in partnership with municipalities, and will follow a participatory project cycle. Contracting and execution of works financed by component 2 will be delegated to the municipalities, while the preparation of technical studies, engineering designs will be led by FISE's Direction of Operations and social work by the Direction of Institutional Development (due to their higher technical capacity), in close coordination with municipalities to build local capacity and ownership²⁶. In some cases, municipalities may delegate works to the communities, through *Proyectos guiados por la comunidad* (PGCs - CDD methodology – see Annex 3). Component 2 works²⁷ will be implemented through transfers from FISE to the municipalities, and in some cases, from the municipalities to the communities. This will be regulated through *convenios* (agreements) and the funds will be provided through non-reimbursable grants. Although municipalities may be in charge of certain procurement and financial management of activities at WSS sub-projects level, the overall fiduciary responsibility of the Project lies with FISE. In the case of Alto Wangki y Bokay, considering the special structure of this zone (where there are no municipal Governments), implementation will be centralized in FISE for Component 2. In all cases, communities will play an active role throughout the project cycle, making decisions on service level and technical options, participating in construction, and managing completed systems. For sub-component 2.3 (alliances for sanitation), implementation will be centralized in FISE, which will work in coordination with the eligible municipalities and WSS institutions as applicable.

29. In the case of interventions in the RAAS, RAAN and Alto Wangki y Bokay areas, the Project will rely on Project Committees to decide on the selection of communities and implementation principles for activities. Each Project Committee (one for RAAS, one for RAAN and one for Alto Wangki y Bokay) is made up of representatives of the regional Governments, the territorial Governments, the municipalities²⁸ and FISE. See Annex 3 for details.

30. Due to the particular relevance of the woman's role in rural WSS services, the Project will adopt a solid gender mainstreaming approach in its design, implementation and monitoring. This will occur through three dimensions: (i) *assessment*: gender-related questions and gender-focal groups were included in the social assessment carried out in Project preparation; (ii) *actions*: women's needs will be prioritized in the selection of technical options for WSS and in training opportunities, and by promoting female participation in CAPS in decision making positions on the CAPS Executive Board; (iii) *monitoring*: the Project includes

²⁶ Technical studies and engineering designs will also be delegated to municipalities in a sample of municipalities (trained, supported and supervised by FISE). This pilot will later be reviewed to decide if it should be scaled up.

²⁷ In some cases, the preparation of technical studies, engineering designs and social work may be also delegated to municipalities and therefore included in the *convenios*. Likewise, in some exceptional cases, the contracting of works may be centralized in FISE.

²⁸ Except for the case of Alto Wangki y Bokay Project committee, where there are no municipalities.

two indicators related to the participation of women in community water boards, and one indicator on total number of female Project beneficiaries. The Project's impact evaluation will also include a gender-related focus (Annex 2).

B. Results Monitoring and Evaluation (M&E)

31. **The Project-level M&E framework will track progress in implementation and intermediate outcomes.** FISE has built an efficient system for the monitoring of sub-projects (SICPRO), which it uses under PRASNICA, and will continue to use under the new Project (see Annex 1). Semi-annual progress reports will also include complete information on procurement, contracts, disbursements, financial management, beneficiaries and other outputs. Annual independent audit reports are expected to monitor use of funds and physical progress.

32. **FISE is also rolling out a decision-making and planning tool for the rural WSS sector, SIASAR, developed in Nicaragua, Panama and Honduras with World Bank support.** This tool collects rural WSS information and generates indicators on four dimensions: access to service, quality of service and infrastructure conditions, organization and financial sustainability of the local service providers, and effectiveness of technical assistance. In Nicaragua, SIASAR data has been collected for over 4,000 communities to date and the baseline should be completed by June 2014. The Project will ensure that SIASAR is mainstreamed into sector planning processes at various levels by providing training, using SIASAR to gather data for Project indicators, and updating the system every six months through municipal agreements.

C. Sustainability

33. **Sustainability of rural WSS interventions requires that the technical quality of WSS systems is adequate, that communities are able to operate and maintain them in a financially sustainable way, that beneficiaries make use of these systems and adopt sound hygiene practices, and that structures exist to ensure technical assistance and supervision of these systems beyond the Project's lifetime.** To ensure this, the Project will apply the following key elements: (a) the sub-project implementation methodology (based on the MEPAS) requires that designs for WSS solutions be selected by community assemblies from a menu of financially and technically feasible options (Demand-Responsive Approach); (b) communities contribute in cash and in-kind to construction costs, and in many cases oversee construction (CDD projects); (c) social support is carried out, including extensive interventions to promote community-wide hygiene behaviour change, and training and assistance to water boards in operation and maintenance; (d) Component 1 builds capacity within FISE, municipalities and other levels of the 'sustainability chain' to ensure the long-term support to CAPS, in particular with regards to technical, hygiene and financial aspects. The impact of these activities is monitored through the Project's M&E instruments, in particular, SIASAR.

V. KEY RISKS AND MITIGATION MEASURES

A. Risk Ratings Summary Table

Risk Category	Rating
Stakeholder Risk	M
Implementing Agency Risk	M
- Capacity	M
- Governance	M
Project Risk	L
- Design	L
- Social and Environmental	M
- Program and Donor	L
- Delivery Monitoring and Sustainability	L
- Other: Municipalities may not contribute counterpart funds	L
- Other: Implementing Area Risk	H
Overall Implementation Risk	M

B. Overall Risk Rating Explanation

34. **Implementation risk is considered moderate due to FISE’s track record in implementation, despite identified capacity constraints and the fact that the sub-sector is still in the process of improving its structure to provide better support to the local communities.** Additionally, Project implementation is mostly concentrated in challenging areas in terms of accessibility (Caribbean coast) and encompasses several stakeholders and levels of authority, including municipalities, regional Governments, indigenous groups, and the charitable sector. Coordination has improved under PRASNICA, but difficulties may still occur. However, the Project builds on the coordination mechanisms and implementation experience acquired in the PRASNICA, which include the adoption participatory and inclusive decision-making processes and adaptable implementation arrangements for particular challenging areas.

VI. APPRAISAL SUMMARY

A. Economic and Financial Analysis

35. **Project development impact is calculated along two dimensions, considering both the direct costs of WSS infrastructure, and the sustainability investments required to keep this infrastructure operational over time.** Firstly, an economic analysis assesses the economic costs and benefits of water and sanitation provision (and lack thereof), and calculates rates of return for different sanitation technologies. This analysis considers a representative sample of

sub-projects, but has a Project-wide scope as it includes institutional strengthening costs and the repair of sanitation solutions, informed by the Economics of Sanitation Initiative. Secondly, the analysis assesses the costs associated with the institutional framework required to maintain the sustainability of the physical WSS investments over time (cost of the ‘sustainability chain’).

- (i) *On the first dimension*, the analysis was carried out from two perspectives, financial and economic, to test sustainability and economic viability. The evaluation was complemented with distributive, sensitivity, and risk analyses (details in Annex 6). The Project will generate more benefits than expected costs²⁹. The expected benefits with the Project are 80% higher than the associated costs, with net economic benefit as high as US\$25 million and 24% expected return. Health benefits alone yield benefits enough to pay for sanitation costs and account for 80% of sanitation benefits. Additional benefits on savings on coping costs associated with inadequate WSS services add benefits, making the Project more robust. The analysis also compared different alternatives for sanitation, and results show that the best option (*inodoro rural*, type 1) has a net benefit of US\$900 per household and 26% return. This analysis will help FISE to select the right technology for the new operation. From a financial viewpoint, results show that the Project is sustainable with the established arrangements, in which the community pays enough tariffs to cover operating costs.
- (ii) *On the second dimension*, FISE and the Bank carried out a quantitative cost-efficiency analysis of the rural WSS subsector’s sustainability chain (capacity building, equipment, staffing and other measures required to maintain an institutional structure at national, regional and municipal levels capable of ensuring longer-term sustainability of the physical investments). Preliminary findings estimate that the recurrent cost to strengthen and sustain FISE’s support structure at the national level is in the order of US\$2.5 million per year, including fixed and variable costs, and that the yearly cost to have 153 functional municipal WSS units providing social and technical assistance to around 5,500 communities and their CAPS nationwide is approximately US\$3 million, including staff, expenses and equipment amortization. This analysis will continue exploring different scenarios for enhancing the efficiency of links between the national and municipal levels, identifying the most appropriate source of financing for each part of the costs structure, and exploring financing options. Final outcomes will be part of the rural component of the PISASH.

B. Technical

36. **No major technical issues are expected, since all technologies considered are being implemented under PRASNICA, and the same kind of investments will be carried out under the Project.** The investments under this operation will be carried out under Components 2 and 3, and will consist of the construction or rehabilitation of small-scale, minor water supply schemes including boreholes or springs catchment, conduction lines, water tanks and distribution systems, on-site sanitation solutions such as latrines or septic tanks, and small sewerage (condominial) sanitation solutions. FISE already has standardized designs for a range of WSS technical options and service levels in its operations manual (MEPAS) and in a ‘sanitation solutions menu’. During PRASNICA’s mid-term review (2011), a review of technical quality of works in Project-financed communities showed no significant technical concerns. All sanitation

²⁹Results of the cost benefit analysis of a sample of sub-projects shows net benefits of USD 0.9 million.

solutions financed by the Project will include hand-washing facilities. For the Caribbean Coast, a customized sanitation solutions menu is being developed. Technical solutions will also be discussed with communities and regional and territorial Governments for cultural acceptability.

C. Financial Management

37. **A financial management (FM) assessment was carried out to evaluate the adequacy of financial management arrangements under the proposed IDA Credit/Grant and concluded that FISE, in general, has an overall capacity to carry out the financial management functions for the Project.** Furthermore, the FM assessment identified some areas to help strengthen its FM capacity, and an Action Plan has been developed. The overall residual Project risk for FM was assessed as “Substantial” mainly due to the complexity of the operation and funds transfer to the municipalities and/or communities respectively. The Operational Manual in use for PRASNICA is being updated by FISE detailing the incremental FM procedures including budgeting, accounting, payments, support documentation, accounts reconciliation and financial reporting. An acceptable draft Operational Manual was submitted to the Bank prior to negotiations and will be finalized by effectiveness.

D. Procurement

38. **All procurement activities under the proposed Project, with the exception of those implemented under sub-projects, will be carried out by FISE.** Sub-project works contracts will be carried out by the participating municipalities and may involve the participation of related communities. In either case, FISE will be engaged in the follow-up and supervision of procurement procedures, and will be responsible for issuing a formal approval for each process. Procurement for the Project will be carried out in accordance with the World Bank’s “Guidelines Procurement of Goods, Works and Non-Consulting Services under IBRD Loans and IDA Credits and Grants by World Bank Borrowers,” dated January 2011; the World Bank’s “Guidelines Selection and Employment of Consultants under IBRD Loans and IDA Credits and Grants by World Bank Borrowers,” dated January 2011; and the provisions stipulated in the Financing Agreement. As per a recent capacity assessment, FISE is reasonably well prepared and has adequate experience and understanding of procurement-related issues. The overall Procurement risk rating is Substantial (see mitigation measures in Annex 3). A Procurement Plan for the first 18 months of implementation was prepared and approved by the Bank.

E. Social (including Safeguards)

39. **Many positive social impacts are expected from the Project:** (a) the bulk of financing will focus on providing complete WSS coverage to rural communities located in municipalities with more than 40% extreme poverty, and 50% of the funds will be targeted to the Caribbean Coast; (b) it will improve the local capacity of municipal WSS teams and community water boards to manage WSS systems; (c) communities will review and approve the WSS models they can afford (co-finance, operate and maintain), and hand-washing facilities will be mandatory in all sanitation sub-projects; (d) land tenure of spaces used for construction of water facilities will be secured beforehand to avoid legal conflicts later; and (e) better access to WSS services is expected to contribute to improved health, particularly in young children. No negative impacts are foreseen. A Social Management Scheme (including consultations) is embedded in the Project

design to ensure social participation before, during and after the civil works are completed.

40. Two social safeguards are triggered: OP4.10 Indigenous Peoples, and OP4.12 Involuntary Resettlement. An IAPPF and an RPF were prepared by FISE using the experience and lessons learned from PRASNICA and the Greater Managua WSS Project, P110092. Consultations with a sample of communities were carried out from November 26 to 29 2013. Frameworks were approved by the Bank on December 3, 2013, published on the FISE website on December 4, 2013 and on the Bank website on December 9, 2013. The IAPPF and RPF, including guidelines for preparation, implementation, monitoring and evaluation of the corresponding Indigenous and Afro-Nicaraguan Peoples Plans, and Resettlement Action Plans (RAP) are both self-standing documents, and part of ESMF. FISE is responsible for coordinating implementation of the social management scheme and all environmental and social safeguards.

F. Environment (including Safeguards)

41. The Project is classified as Category B per OP/BP 4.01, and is expected to have an overall positive impact on the environment, by improving access to potable water and sanitation in the target areas. The Project will support rural, dispersed and small scale civil works to provide water and sanitation, potentially including small condominium sanitation systems. Safeguards triggered are Environmental Assessment (OP/BP 4.01), Natural Habitats (OP 4.04), Forests (OP/BP 4.36), Physical Cultural Resources (OP/BP 4.11) and Projects on International Waterways (OP/BP7.50). An ESMF including criteria for screening investments, environmental assessment, mitigation measures, roles and responsibilities for environmental and social management, and institutional strengthening measures has been prepared, reviewed with stakeholders, and disclosed in accordance with Bank guidelines. Consultations on the ESMF took place on November 28, 2013 for RAAN, on November 26, 27 and 29 for RAAS, and on November 27 for stakeholders from the North and Central Pacific. Feedback from consultations was recorded and incorporated into the ESMF. No major concerns were identified. The ESMF, which includes a summary of the Project's social safeguards instruments, was disclosed on FISE's website on December 4, 2013, and on the World Bank's Infoshop on December 5, 2013. The IAPPF and RPF were consulted and disclosed as stand-alone documents on the same dates.

G. Other Safeguards Policies Triggered

42. Projects on International Waterways OP/BP 7.50: there will be no direct water use from transboundary waterways by Project investments, and total estimated additional water abstraction is therefore null. However, considering that some beneficiary communities may be located in transboundary watersheds (Alto Coco and Río San Juan watersheds), OP 7.50 has been triggered. A riparian notification was sent to the Governments of Costa Rica and Honduras on October 31, 2013 in compliance with this policy. The notification requested that comments to the proposed activities be conveyed by November 29, 2013. No response has been received, and the Bank has determined to move ahead with processing this operation.

Annex 1: Results Framework and Monitoring

Country: Nicaragua

Project Name: Sustainable Rural Water Supply and Sanitation Sector (P147006)

Results Framework

Project Development Objectives

PDO Statement

The Project Development Objectives (PDOs) are: (a) to increase the access to sustainable WSS services in selected poor rural areas of Nicaragua through the consolidation of rural WSS sector institutions and the provision of adequate infrastructure; and (b) to improve Nicaragua's capacity to respond promptly and effectively to an eligible emergency.

These results are at | Project Level

Project Development Objective Indicators

Indicator Name	Core	Unit of Measure	Baseline	Cumulative Target Values					Frequency	Data Source/ Methodology	Responsibility for Data Collection
				YR1	YR2	YR3	YR4	End Target			
A. Percentage <i>increase</i> nationwide in improved water supply coverage	<input type="checkbox"/>	Percentage points	0	0	0	0	0	1.6	Baseline, mid-term review and at project closing	SIASAR and INIDE (2013), considering a 0.425% population growth	FISE
B. Percentage <i>increase</i> nationwide in improved sanitation	<input type="checkbox"/>	Percentage points	0	0	0	0	0	0.35	Baseline, mid-term review and at project closing	SIASAR and INIDE (2013), considering a 0.425%	FISE

coverage										population growth	
C. Number of additional beneficiaries with sustainable access to water supply in Project supported rural communities	<input type="checkbox"/>	Number	0	0	0	10132	20264	20264	Every 6 Months	FISE (SICPRO); SIASAR	FISE
D. Number of additional beneficiaries with sustainable access to sanitation in Project supported rural communities	<input type="checkbox"/>	Number	0	0	0	10958	21916	21916	Every 6 Months	FISE (SICPRO); SIASAR	FISE
E. Percentage of community WSS boards nation-wide that are operating in a sustainable manner	<input type="checkbox"/>	Number	40	40	42	52	61	61	Annually	SIASAR	FISE
F. Time taken to disburse funds requested by Government for an eligible emergency.	<input type="checkbox"/>	Weeks	0	N/A	N/A	N/A	N/A	4	When an emergency occurs	MHCP	World Bank

Direct project beneficiaries	<input checked="" type="checkbox"/>	Number	0	0	2,455	21,513	52725	52725			
Female beneficiaries	<input checked="" type="checkbox"/>	Percentage Sub-Type Supplemental	0	0	2,455	21,513	25308	25308			

Intermediate Results Indicators

Indicator Name	Core	Unit of Measure	Baseline	Cumulative Target Values					Frequency	Data Source/ Methodology	Responsibility for Data Collection
				YR1	YR2	YR3	YR4	End Target			
1.1A Number of FISE staff specialized in water and sanitation	<input type="checkbox"/>	Number	15	15	15	30	60	60	Annual	FISE	FISE
1.1B Rural PISASH validated by the <i>Consejo de Planificación</i>	<input type="checkbox"/>	Yes/No	No	No	No	Yes	Yes	Yes	Annual	FISE	FISE
1.1C Number of institutions working in WSS not financed by FISE that adopt the MEPAS	<input type="checkbox"/>	Number	0	0	1	5	10	10	Annual	FISE	FISE
1.2A Number of municipalities for which municipal WSS action plans developed	<input type="checkbox"/>	Number	0	0	0	35	70	70	Annual	FISE	FISE

(including needs diagnostic, investment plan, budget and timeline)											
1.2B Number of municipalities with SIASAR 100% updated each year	<input type="checkbox"/>	Number	137	137	140	140	140	140	Annual	SIASAR	FISE
1.2C Percent of UMAS providers with an A or B ranking in the SIASAR's TAP classification matrix	<input type="checkbox"/>	Percentage	27	27	37	47	60	60	Annual	SIASAR	FISE
2.1 Number of people in rural areas provided with access to Improved Water Sources under the project	<input checked="" type="checkbox"/>	Number	0	0	0	12,665	25330	25330	Every 6 months	FISE's M&E system (SICPRO)	FISE
2.2 People provided with access to "improved sanitation facilities" under the project	<input checked="" type="checkbox"/>	Number	0	0	0	13,697	27395	27395	Every 6 months	FISE's M&E system (SICPRO)	FISE
2.2A People provided with	<input checked="" type="checkbox"/>	Number Sub-Type	0	0	0	13,697	27395	27395			

access to “improved sanitation facilities”- rural		Breakdown										
2.3 Number of additional people with access to higher level of service of improved sanitation services in Project areas.	<input type="checkbox"/>	Number	0	0	0	0	2740	2740	Every 6 months	FISE’s M&E system (SICPRO)	FISE	
2.4 Percent of rehabilitated or improved systems under the project with a classification of A or B	<input type="checkbox"/>	Percentage	0	0	0	32	80	80	Annual	SIASAR & SICPRO	FISE	
2.5 Number of indigenous and Afro-Nicaraguan communities benefiting from investments from Component 2.	<input type="checkbox"/>	Number	0	0	0	13	26	26	Every 6 months	FISE’s M&E system (SICPRO)	FISE	
2.6 Percentage of CAPS with at least 30% of women on the Board in Project	<input type="checkbox"/>	Percentage	0	0	0	50	100	100	Baseline, mid- term review and ex post survey	FISE’s M&E system (SICPRO)	FISE	

communities.											
2.7 Percentage of CAPS with women in decision-making positions (president or treasurer) on the Board in Project communities.	<input type="checkbox"/>	Percentage	0	0	0	25	50	50	Baseline, mid-term review and ex post survey	FISE's M&E system (SICPRO)	FISE
2.8 Number of other water service providers that the project is supporting	<input checked="" type="checkbox"/>	Number	0	0	0	60	120	120	Every 6 Months	FISE's M&E system (SICPRO)	FISE
2.9 New piped household water connections that are resulting from the project intervention	<input checked="" type="checkbox"/>	Number	0	0	0	1,478	2956	2956	Every 6 months	FISE's M&E system (SICPRO)	FISE
2.10 Piped household water connections that are benefiting from rehabilitation works undertaken by the project	<input checked="" type="checkbox"/>	Number	0	0	0	569	1137	1137	Every 6 months	FISE's M&E system (SICPRO)	FISE
2.11 Improved community water points	<input checked="" type="checkbox"/>	Number	0	0	30	60	60	60	FISE	FISE's M&E system	Every 6 months

constructed or rehabilitated under the project										(SICPRO)	
2.12 People trained to improve hygiene behavior/sanitation practices under the project	<input checked="" type="checkbox"/>	Number	0	0	0	26000	53000	53000	Every 6 months	FISE's M&E system (SICPRO)	FISE
2.12A People trained to improve hygiene behavior/sanitation practices - female	<input checked="" type="checkbox"/>	Number Sub-Type Breakdown	0	0	0	0	26000	26000			
3.1 Number of pilot projects documented, evaluated and disseminated	<input type="checkbox"/>	Number	0	0	0	2	3	3	Annual	Supervision missions	WB mission
3.2 Number of municipalities in the country with PMACCs developed	<input type="checkbox"/>	Number	0	0	1	3	5	5	Annual	Supervision missions	WB mission
4. IRM established and ready to provide access to financial resources to Nicaragua in	<input type="checkbox"/>	Yes/No	No	N/A	N/A	N/A	N/A	Yes	When an emergency occurs	MHCP	World Bank

case of an eligible emergency											
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Annex 1A. Indicator Definition Table

Project Development Objective Indicators / Description (indicator definition etc.)	
Indicator Name	Description (indicator definition etc.)
A. Percentage <i>increase</i> nation-wide in improved water supply coverage	<p>Numerator: Number of rural inhabitants with access to improved water supply, using data from SIASAR and INIDE (2013). INIDE data is used for coverage information until data from SIASAR is officially validated, after which the more up-to-date coverage figures from SIASAR will be used. INIDE data is used to project population growth over the Project’s lifespan, considering 0.425% population growth. The indicator will measure the increase in access (additional percentage points above the baseline).</p> <p>The concept of ‘improved’ access uses the WHO/UNICEF Joint Monitoring Programme definition: an improved drinking-water source is defined as one that, by nature of its construction or through active intervention, is protected from outside contamination, in particular from contamination with fecal matter (source: JMP/WHO website 2013).</p> <p>Denominator: Rural population of Nicaragua in the year of measurement.</p>
B. Percentage <i>increase</i> nation-wide in improved sanitation coverage	<p>Numerator: Number of rural inhabitants with access to improved sanitation, using data from SIASAR and INIDE (2013). INIDE data is used for coverage information until data from SIASAR is officially validated, after which the more up-to-date coverage figures from SIASAR will be used. INIDE data is used to project population growth over the Project’s lifespan, considering 0.425% population growth. The indicator will measure the increase in access (additional percentage points above the baseline).</p> <p>The concept of ‘improved’ access uses the WHO/UNICEF Joint Monitoring Programme definition: an improved sanitation facility is defined as one that hygienically separates human excreta from human contact (source: JMP/WHO website 2013).</p> <p>Denominator: Rural population of Nicaragua in the year of measurement.</p>
C. Number of additional beneficiaries with sustainable access to water supply in Project supported rural communities	<p>Total number of Project beneficiaries of water interventions (intermediate indicator 2.1) multiplied by the percentage of beneficiaries in Project areas whose CAPS has an A or B ranking according to the SIASAR Service Provider (CAPS) matrix (target assumes 80%). The concept of ‘improved’ access uses the WHO/UNICEF Joint Monitoring</p>

	<p>Programme definition: an improved drinking-water source is defined as one that, by nature of its construction or through active intervention, is protected from outside contamination, in particular from contamination with fecal matter (source: JMP/WHO website 2013).</p> <p>Data for this indicator will be collected from SIASAR and SICPRO for Project areas.</p>
D. Number of additional beneficiaries with sustainable access to sanitation in Project supported rural communities	<p>Total number of Project beneficiaries of sanitation interventions (intermediate indicators 2.2 + 2.3) multiplied by the percentage of beneficiaries in Project areas whose CAPS has an A or B ranking according to the SIASAR Service Provider (CAPS) matrix (target assumes 80%). The concept of 'improved' access uses the WHO/UNICEF Joint Monitoring Programme definition: an improved sanitation facility is defined as one that hygienically separates human excreta from human contact (source: JMP/WHO website 2013).</p> <p>Data for this indicator will be collected from SIASAR and SICPRO for Project areas.</p>
E. Percentage of community WSS boards nation-wide that are operating in a sustainable* manner	<p>Numerator: Number of community WSS boards in the SIASAR database that have an A or B ranking according to the SIASAR Service Provider (CAPS) matrix.</p> <p>Denominator: Total number of community WSS boards in the SIASAR database.</p> <p>Data for this indicator will be collected from SIASAR.</p>
F. Time taken to disburse funds requested by Government for an eligible emergency.	<p>Number of days.</p> <p>Note: will only be measured if an emergency is declared and the IRM component triggered; otherwise the value is N/A.</p>
Direct project beneficiaries	<p>Total number of Project beneficiaries of water and sanitation interventions (intermediate indicators 2.1 + 2.2 + 2.3).</p> <p>Data for this indicator will be collected from SICPRO for Project areas.</p>
Female beneficiaries	<p>Total number of female Project beneficiaries of water and sanitation interventions (intermediate indicators 2.1 + 2.2 + 2.3, multiplied by percentage of female beneficiaries).</p> <p>Data for this indicator will be collected from SICPRO for Project areas.</p>
Intermediate Results Indicators/ Description (indicator definition etc.)	
1.1A Number of FISE staff specialized in water and sanitation	<p>Number of FISE staff specialized in water and sanitation (specialized sector staff such as regional WSS advisors or WSS engineers). Baseline is 15 (8 regional advisors and 7 engineers); target is to reach 50 thanks to training provided by the Project.</p> <p>Data for this indicator is provided by FISE.</p>
1.1B Rural PISASH validated by the	Yes/No

<i>Consejo de Planificación</i>	Data for this indicator is provided by the Government of Nicaragua and the <i>Consejo de Planificación</i> .
1.1C Number of institutions working in WSS not financed by FISE that adopt the MEPAS	Number of institutions (may include NGOs, faith-based organizations, multilateral or bilateral donors, civil society actors, etc.) working in WSS not financed by FISE that adopt the MEPAS (<i>Manual de Ejecución de Proyectos de Agua y Saneamiento</i>). Note that the World Bank and Swiss Cooperation interventions are financed by FISE and that these actors are therefore not counted in this indicator (baseline is 0). Data for this indicator is provided by FISE.
1.2A Number of municipalities for which municipal WSS action plans developed (including needs diagnostic, investment plan, budget and timeline)	Number of municipalities that successfully complete the development of municipal WSS action plans (including needs diagnostic, investment plan, budget and timeline) with FISE's support, as per Sub-component 1.2. (note that indicator does not measure the implementation of the plan, only its development). Data for this indicator is provided by FISE.
1.2B Number of municipalities with SIASAR 100% updated each year	Number of municipalities in the country that have updated all SIASAR questionnaires (CAPS, PAT, Community, System) at least once in the last year. Data for this indicator will be collected from SIASAR.
1.2C Percent of UMAS providers with an A or B ranking in the SIASAR's TAP classification matrix	Numerator: Number of municipal WSS units in the SIASAR database that have an A or B ranking according to the SIASAR Technical Assistance Provider (PAT) matrix. Denominator: Total number of municipal WSS units in the SIASAR database. Data for this indicator will be collected from SIASAR.
2.1 Number of people in rural areas provided with access to Improved Water Sources under the project (core)	Total number of Project beneficiaries of water interventions (new and rehabilitated access). Data for this indicator will be collected from SICPRO for Project areas.
2.2 People provided with access to "improved sanitation facilities" under the project (core)	Total number of Project beneficiaries of sanitation interventions (new and rehabilitated access, not including sanitation marketing which improves level of service but does not expand access). Data for this indicator will be collected from SICPRO for Project areas.
2.2A People provided with access to "improved sanitation facilities"- rural (core)	Same as above as all Project beneficiaries are rural inhabitants (disaggregation is required for this core indicator).
2.3 Number of additional people with access to higher level of service of improved sanitation services in Project	Number of persons benefited by the Project's sanitation marketing activities under sub-component 2.3 (direct beneficiaries who have increased their level of service as a result of this intervention). Note that 'additional' simply refers to direct beneficiaries who did not have such access at baseline.

areas.	Data for this indicator will be collected from FISE.
2.4 Percent of rehabilitated or improved systems under the project with a classification of A or B	<p>Numerator: Number of WSS systems in the SIASAR database that have an A or B ranking according to the SIASAR System matrix, <i>in Project intervention communities</i>.</p> <p>Denominator: Total number of WSS systems in the SIASAR database, <i>in Project intervention communities</i>.</p> <p>Data for this indicator will be collected from SIASAR.</p>
2.5 Number of indigenous and Afro-Nicaraguan communities benefiting from investments from Component 2.	<p>Number of communities where the Project undertakes works under Component 2, where one or more households in the community self-identify as Afro-Nicaraguan or Indigenous.</p> <p>Data for this indicator will be provided by FISE's social team.</p>
2.6 Percentage of CAPS with at least 30% of women on the Board in Project communities.	<p>Numerator: Number of CAPS in communities where the Project undertakes works under component 2, whose CAPS Board includes at least 30% of women.</p> <p>Denominator: Number of CAPS in communities where the Project undertakes works under component 2.</p> <p>Data for this indicator will be collected from SICPRO for Project areas.</p>
2.7 Percentage of CAPS with women in decision-making positions (president or treasurer) on the Board in Project communities.	<p>Numerator: Number of CAPS in communities where the Project undertakes works under component 2, whose CAPS Board has a woman treasurer and/or a woman president.</p> <p>Denominator: Number of CAPS in communities where the Project undertakes works under component 2.</p> <p>Data for this indicator will be collected from SICPRO for Project areas.</p>
2.8 Number of other water service providers that the project is supporting (core)	<p>Number of CAPS supported by the Project (applies to components 1 and 2).</p> <p>Data for this indicator will be collected from SICPRO for Project areas, and from FISE for component 1.</p>
2.9 New piped household water connections that are resulting from the project intervention (core)	<p>Number of piped household water connections built by Project works.</p> <p>Data for this indicator will be collected from SICPRO for Project areas.</p>
2.10 Piped household water connections that are benefiting from rehabilitation works undertaken by the project (core)	<p>Number of piped household water connections rehabilitated by Project works.</p> <p>Data for this indicator will be collected from SICPRO for Project areas.</p>
2.11 Improved community water points constructed or rehabilitated under the project (core)	<p>Number of wells built or rehabilitated by Project works. (Note that this includes only systems where the well is the system itself, and not when wells are components of a more sophisticated system such as a gravity-fed aqueduct).</p>

	Data for this indicator will be collected from SICPRO for Project areas.
2.12 People trained to improve hygiene behavior/sanitation practices under the project (core)	Number of people receiving training as part of the sub-project works cycle under Component 2 and from capacity building activities under Components 1 and 3. Data for this indicator will be provided by FISE's social team.
2.12A People trained to improve hygiene behavior/sanitation practices – female (core)	Number of females receiving training as part of the sub-project works cycle under Component 2. Data for this indicator will be provided by FISE's social team.
3.1 Number of pilot projects documented, evaluated and disseminated	Number of pilot projects documented, evaluated and disseminated, where pilot projects include all separate activities implemented under Component 3. Data for this indicator will be provided by FISE.
3.2 Number of municipalities in the country with PMACCs developed	Number of municipalities in the country that have developed municipal climate change adaptation plans. (note that indicator does not measure the implementation of the plan, only its development). Data for this indicator will be provided by FISE.
4. IRM established and ready to provide access to financial resources to Nicaragua in case of an eligible emergency	Yes/No. Note: will only be measured if an emergency is declared and the IRM component triggered; otherwise the value is not available.

Annex 1B. SIASAR CAPS classification matrix (note: matrix subject to change based on periodic joint review of SIASAR instruments by SIASAR member countries)

Criteria	Score			
	4	3	2	1
<p>Service provider management</p> <p>Score given by number of positive responses</p>	<p>Criteria</p> <ol style="list-style-type: none"> 1. Service provider legalized 2. Positions named / occupied 3. Meets 4 times every 6 months 4. Accountable 	3 criteria met	2 criteria met	1 or no criteria met
<p>Tariff</p> <p>Score given by number of positive responses</p> <p><i>4th criterion only applies to systems with aqueducts fed by gravity or pump; not to wells</i></p>	<p>Criteria:</p> <ol style="list-style-type: none"> 1. Tariff exists 2. Tariff enables cost recovery 3. Revenue over billing > 80% 4. Tariff is by amount consumed 	3 criteria met	2 criteria met	1 or no criteria met
<p>Financial robustness</p> <p>Score given by number of positive responses , plus one</p>	<p>Criteria:</p> <ol style="list-style-type: none"> 1. Has Bank account 2. Has accounting records 3. Income greater than expenditures 	3 criteria met	2 criteria met	1 or no criteria met
<p>Operation and maintenance attention</p> <p>Score given by number of positive responses , plus one</p>	<p>Criteria:</p> <ol style="list-style-type: none"> 1. Savings to replace the system's useful lifecycle are sufficient 2. Corrective operation and maintenance performed 3. There is an operator / plumber providing operation and maintenance to the system 	3 criteria met	2 criteria met	1 or no criteria met
<p>Attention to the source</p>	<p>Good: The community keeps the source clean and has a reforestation program.</p>	<p>Fair: the community is not regularly reforesting or protecting the source</p>	<p>Poor: the community does not have measures in place for reforestation or protection of the source</p>	<p>Broken: the community is doing nothing to salvage the source</p>

Annex 1C. Technical Assistance Provider (TAP) classification matrix (note: matrix subject to change based on periodic joint review of SIASAR instruments by SIASAR member countries)

Criteria	Score			
	4	3	2	1
Availability of data	TAP has information on communities of its area Information is up to date	TAP has information on communities of its area Information is out of date by 1 year	TAP has information on communities of its area Information is out of date by > 1 year	TAP has information on communities of its area TAP has no updated information
Visits to communities in last 12 months	90% of communities in intervention area were visited in last 12 months	70-90% of communities in intervention area were visited in last 12 months	50-70% of communities in intervention area were visited in last 12 months	<50% of communities in intervention area were visited in last 12 months
Support to communities in water quality monitoring	90% of communities in intervention area were monitored in terms of water quality in last 12 months	70-90% of communities in intervention area were monitored in terms of water quality in last 12 months	50-70% of communities in intervention area were monitored in terms of water quality in last 12 months	<50% of communities in intervention area were monitored in terms of water quality in last 12 months
Human resources (ranges may differ by country)	Average Communities per staff < 50	50 < Average Communities per staff < 60	60 < Average Communities per staff < 80	Average Communities per staff > 80
Transport capacity	Transport capacity \geq Number of staff	$0.5 \times$ Number of staff \leq Transport capacity < Number of staff	0 < Transport capacity < $0.5 \times$ Number of staff	Transport capacity = 0
1. Water quality monitoring equipment 2. Computer, 3. Transport equipment 4. Printed educational materials for distribution	Has 4 or 3 in good condition	Has 2 in good condition	Has 1 in good condition	Has none in good condition
TAP has: 1. Annual Budget officially assigned 2. Funds for travel and gas 3. Internet service	Yes to all 3	Yes to 2 of 3	Yes to 1 of 3	Yes to none of 3

Annex 1D. System classification matrix (note: matrix subject to change based on periodic joint review of SIASAR instruments by SIASAR member countries)

Criteria				
	4	3	2	1
Flow	Demand coverage ≥ 1.5	$1.5 >$ Demand coverage ≥ 1.0	$1.0 >$ Demand coverage ≥ 0.8	Demand coverage < 0.8
Catchment	Good conditions	Needs maintenance	Needs minor works	Needs reconstruction
Conduction network	Good conditions	Needs maintenance	Needs minor works	Needs reconstruction
Storage	Good conditions	Needs maintenance	Needs minor works	Needs reconstruction
Distribution network	Good conditions	Needs maintenance	Needs minor works	Needs reconstruction
Storage capacity	Capacity ≥ 1.35 Required	$1.35 >$ Capacity ≥ 1.0	$1.0 >$ Capacity ≥ 0.8	Capacity < 0.8
Micro-watershed	No deforestation	Little deforestation – does not affect system	Regular deforestation – Little effect on system	Severe deforestation – affects system
Residual chlorine (mg/L)	$1.0 \leq$ Residual chlorine < 1.5	$0.2 \leq$ Residual chlorine < 1.0		Residual chlorine < 0.2

Levels to determine the A/B/C/D ranking in the PAT and CAPS matrices are as follows:

AVERAGE		RANKING	
3.5 – 4.0	→	A	No criteria can have a score of 1
2.5 – 3.49	→	B	A score of 3.5 or more will be classified as B if one or more criteria have a score of 1
1.5 – 2.49	→	C	
> 1.49	→	D	

Levels to determine the A/B/C/D ranking in the System matrix are as follows:
25 or more: A; 24 to 17: B; 16 to 9: C; 8 or less: D.

Annex 1E. Summary discussion of proposed impact evaluation

Background. The *Nicaragua Sustainable Rural Water Supply and Sanitation Sector Project* presents a valuable opportunity to evaluate the value added of two service delivery mechanisms in rural WSS projects: (i) municipal strengthening through technical assistance, (ii) alliances for sanitation³⁰, and effectiveness of sanitation options. By investigating these relationships, the proposed impact evaluation will directly assess the contribution of the Project's municipal strengthening activities to its PDO. Specifically, the impact evaluation will focus on:

- (i) The impact of municipal strengthening on:
 - a. the sustainability (or functionality³¹) of WSS systems,
 - b. each of the sanitation-related outcomes below;
- (ii) The impact of different sanitation technologies and of alliances for sanitation on:
 - a. local water resources and their household uses, especially from sanitation technologies that most effectively reduce water resource contamination;
 - b. the quality of the physical conditions and total economic costs (for both the Government and households) of the systems ;
 - c. the time required to complete an installation;
 - d. the level of sustained sanitation behavior over time;
 - e. intra-household time allocations from sustained sanitation behaviors over time.

It is expected that by enabling municipalities to have well-structured and functioning WSS units, the quality of the technical assistance provided to communities within the municipal territory should be higher, and therefore, the WSS services in those communities should be better and more sustainable. In addition, it is also expected that by preserving quality of sanitation facilities over time, behavioral changes can be achieved and reflected in shifts in intra-household labor and time allocations. The evaluation will also explore heterogeneity in individual impacts depending on gender and ethnicity, and in household level impact, depending on the gender and ethnicity of the household head. Finally, heterogeneous impacts depending on the fraction of women in CAPs will be further analyzed to better understand the relationship between female participation and WSS outcomes. The research questions linked to these areas focus on:

- Is sustainability of WSS systems and services linked to changes in intra-household time allocation? How do these changes affect indigenous or female-headed households?
- What is the marginal contribution of municipal strengthening to the sustainability of WSS systems?
- What is the effect of municipal strengthening in ensuring sustainability of sanitation facilities' quality?
- Does sustainability in the quality of sanitation facilities and services lead to improved growth trajectories of children less than 5 years old in affiliated households?
- Does sanitation alliances combined with sanitation facilities affect sanitation behaviors over time?

³⁰ Using sanitation markets approach.

³¹ Sustainability (or functionality) of the WSS systems will be calculated using the SIASAR indexes, and other methodologies tested internationally that incorporates reliability, O&M, and financial, environmental and institutional sustainability in its proposed functionality ranking.

- What is the marginal contribution of sanitation alliances, sanitation technology and municipal strengthening in fostering sustainability of use and quality of sanitation facilities over time?

Methodology. The evaluation will measure externalities of sustainable WSS service provision by assessing the impact on communities involved in the Project against other communities not affiliated with the Project. The proposed evaluation will leverage FISE’s plans to phase-in the implementation of sub-projects financed by the Project by randomizing the rollout of municipal strengthening activities, and also randomizing the rollout of the sanitation alliances and technology options delivery. By the end of the study, all participant communities will have received the intervention packages, although the order in which participants receive the intervention is determined at random. Treatment arms will be separated according to the levels of interventions. From that point on, municipalities and communities will receive packages of interventions that will be assigned randomly from the universe of eligible communities. For this universe the random assignment will use a step wedge design for allocating a) capacity building resources to municipalities, b) sanitation options for households and c) sanitation alliances.

Table 1C.1: Treatment Groups for Impact Evaluation

Comparison groups	Base funding for rehabilitation/construction (expanded coverage)	Capacity Building in WSS (Municipal level)	Sanitation options (community/household)	Sanitation Alliances (Community)
Full Treatment (T1)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Partial Treatment (T2)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Partial Treatment (T2)	<input type="checkbox"/>	<input type="checkbox"/>		
Control (C)	<input type="checkbox"/>			

Community and household surveys will be collected at baseline, follow up and end line points on infrastructure, demographics, defecation and sanitation habits, children’s growth trajectories, intra household time allocations, price / cost share paid by household, time required to complete the installation, and perceptions of WSS service quality. The community information will be geo-referenced to match them with the SIASAR data. To avoid selection biases, randomization will be used to establish the order in which communities will incorporate sanitation alliances activities and technology options. The randomization will allow creating treatment arms and control groups necessary to assess the effect of the interventions and sub-components of the sub-projects for both interventions’ time periods and for control time periods, in order to isolate the effects to particular outcomes. To increase efficiency of impact estimates and to minimize the potential attrition of communities, communities will be matched into pairs using key baseline characteristics available through the SIASAR and Project information from FISE. Because of the oversampling and extensive lists of communities that are expected to be eligible for funding of WSS with the Project, the step periods will allow replacement of communities in order to minimize biases that might pose risks into the external validity. A full description of the impact evaluation proposal can be found in the Project files.

Annex 2: Detailed Project Description

Nicaragua: Sustainable Rural Water Supply and Sanitation Sector (P147006)

1. The proposed operation will assist the Republic of Nicaragua to increase access to water and sanitation services in rural areas of the country; in particular by helping it to deliver these services in a sustainable way. The Project's scope goes beyond the implementation of works sub-projects, and aims at improving the sustainability of the rural WSS sector as a whole - with the objective of providing more people in Nicaragua quality access to WSS services that are affordable, tailored to their context, and lasting.

2. To this end, the Project will include concrete measures to enhance the stewardship role of the country's leading rural WSS agency, strengthen Nicaragua's rural WSS sector structure at its different levels (national, municipal and local), and increase sustainable WSS coverage, with a particular focus on those municipalities and communities showing lowest coverage and highest poverty rates. In this sense, the Project is also aligned with the World Bank's twin goals of ending extreme poverty at the global level by 2030 and to promote shared prosperity in developing countries³². Firstly, the Project aims to reduce extreme poverty through the provision of basic services in the poorest rural areas of Nicaragua, based on a funds allocation formula that prioritizes municipalities with higher levels of extreme poverty and lower WSS coverage: provision of WSS services, and in particular the Project's special focus on sanitation, is expected to tackle poverty in these areas by reducing the economic burden of ill health. Secondly, the Project is expected to promote shared prosperity for the country's poorest 40%, by strengthening rural WSS institutions nation-wide so that all rural inhabitants reap the benefits of better organized and sustainable service provision, including Nicaraguans who already have access to water and sanitation but should experience improved service quality and better service options. For this purpose, the operation will finance activities aimed at strengthening of the rural WSS sector institutions in terms of building national and sub-national capacity, planning and coordination mechanisms, including at the community and municipality levels (Component 1); will undertake investment to increase sustainable access to water and sanitation services in the country's rural areas, including the Pacific, Center and North regions, the country's two autonomous regions on the Caribbean Coast, and Alto Wangki y Bokay (focusing funds on municipalities with the lowest levels of coverage and highest poverty rates); and in addition, promoting an alternative sanitation markets approach to foster sanitation at low (or zero) subsidy rates throughout the country (Component 2); and will develop a series of pilots to address sector challenges and establish best practice models of intervention (Component 3).

3. The following section provides further details on the Project's components and sub-components. Amounts show total component costs with credit/grant proceeds in brackets.

4. **Component 1: Strengthening the Rural Water Supply and Sanitation Sector (US\$7.00 million)**. This component will finance the following sub-components:

5. ***Sub-component 1.1: Institutional Strengthening of the Rural Water Supply and Sanitation Sector (US\$1.4 million)***. This sub-component will (i) support FISE in the articulation

³²World Bank Group Annual Report 2013: "End extreme poverty. Promote shared prosperity".

and harmonization of policies, norms, planning instruments, and approaches to enhance institutional coordination at national, municipal, regional and community levels (including through, *inter alia*, the carrying out of sector workshops, knowledge-sharing activities, and communication campaigns); (ii) support the development of PISASH's rural component through the provision of technical assistance (including studies for identification of coverage gaps, needs for institutional strengthening in different sector institutions, development of sector financing policy, development of a strategy for prioritization of investments, etc.); (iii) (a) strengthen FISE's capacity to lead the water supply and sanitation sector, through the provision of technical assistance and training; (b) support the development of a plan for the internal re-organization of FISE, including analysis of mitigation measures for potential social impacts; and (c) upgrade FISE's office equipment and carry out minor civil works for refurbishment of office space; (iv) support FISE in the preparation, consolidation, and dissemination of instruments to promote international best practices on water supply and sanitation sector harmonization (including review and improvement of existing tools, such as MEPAS, PGC, technological options, etc).

6. Sub-component 1.2: Strengthening of an Integrated Structure for Sustainability of Rural WSS services - "sustainability chain" (US\$2.9 million). This sub-component will: (i) support the preparation of rural water supply and sanitation plans for Municipalities, and territories located in the Alto Wangki y Bokay Area, which plans shall include, *inter alia*, an assessment of the needs related to training, equipment, staffing, institutional strengthening, capacity building, and investments, of said Municipalities and territories, all selected pursuant to the criteria set forth in the Operational Manual; (ii) support the institutional strengthening and capacity building for the WSS sector of selected UMAS³³, the governments of the RAAN and RAAS, and the territorial authorities in the Alto Wangki y Bokay Area; (iii) support the capacity building and training of selected CAPS³⁴, and selected communities that are not benefitting from the investments under Part 2 of the Project and which meet the criteria set forth in the Operational Manual (in communities that receiving works under Component 2, capacity building is integrated into the project cycle); (iv) support the strengthening of coordination mechanisms between FISE and sub-national stakeholders; and (v) support the strengthening of SIASAR (the rural water and sanitation information system shared by Nicaragua, Panama and Honduras, *Sistema de Información de Agua y Saneamiento Rural*) through provision of data collection equipment, dissemination, coordination activities amongst sector institutions, and support to Municipalities and other stakeholders for the improved access and use of SIASAR. Together, these activities should strengthen the sustainability chain in an 'integrated' manner, meaning improving capacity and coordination at all levels, both vertically (between FISE and sub-national stakeholders) and horizontally (between the different sub-national stakeholders). The capacity building under parts (ii) and (iii) may involve the development of a systematic training program and incentive system for well-performing CAPS and UMAS, pursuant to criteria set forth in the Operational Manual.

7. Sub-component 1.3: Project Management, Monitoring, and Evaluation (US\$2.7 million). This sub-component will support FISE for: (i) the implementation, monitoring and

³³ The term "UMAS" indistinctly refers to municipal and/or territorial WSS units in different regions of the Republic of Nicaragua, referred to as UMAS, UMASH, or UTASH.

³⁴ The term "CAPS" indistinctly refers to CAPS and UCASH.

evaluation of the Project, including support for its overall reporting responsibilities under the Project; (ii) the carrying out of (A) technical and procurement audits of the Project; (B) a Project evaluation; and (C) the IAPPF, the RPF, and the ESMF.

8. **Component 2: Increase sustainable WSS coverage in rural areas (US\$21.0 million):**

On the basis of the municipal and/or territorial plans for rural WSS developed under sub-component 1.2, this component will support the increased coverage of rural WSS services through the financing of sub-projects to provide technical solutions and level of service tailored to each beneficiary³⁵ community. Sub-projects will finance works and tools for their operation and maintenance, including construction or rehabilitation of WSS systems, installing equipment in water systems, water quality improvements, and sanitation solutions. The investments will be made using a community driven approach and the entire project cycle, including formulation, execution, supervision, post-works accompaniment, and technical and social aspects, will be financed. The Operations Manual will define percentages of counterpart financing and subsidy levels depending on the characteristics of communities, infrastructure systems, and the nature of the intervention (new works, rehabilitation or expansion), as explained in Box 2 below. Regarding sanitation, the Project will provide demand-driven infrastructure and support household visits and hygiene training as part of the regular sub-project cycle and sanitation marketing options (consisting of: (i) ventilated improved pit (VIP) latrine; (ii) rural toilet 1 (*inodoro rural 1*), which is a toilet connected to an absorption well; (iii) rural toilet 2 (*inodoro rural 2*), which is a toilet connected to a septic tank; and (iv) rural toilet 3 (*inodoro rural 3*), which is a toilet connected to a septic tank with an ascending-descending filter). All investments will follow the principles and funds allocation mechanisms defined in the MEPAS, which will be updated to: (i) include lessons learned from PRASNICA in the overall project cycle, (ii) introduce pro-poor eligibility criteria and increase the relative weight of sanitation within the funds allocation mechanism, and (iii) include the sanitation markets approach in the list of interventions.

9. ***Sub-component 2.1: Increase Sustainable Water and Sanitation Coverage in the Pacific, Center, and North regions (US\$10.0 million with US\$1.0 million as counterpart funds from municipalities).*** This sub-component will support Eligible Municipalities in the Pacific, Center, and North Regions to increase coverage of WSS services in their rural areas through the carrying out of Subprojects. Around 65 municipalities will be supported with priority given to those with greater poverty indices (as per INIDE data) and greater coverage deficits.

10. ***Sub-component 2.2: Increase Sustainable Water and Sanitation Coverage in the Atlantic Regions and Alto Wangki y Bokay (US\$10.0 million with US\$1.0 million as counterpart funds from municipalities).*** This sub-component will support (i) Eligible Municipalities in RAAN and RAAS to increase coverage of WSS services in their rural areas through the carrying out of Subprojects; and (ii) communities in the Alto Wangki y Bokay Area, to increase coverage of WSS services in their rural areas through the carrying out of Alto Wangki and Bokay Investments. Around 20 municipalities will be supported with priority given to those with greater poverty indices (as per INIDE data) and greater coverage deficits.

³⁵ Criteria for selection of beneficiary communities are described in Annex 2 and will be reflected in the MEPAS.

11. **Sub-component 2.3: Alliances for sanitation (US\$1.0 million).** Given the country’s low sanitation coverage, the Project will support the development of a sanitation program for the creation of enabling conditions and social mechanisms to allow families to purchase sanitary facilities. This sub-component will design and implement a strategy (which includes, *inter alia*, the carrying out of a communication campaign) to support the implementation of FISE’s sanitation marketing program in Selected Municipalities, which program consists of, *inter alia*, providing financial access to households to acquire sanitary equipment and to improve sanitary facilities. This approach was piloted under PRASNICA and its methodology creates enabling conditions and social mechanisms to allow families to purchase sanitary facilities, focusing on both demand and supply sides of a sanitation market (thus the name “alliances”). On the demand side, the program provides households with information, social counseling and access to micro credits; on the supply side, the program seeks to create an efficient and sustainable supply chain of sanitation facilities to serve the different segments of the non-poor and poor population. The sanitation markets model also leverages financial resources from local financial markets and municipal budgets for water and sanitation, and promotes research and development of resources from the private sector to continue delivering better suited sanitation technologies. The methodology has been applied in more than 12 other countries world-wide, and was customized in the context of PRASNICA to fit the Nicaraguan context, where it is named Alliances for Sanitation. In the Nicaraguan model, instead of relying on NGOs or private companies to carry out the alliances between households, financial institutions and sanitation suppliers, the municipalities, supported by FISE, take on this role. The component will take advantage of the tools developed in the PRASNICA pilot project, such as technical catalogs, micro finance procedures, training methodologies, and publicity instruments. Moreover, the experience of engaging private companies in this approach at national level, which was developed in the PRASNICA pilot, will be used as a basis for scaling up. The Bank, in particular WSP, will continue to give technical assistance for the scaling up of the Sanitation Alliances sub-component, in close collaboration with the International Finance Corporation. This sub-component will be implemented in around 20 municipalities different from the ones receiving 90% subsidy (sub-components 2.2 and 2.3) – primarily in municipalities in the Pacific, Center, and North regions that fall outside of the pro-poor selection criteria. Participating municipalities will be selected during implementation pursuant to criteria in the Operations Manual.

12. **Prioritization and eligibility criteria for interventions.** Funds under sub-components 2.1 and 2.2 will be allocated according to a mechanism which focuses interventions on municipalities presenting extreme poverty rates above 40% (according to INIDE data) and low coverage of water and sanitation services (Box 1). Municipalities will choose beneficiary communities following their municipal planning cycle, taking into consideration their municipal plans (developed under sub-component 1.2), and prioritizing funds for those communities least benefitted by previous programs³⁶ and presenting greatest deficits in terms of coverage. Additional details for selecting municipalities are included in the MEPAS. In the case of Alto

³⁶Communities already being served with funding from the Swiss Cooperation and/or other donors will not be prioritized, although the municipalities within which they are located will still be eligible. Exceptions may apply for parallel financing of multiple donors at the same community, which will be detailed in the MEPAS.

Wangki y Bokay where there are no municipalities, a specific amount will be allocated to this area (around US\$1 million).

13. A menu (Box 2) defines the level of counter-part funding from the community, municipality and national Government, including donors, for interventions at the community level according to the type of investment and situation of the WSS system (or lack of it), in a way to foster sustainability and prioritize funds to the most needed communities. All communities supported by the Project will have their water and sanitation needs fully met, following the concept of ‘integrated projects’. The funds allocation mechanisms for the Project are further described in Boxes 1-2. In the case of Alto Wangki y Bokay where there are no municipalities, there will be no municipal counterpart financing (third column of Box 2), but the beneficiary communities will be expected to provide in-kind counterpart contributions in line with the standards defined in the MEPAS (second column of Box 2). The details of mechanisms by which communities provide in-kind counterpart contributions and participate in the project cycle are detailed in the MEPAS and the community driven development (CDD) manuals for the Pacific and the Atlantic regions (*Manual PGC, Manual PGC Indígena*), which are all part of the Project’s Operations Manual. Annex 3 provides additional details on the CDD methodology.

14. **Sanitation investments under the Project.** With the intent of reducing the coverage gap, sanitation activities will receive special attention from the Project, as follows: (i) the funds allocation formula benefits municipalities with higher coverage gaps in terms of water (60%) and sanitation (40%); (ii) all sub-projects must have an integrated final outcome, meaning covering community needs at 100% in water and sanitation; (iii) communities located in the poorest municipalities will receive sanitation solutions at 90% subsidy; in other selected municipalities (that present less than 40% of extreme poverty), households will have the opportunity to access sanitation (or improve its level of service) through the alliances for sanitation sub-component.

15. In terms of sanitation technologies, FISE has improved the technology applied in the last years, and will promote in the Project a sanitation solution named “inodoro rural”, which has been analyzed and vouched for by the Bank (through WSP) and by INAA. This sanitation solution (in three different options) takes into account not only hydraulic calculations and health concerns of waste water treatment, but also environmental aspects such as the depth of the water table, the proximity to underground water sources, and soil permeability. This new solution will be promoted by the Project, together with other alternatives included in FISE’s menu of sanitation solutions, which also includes a solution related to condominium sewer technology. All sanitation solutions to be financed by the Project will include hand-washing facilities. For the Caribbean coast areas, a customized menu of sanitation solutions is being developed and is expected to be ready for implementation under the Project. Technical solutions will also be discussed with communities and regional and territorial Governments to ensure their cultural adequacy. The social assistance activities will also include strengthening of local capacity for technology absorption and hygiene practices.

Box 1
“ELIGIBILITY CRITERIA AND TARGETING OF FUNDS”
Municipal Eligibility Criteria and Funds Targeting Criteria

The selection of municipalities and prioritization of funds criteria follows the public policy guidelines set by the RoN, recognizing that the logic for funds allocation should not be governed solely by efficiency, but also by the impact that these funds can have in reducing coverage gaps. These criteria aim to concentrate funds in municipalities with the highest levels of poverty, and prioritize increasing access to sustainable WSS in rural communities with the largest coverage deficits, giving special attention to the communities of the Caribbean Coast, which are more culturally sensitive, vulnerable to natural disasters, and present greater coverage gaps and lower income level. Thus, the **Project will focus the component 2.1 and 2.2 investments in municipalities with extreme poverty exceeding 40% (as per INIDE data).**

After defining the prioritized municipalities in each region (or sub component), the investment funds will be distributed 50% to the Caribbean Coast and 50% for the Pacific, Center and North regions. The funds’ distribution formula among selected municipalities was designed to concentrate funds in those municipalities having a higher level of rural households without access to improved WSS services and a higher number of people living in extreme poverty (calculated at municipal level), as follows:

$$\text{Funds}^1 = 50\% \times (60\% \text{ HWW} + 40\% \text{ HWS}) + 50\% \times (\text{IEP})$$

Where:

- HWW is the index of rural **H**ouseholds **W**ithout potable **W**ater by municipality²,
- HWS is the index of rural **H**ouseholds **W**ithout **S**anitation by municipality³,
- IEP is the **E**xtr^em^e **P**overty rate by municipality⁴.

¹Funds assigned for each municipality prioritized by the ‘40% population in extreme poverty’ criteria.

²Calculated by dividing the number of rural households without potable water in the municipality by the total number of rural households without potable water in all eligible municipalities. Source: INIDE, until SIASAR data collection has been completed and made official.

³ Calculated by dividing the number of rural households without access to sanitation in the municipality by the total number of rural households without access to sanitation in all eligible municipalities. Source: INIDE, until SIASAR data collection has been completed and made official.

⁴ Calculated by dividing the number of people living in extreme poverty in the municipality by the total number of people living in extreme poverty in the all eligible municipalities. Source: INIDE.

Box 2
“ELIGIBILITY CRITERIA AND TARGETING OF FUNDS”
Menu of Community-Level Interventions and respective counter-part funds

Source of financing / Type of expenditure		Community / CAPS (resources from tariffs, community contribution, etc.)	Municipality	National Government (including donors’ funding)
Technical and social activities (pre-investment)	Basic studies, engineering designs, social assistance to communities	Not financed	Participates and supports specific activities depending on their capacity.	Yes, in general
Investments	New WSS system and/or rehabilitation of old systems (more than 10 yr. old)	Low-level of counterpart funding:	10% of counterpart funding	Very high-level of funding (new systems are Government priority)
	WSS service expansion or change of system	Medium-level of counterpart funding	10% of counterpart funding	Medium-level of funding
	Change of level of service (change of system)e.g. isolated well to well with pump and network	High-level of counterpart funding	Finances the balance uncovered by the community	Partially funding if investment exceeds the municipality’s payment capacity
	Major rehabilitation due to poor O&M (WSS systems with less than 10 yr. old)	High-level of counterpart funding	Finances the balance uncovered by the community	Partially funding if investment exceeds the municipality’s payment capacity
	Minor rehabilitation (< 50% of works)	Very high-level of counterpart funding	On exceptional cases (vulnerable and low-income communities), finances balance uncovered by community	Not eligible
Operational Costs	O&M	Full counterpart funding	Not eligible	Not eligible

(note: specific figures of counter-part funds percentages will be defined in the MEPAS; however, they will range approximately as follows: low-level of counter-part: 0% to 10%; medium-level: 10% to 30%; high-level: 20% to 80%; very-high level: up to 100%.)

16. **Component 3: Innovations in rural water, sanitation and hygiene (US\$2.00 million):** this component will support developing, carrying out, monitoring and evaluating Pilot Subprojects aimed at testing new approaches to enhancing the sustainability of rural water supply and sanitation investments in the areas of water quality; resilience to climate change and natural disasters; operation and maintenance strategies; and innovative technologies for rural WSS access, all in selected Municipalities. There are several dimensions of sustainability of rural WSS investments that are essential to providing an enabling environment for WSS systems that last longer and ensuring good WSS service quality for the population. In the rural context of Nicaragua, these key dimensions are: water availability, water quality, resilience to climate change and natural disasters, operation and maintenance strategies (which includes proper selection of investments and community participation), and innovative technologies for rural WSS access. The Pilot Subprojects will be selected based on: (i) use of a new approach in one or more of the dimensions with a need for testing and consolidation before scale up, thus ensuring an important contribution to sustainability of rural WSS investments; (ii) generation of opportunities for learning and replication; (iii) lack of other funding by Government or other donors; (iii) estimated cost of the Pilot Subproject, which cannot exceed the available budget of the component under the proposed Project; and (iv) compliance with the proposed Project's technical, social and environmental aspects. These criteria will be further detailed in the Operations Manual. The Pilot Subprojects will finance technical assistance, training, and/or rural WSS works and related equipment and will be properly developed, monitored and evaluated, so the pilots may then be further improved and replicated. Possible activities may include (but not limited to): (i) training of youth in social accompaniment of rural WSS sub-projects, including water board administration, hygiene practices and operation and maintenance of WSS systems; (ii) preparation of climate change vulnerability studies in selected municipalities, following the methodology piloted in the PACCAS; and (iii) solar energy pilot projects for water systems.

17. **Component 4: Contingent Emergency Response (IRM CC) (US\$0.00):** this component will support Nicaragua to improve its capacity to respond promptly and effectively to emergencies by providing immediate response to an Eligible Emergency, as needed. This component is only triggered once an emergency occurs, hence its zero allocation.

18. The Project's IRM CC will finance public and private sector expenditures on a positive list of goods, both domestic and imported, and/or specific works, goods, services (including audit costs) and emergency operation costs required for Nicaragua's emergency recovery. These expenditures will need to be in accordance with OP 10.00 and will be reviewed and found to be acceptable to the Bank before any disbursement is made. The positive list will be defined in a specific IRM Operational Manual (see par. 19), but it may include, *inter alia*: (i) construction materials and industrial machinery; (ii) water, land and air transport equipment, including supplies and spare parts; (iii) school supplies and equipment; (iv) medical supplies and equipment; (v) petroleum and fuel products; and (vi) communications equipment. Other eligible expenditures to be defined in the Operational Manual could include: (a) *for specific works*³⁷: activities to mitigate the risk associated with the disaster and minimize suffering of the affected population (including urgent infrastructure works, repairs, rehabilitation, construction; (b) *for*

goods: construction materials and equipment, telecommunication equipment, and , agricultural inputs (excluding pesticides) among others; (c) *for services*: studies (technical, social, environmental, and feasibility assessments, and others necessary to assess the effects of the disaster and identify priority works), or delivery of related analyses; and (d) *for emergency operation costs*: incremental expenses (such as additional transport costs, increased electricity bills for the public sector, staff overtime, and rental of light and heavy machinery).

19. An Operational Manual will be prepared describing the actions to be taken by the Government if a crisis or emergency occurs. In Nicaragua's case, the definition and the declaration of emergency procedures as described in the SINAPRED Law (Law 337-2000, especially Article 23 and 24) will be followed. The Manual will also describe the country's Coordinating Authority; the roles and responsibilities of implementing and oversight bodies in the context of emergency response and the Project's CERC; arrangements on procurement, financial management, safeguards, and disbursements; eligible expenditures; and the M&E and reporting arrangements. The Bank's corporate policies on FM, procurement, safeguards and disbursement will apply, with the added flexibility provided under OP 10.00. The Manual will be referred to in the Financing Agreement (FA) and will be reviewed and cleared by Legal, Procurement, FM, CTR, and safeguards staff before it is submitted for Country Director's approval. All periodic updates to the Manual undertaken to reflect evolving country conditions, will be subject to "no objection" of the Bank. (For more information, see the IRM Operational Manual).

20. **The World Bank, FISE, and the Swiss Cooperation have put together a program of technical assistance that complements the proposed Project's activities in support of the consolidation of Nicaragua's rural WSS sector.** This technical assistance program is already under implementation and its on-going activities helped to assess the current status of the WSS sector, the performance of PRASNICA and thereby, inform the Project's design. The Program will continue throughout Project implementation, complementing Project-supported activities, in particular those related to institutional strengthening within the sector. The technical assistance program comprises a technical assistance activity to be financed and led by WSP (NLTA *Strengthening Rural WSS Sector Institutional Policy and Planning Capacity in Nicaragua*, P132171), and includes the following:

- *PISASH rural component development*: although the PISASH includes a rural WSS component, it still needs to be deepened in order to become a strategic plan for rural WSS to guide the Sector efforts for the next 20 years. This activity will follow a participative process to support FISE and the relevant institutions active in the Sector to take as starting point the rural part of the PISASH and from there, develop a complementary document in the format of a rural WSS mater plan. The preparation and implementation of the recommendations resulting from this activity will be supported jointly by the Project and the technical assistance program.
- *FISE internal re-organization*: to optimize is resources and strengthen its capacity to manage the rural WSS sector in an efficient and coordinated way, FISE has asked Bank support to develop a proposal for its re-organization. The design and development of this study will be supported by the Project, and complemented as needed by the technical assistance program. The study should include recommendations to mitigate any potential social impacts of the reorganization.

- *Sustainability Analysis (on-going)*: a quantitative analysis based on the SIASAR data to provide a diagnostic of key strengths and weaknesses of rural WSS sub-projects in Nicaragua, and assess the impact of sub-project characteristics on service sustainability. This analysis will serve to inform the MEPAS update and future sub-project design.
- *Rural WSS Performance Assessment (on-going)*: a qualitative and quantitative assessment of the rural WSS subsector service delivery pathway performance in delivering the National WSS targets, applying the Monitoring Country Progress in Rural Water and Sanitation (MAPAS, P132281) methodology to the rural subsector. The results will also inform the MEPAS review and the PISASH rural component development.
- *Sustainability chain cost analysis (on-going)*: a quantitative cost-efficiency analysis of the rural WSS subsector sustainability chain, including the recurrent cost to strengthen and sustain the support structure at national, departmental, municipal and community level, and the operating cost to mainstream administrative, technical and social assistance across all levels. This analysis is expected to support the RoN to adequately plan and allocate funds for the well-functioning of the Sector.
- *Monitoring Project contribution to targeting the World Bank corporate twin goals (on-going)*: the incorporation of pro-poor parameters in the funds focalization criteria for rural communities will enable the team tracking the Project's contribution to increasing access to sustainable WSS services of the bottom 40% in rural areas of Nicaragua, and so towards the achievement of the corporate twin goals.

21. The value added of having these technical assistance activities financed and led by the Bank is due to the leverage of international expertise and the Bank's quality control. This also promotes visibility that leverages complementary funding from other donors, such as the Swiss Cooperation.

22. A full cost table for the Project's components is provided in Table A.2.1 below.

Component	IDA Funding (US\$)	Municipal counterpart Funding (US\$)	Total
TABLE A.2.1			
Component 1 Strengthening the rural water supply and sanitation sector (US\$7M)			
Sub component 1.1 Institutional strengthening of the rural water supply and sanitation sector (US\$ 1.4M)			
Activity 1: articulation and harmonization of policies, knowledge sharing, instruments	450,000.00	0.00	450,000.00
Activity 2: implementation of the rural WSS strategy	50,000.00	0.00	50,000.00
Activity 3: strengthening FISE’s capacity	900,000.00	0.00	900,000.00
Sub component 1.2 Strengthening of an integrated structure for sustainability of rural WSS services - “sustainability chain”(US\$2.9M)			
Activity 1: preparation and implementation of municipal and/or territorial plans for rural WSS, institutional strengthening of UMAS	1,000,000.00	0.00	1,000,000.00
Activity 2: institutional strengthening of regional and territorial Governments	300,000.00	0.00	300,000.00
Activity 3: capacity building of CAPS	370,000.00	0.00	370,000.00
Activity 4: coordination mechanisms (FISE and sub-national actors), ARAS, SIASAR	1,230,000.00	0.00	1,230,000.00
Sub component 1.3 Project management, monitoring, and evaluation(US\$2.7M)			
Activity 1: operating costs of implementing agency, Project assessment	1,520,000.00	0.00	1,520,000.00
Activity 2: audit services	480,000.00	0.00	480,000.00
Activity 3: safeguards implementation	700,000.00	0.00	700,000.00
Component 2 : Increase sustainable WSS coverage in rural areas (US\$21M with US\$2M as municipal counterpart financing)			
Sub component 2.1 Increase sustainable water and sanitation coverage in the Pacific, Center, and North regions(US\$10M with US\$1M as municipal counterpart financing)			
Activity 1: technical and social support, works supervision	3,000,000.00	0.00	3,000,000.00

Activity 2: works ³⁸	7,000,000.00	1,000,000.00	8,000,000.00
Sub component 2.2 Increase sustainable water and sanitation coverage in the Atlantic regions and Alto Wangki y Bokay(US\$10M with US\$1M as municipal counterpart financing)			
Activity 1: technical and social support, works supervision	3,000,000.00	0.00	3,000,000.00
Activity 2: works	7,000,000.00	1,000,000.00	8,000,000.00
Sub component 2.3 Alliances for sanitation(US\$1M)			
Activity 1: Technical assistance on designing and planning of sanitation interventions in each location	657,600.00	0.00	657,600.00
Activity 2: training, logistical equipment and workshops for capacity building of municipalities to run local sanitation committees	252,400.00	0.00	252,400.00
Activity 3: supporting promotional and communications campaign, publications and awareness raising for communities, providers, and other actors	90,000.00	0.00	90,000.00
Component 3 Innovations in rural water, sanitation and hygiene (US\$2M)			
Pilot project 1	500,000.00	0.00	500,000.00
Pilot project 2	500,000.00	0.00	500,000.00
Pilot project 3	500,000.00	0.00	500,000.00
Pilot project 4	500,000.00	0.00	500,000.00
Component 4: Contingent Emergency Response (US\$0M)			
<i>Subtotals C4</i>	0.00	0.00	0.00
GRAND TOTAL	30,000,000.00	2,000,000.00	32,000,000.00

³⁸This will further include in kind contributions from communities (from 0% to 100%, depending on the type of intervention – please see Annex 2). The in kind amounts are not included here since they are not financial.

Annex 3: Implementation Arrangements

Nicaragua: Sustainable Rural Water Supply and Sanitation Sector (P147006)

Project Institutional and Implementation Arrangements

1. The Emergency Social Investment Fund (FISE), as the governmental body in charge of investments and management of the rural WSS sector at the national level, will be responsible for implementation of the proposed Project. FISE is currently the implementing agency of the PRASNICA. FISE implements rural WSS projects funded mainly by donors, with guidance and financial support from the Ministry of Finance (MHCP) and the Ministry of External Affairs. FISE was created in 1990 to build emergency multi-sector infrastructure in the country. FISE has acquired a recognized role at the head of the sector, supported in this capacity by a valid legal mandate and by a technical capacity developed through its experience as implementing agency of the World Bank's rural WSS projects. To better respond to FISE's increasing role in the sector, the Project will strengthen FISE in several ways, including by supporting several capacity building activities in coordination with WSP-financed technical assistance (NLTA *Strengthening Rural WSS Sector Institutional Policy and Planning Capacity in Nicaragua*, P132171).

2. Project implementation will be carried out by FISE as a whole, in FISE's line units rather than through a dedicated Project Implementation Unit (PIU), as for PRASNICA. As such, overall planning and Project leadership will continue to be undertaken by the Direction of Intuitive Development. FISE has a formal Rural Water and Sanitation Bureau at the national level (OASH), which includes specialized staff working on WSS-related themes and policies, including the Regional WSS Advisors, who are responsible for promoting the sector work (creation and strengthening of UMAS, updating of SIASAR, promotion of MEPAS, etc.) at the municipal level. FISE also has a Bureau of Regulation, Investigation and Development (ORID), which is responsible for all capacity building at local level (municipalities and CAPS) and also leads the overall coordination with the Caribbean Coast. The coordination of the investment activities will be undertaken by the Direction of Operations. Fiduciary and safeguard functions will continue to be carried out by the line units within FISE. Although a restructuring of FISE may occur in the coming months, it is not expected to negatively affect Project implementation, since the responsibility for carrying out the Project activities would lie with the "new" line units (and/or departments, directorates) of the Institution.

3. FISE will have sole responsibility for implementation of Component 1 (institutional strengthening) in collaboration with WSS Sector support institutions. Component 3 (pilot projects) will also be implemented directly by FISE, in coordination with eligible municipalities and WSS sector institutions, as applicable. However, depending on the nature of the pilot subproject, FISE may delegate implementation responsibilities (including financial management and procurement) to participating municipalities for certain activities.

4. Implementation of Component 2 will be undertaken by FISE in partnership with municipalities, and will follow a participatory project cycle. While the implementation arrangements for Components 1 and 3 are generally centralized in FISE with some support from other sector actors (Table A3.1, below), the integrated interventions for increasing WSS coverage under Component 2 have more sophisticated arrangements that aim at preserving a participatory project cycle and consolidating the sustainability of the interventions at the local

level. Global experience clearly shows that local governments have a crucial role in post construction sustainability, and the Project takes into consideration this approach, particularly in its Component 2. In Component 2 activities, contracting and execution of works will be delegated to the municipalities, while the preparation of basic technical studies and engineering designs will be led by FISE's Direction of Operations³⁹ (due to its higher technical capacity), and developed in close coordination with the municipalities to develop local capacity. In some cases, the municipalities may also delegate the works to the communities, through the *Proyectos guiados por la comunidad* (PGCs or CDD methodology). With the objective of promoting higher ownership and sustainability of the investments and furthering technical assistance support, the basic technical studies and engineering designs will also be delegated to the municipalities in a sample of municipalities with diverse institutional capacities (duly trained, supported and supervised by FISE). This pilot arrangement will be reviewed by the Project's mid-term review in order to decide if it should be scaled up or not.

5. Component 2 activities will be implemented through transfers from FISE to the municipalities, and in some cases, from the municipalities to the communities. This will be regulated through *convenios* (agreements) and the funds will be non-reimbursable (grants). Although municipalities may be in charge of procurement and financial management of certain activities at municipal level, the overall fiduciary responsibility of the Project lies with FISE. In exceptional cases, FISE may carry out centralized process for the procurement of works on behalf of municipalities, upon the Bank's No Objection.

6. In terms of social support, social interventions in the MEPAS project cycle focus on three main topics: community participation in the sub-project design and execution, set-up and training of the CAPS, and community-wide activities on hygiene and sanitation promotion. This support will be carried out by FISE staff, complemented by social consultants. FISE will enhance its group of social specialists and create a special unit to host this group in an organized and systematic way. The institutional location of this group is pending FISE, but they will be placed temporarily in the ORID. This group will also be in charge of the implementation of the Project's social safeguards. In the sample of municipalities selected to pilot the technical activities at municipal level, the social work will be implemented in the same manner as these technical activities (namely, municipalities will be in charge of the social accompaniment, duly trained, supported and supervised by FISE).

7. It is expected that individual consultants will be hired to strengthen FISE's WSS team under the Project, in particular to complement support the technical, social and fiduciary activities. The professional staff involved in Project implementation—whether existing or additional—will have qualifications and experience acceptable to the Bank according to the Project's Operations Manual. The Operations Manual will also specify the minimum staff required by FISE for Project implementation.

³⁹ The Direction of Operations will be strengthened by two specialized teams: (i) a highly specialized technical team (such as hydrogeology, electric engineer, etc.) will complement the current staff to support the development of the sub-projects in specialized tasks. The Direction will also be complemented by some leading engineers to be contracted by FISE (and placed into municipalities) to lead sub-project formulation in coordination with municipal staff; and (ii) an evaluation team, consisting of a group of engineers that will carry out quality control of designs, formed by FISE staff.

8. **Community execution – PGCs.** Communities will play an active role from the beginning of the sub-project cycle —making decisions on the service level and technical options during project preparation, participating in project construction, and managing the completed systems through the constitution of Water and Sanitation Committees (*Comités de Agua Potable y Saneamiento*, CAPS). FISE has an established tradition of having simple projects executed directly by the communities. This approach is named *Proyectos guiados por la comunidad* (PGCs), which is a classic type of Community Driven Development (CDD), and the methodology is clearly laid out in the MEPAS and in CDD manuals for the Atlantic and Pacific regions (*Manual PGC*, *Manual PGC Indígena*), which are all part of the Project’s Operations Manual. In CDD cases, the community manages the funds and contracts the works following simplified procurement procedures, which are part of the Operations Manual⁴⁰ and established in agreements with the Municipality (*convenios*). Under PRASNICA, this approach has yielded positive results in terms of community ownership and a faster implementation cycle. This Project will follow the same approach: for sub-projects below a certain cost ceiling⁴¹ and in communities having sufficient organizational capacity (as determined by a social diagnostic), the community itself will execute the sub-project with social and technical support from FISE and from the municipalities. The funds will be transferred from FISE to the municipalities and from the municipalities to the communities, following specific rules that will be defined in the respective agreements. In sub-projects with a higher cost, the regular approach of works contracted by municipalities (or FISE in particular cases) will be followed. In any modality, whether CDD or not, strong community participation will be preserved through systematic implementation of the MEPAS project cycle.

9. In the case of interventions in the RAAS and RAAN, under PRASNICA’s implementation arrangements, FISE, the regional Governments of RAAN and RAAS, and territorial authorities of Alto Wangki y Bokay created a Project Committee (*Comité de Proyecto*) that decided on selection of communities and implementation principles for the activities on these regions. The Project Committee is made up of representatives of the regional Governments, territorial Governments, municipalities (of RAAS and RAAN) and FISE. In the proposed Project, the same arrangement will be maintained, but the Project Committee will be split into three individual Committees: RAAS Project Committee, RAAN Project Committee and Alto Wangki y Bokay Project Committee. The key principles for the implementation of the activities in these: (i) Strong participation of local Governments (regional, territorial, and municipal) in selecting beneficiary communities; (ii) Use of an adapted sub-project cycle that takes into consideration the local culture and languages of the Caribbean Coast regions (referred as an annex of the MEPAS specifically developed and approved by the Caribbean Coast regions); (iii) Social and technical activities, capacity-building processes and hygiene promotion will use specific material and be carried out by local experts with understanding of local culture and languages; and (iv) Technical solutions will take into consideration local materials and local culture.

⁴⁰ The Project Operations manual includes a PGC Manual (already developed and in use by FISE); and for the sub-projects in indigenous communities, there is a specific PGC Manual (also already developed and in use by FISE).

⁴¹ Currently in PRASNICA, the PGC ceiling cost approved by the Bank is US\$ 120,000. This ceiling may be increased or decreased accordingly to periodic technical and fiduciary assessments carried out by the Bank, jointly with audits recommendations.

Table A3.1 Overview of Project Implementation Arrangements

Component	Technical and social activities^a	With Support from^b	Procurement and FM^c
Component 1: Strengthening of the rural water supply and sanitation sector			
<i>Sub-component 1.1: institutional strengthening of the water supply and sanitation sector at the national level</i>	<i>FISE</i>	<i>Other rural WSS sector institutions</i>	<i>FISE</i>
<i>Sub-component 1.2: Strengthening of an integrated structure for sustainability - “sustainability chain”</i>	<i>FISE</i>	<i>Municipalities, Regional and territorial Govs., and other Government Institutions</i>	<i>FISE</i>
<i>Sub-component 1.3: Project management, monitoring, and evaluation</i>	<i>FISE</i>	<i>Municipalities</i>	<i>FISE</i>
Component 2: Increase sustainable WSS coverage in rural areas			
<i>Sub-component 2.1: Sustainable WSS coverage increase in the Pacific, Centre and North Regions</i>			
<i>Consulting services (technical and social)</i>	<i>FISE^d</i>	<i>Municipalities</i>	<i>FISE</i>
<i>Works</i>	<i>Municipalities^e</i>	<i>FISE</i>	<i>Municipalities^e</i>
<i>Sub-component 2.2: Sustainable water and sanitation coverage increase in the Atlantic Regions and Alto Wangki y Bokay</i>			
<i>Consulting services (technical and social)</i>	<i>FISE^d</i>	<i>Municipalities in particular and Comité de Proyecto</i>	<i>FISE^d</i>
<i>Works (RAAS, RAAN)</i>	<i>Municipalities^e</i>	<i>Comité de Proyecto</i>	<i>Municipalities^e</i>
<i>Works (AWB)</i>	<i>FISE</i>	<i>Comité de Proyecto</i>	<i>FISE</i>
<i>Sub-component 2.3: Alliances for Sanitation</i>			
<i>Consulting services (technical and social) and works</i>	<i>FISE</i>	<i>Municipalities and other WSS institutions</i>	<i>FISE</i>
Component 3: Innovations in rural water, sanitation and hygiene			
<i>Consulting services (technical and social) and works</i>	<i>FISE</i>	<i>Municipalities and other WSS institutions</i>	<i>FISE^f</i>

a. Technical and social activities includes preparing Terms of Reference and bidding documents, reviewing the inputs of consultants, capacity building activities, training etc. Supervision of works will always rely on FISE.

b. Support means the following institutions will be asked to prepare or review draft Terms of Reference, contribute technically in procurement and financial management processes, but will not be making the final decision.

c. In all cases the overall final fiduciary responsibility lies with FISE.

d. In a sample of municipalities, technical and social activities will be delegated to the municipalities with support from FISE. Some basic studies, such as topography may also be delegated to the municipalities on specific cases.

e. On an exceptional basis, in municipalities with very low institutional capacity, contracting of works may be centralized in FISE.

f. Depending on the characteristics of the pilot project, FISE may delegate implementation responsibilities (including, *inter alia*, financial management and procurement responsibilities) for any of the pilot subprojects under component 3 to municipalities.

10. In the case of Alto Wangki y Bokay, considering the particular characteristics of this zone (for example, indigenous authorities replace formal municipal Governments, implementation of Component 2 activities will be carried out by FISE directly.

11. For sub-component 2.3 (alliances for sanitation), implementation will be centralized in FISE, and FISE will work in coordination with the eligible municipalities and WSS institutions as applicable.

Financial Management, Disbursements and Procurement

Financial Management

12. A financial management (FM) assessment was carried out to evaluate the adequacy of FM arrangements under the proposed IDA Credit/Grant. This assessment has been performed in accordance with OP/BP 10.00 and the Financial Management Manual for World Bank-Financed Investment Operations effective on March 1, 2010. The main conclusions are:

- Staffing. Currently, the Project's financial staff arrangements are considered satisfactory. Nevertheless, FISE may need some additional financial analysts given new activities.
- Accounting System. FISE keeps all its records and accounts in the institutionally developed financial system, SIAF, which has capability to register, verify, control and prepare financial statements and financial reports on the cash-based method of accounting. This system is different from the Government integrated financial system, SIGFA. The records will be centrally maintained registering the advances and the funds' execution (once the expenses' supporting documentation is received). All funds will be executed through FISE but it is also expected that fund transfers to the Municipalities will take place through specific Inter-institutional Agreements following the ongoing procedures in place for PRASNICA and PACCAS. For the municipal transfers, FISE through its *Unidad de Finanzas Municipales* (Municipal Financing Unit) will follow up on the funds transfers conveyed in the Inter institutional Agreement. The transfers are made in two tranches and FISE will receive and approve the first one, reviewing the supporting documentation in order to proceed with the following. If the documentation is not accurate, the Municipality has to complete or complement the documentation request to receive the second one. The auditors will review the original supporting documentation of these transfers in the Municipalities selected. Finally, according to the Inter institutional Agreement, each Municipality (and also each community, in the case of PGCs) selected will open a segregated account for the execution of the Project.
- Internal Controls. FISE has in place formal policies, procedures and an operational manual, and usually has a good compliance record.

13. The current Project Operational Manual in use for PRASNICA is being updated by FISE detailing the incremental FM procedures including budgeting, accounting, payments, support documentation, accounts reconciliation and financial reporting that will apply to the proposed Project. An acceptable draft Operational Manual was submitted to the Bank prior to negotiations and will be finalized by effectiveness.

14. **Project Financial Reporting.** FISE will be responsible for preparing financial information on a semiannual basis and submitting it to the Bank as Interim Financial Reports

(IFRs) containing: (i) Statement of Sources and Uses of Funds (with expenditures classified by disbursement category) and Cash Balances; (ii) Statement of Budget Execution (with expenditures classified by components). All documentation for consolidated Statements of Expenditures (SOEs) will be maintained for post review and audit purposes for up to three years after the closing date of the Project, or for 18 months after receipt by the World Bank of an acceptable final financial audit, whichever is later. The format of IFRs was approved before negotiations. During Project implementation, the IFRs will be submitted no later than 45 days after the end of each semester for the World Bank’s review. This review will enhance FM supervision, enabling periodic control over the proposed Project’s accounts, which would complement the planned supervisions, thus helping to mitigate fiduciary risk.

15. **Extended scope of the External Audit.** An external, independent, private audit firm, acceptable to the World Bank under terms of reference also acceptable to the Bank, will be contracted by FISE for the entire life of the Project no later than four months after the Project’s effectiveness to audit Project funds. The audit firm will review and provide an opinion on the Annual Financial Statements, covering the fiscal year (which coincides with the calendar year), having an extended scope to review the selected Municipalities’ funds execution. The audited financial statements shall be presented to the World Bank no later than six months after the end of the fiscal period. Terms of reference and a short list will be reviewed for the World Bank’s No Objection. According to Bank Policy 10.00, Audited Financial Statements will be made public, as established by the Financing Agreement.

16. **Disbursement Arrangements and Flow of Funds.** The disbursements for the proposed Project follow current World Bank disbursement methods, which include reimbursements, advances and direct payments. The initial advance of funds will be deposited in two separate Designated Accounts (DAs), one for the credit and the other for the grant. Both will be opened in the *Banco Central de Nicaragua* (Nicaraguan Central Bank) with authorized ceilings as defined in the Disbursement Letter. Subsequent replenishment of funds to the DAs will be made on the basis of SOE and custom SOEs for expenditures paid under sub-projects. FISE will be required to maintain records and other supporting documents, as defined in the Disbursement Letter, for a period of 24 months after the closing date of the Project.

Table A3.2 Disbursement Table

Category	Amount of the Grant Allocated (SDR)	Amount of the Credit Allocated (US\$)	Percentage of Expenditures to be Financed (inclusive of Taxes)
(1) Goods, works, Non-consulting Services, consultants’ services, and/or Training under Parts 1, 2.C. and 3 of the Project	0	8,668,000	100%
(2) Goods, works, Non-consulting Services, and consultants’ services: (a) for Subprojects under Part			100%

2.A. of the Project;	3,703,185	4,300,000	
(b) for Subprojects under Part 2.B(i) and Alto Wangki y Bokay Investments under Part 2.B(ii) of the Project	6,496,815	0	
(3) Operating Costs under Part 1.C of the Project		1,332,000	100%
(4) Emergency Expenditures under Part 4 of the Project	0	0	100%
TOTAL AMOUNT	10,200,000	14,300,000	

17. **FM Risk assessment and Mitigation.** Overall FM risk is rated as “Substantial”. The FM arrangements, which include a series of additional measures, respond to the identified risks and provide a suitable supervision strategy. The adequacy of FM arrangements will be continuously monitored during Project supervision, with adjustments made if necessary to ensure fiduciary compliance. Table A3.3 presents the risk assessment and mitigation measures incorporated into Project design and the FM implementation arrangements.

Table A.3.3 Risk Assessment and Mitigation Measures incorporated into Project design and FM implementation arrangements

Risk	Risk Rating	Risk Mitigating Measures
Inherent Risk		
Country Level	M	The Government is continuing in its efforts to implement a comprehensive Public Financial Management modernization plan aiming at strengthening its own management capacities as well as upgrading the Public Financial Management systems and looking to implement a financial system to enhance the efficiency, performance orientation, and transparency of the Recipient’s public expenditures management. Meanwhile, there are public Entities that have developed own based financial systems to respond to their Projects needs and to the Donor’s requirements.
Entity Level	L	FISE is the Agency with overall responsibility in charge of the implementation of the Project. FISE has extensive experience working with World Bank financed projects and has demonstrated acceptable performance.
Project Level	M	Project Administration has established main administrative and financial procedures in an Operational Manual and written job descriptions for each consultant, and staff normally complies with them. It also should be considered that the Project includes the participation of external agencies like municipalities and rural communities that will require extensive follow up and supervision from FISE.

Control risk		
Budgeting, Accounting, Internal Control	M	<p>1. FISE will continue using its own system, SIAF, to register, control and report on the execution of Project funds.</p> <p>2. A basic Operational Manual has to be updated detailing principal FM procedures to be adopted for this Project. Considering the participation of municipalities and rural communities an extensive follow up and supervision in terms of internal control systems will be required from FISE. .</p>
Funds Flow	S	<p>3. FISE will submit the withdrawal applications to the Bank, will make Project payments for the established categories, and will document Project eligible expenditures to the Bank on a periodic basis.</p> <p>4. The External Audit will include Municipalities' funds execution, taking specific provisions for ensuring coverage of use of funds.</p> <p>5. Funds will be executed by FISE and a portion of funds will be executed through specific agreements with Municipalities.</p> <p>6. Two Individual DAs in dollars (one for the credit and the other for the grant) will be opened in the <i>Banco Central de Nicaragua</i>, using the traditional mechanism of replenishment by SOE method.</p> <p>7. Project operational Manual including its main FM procedures. It also should be noted that the Project includes the participation of external agencies like municipalities and rural communities that will require extensive follow up and supervision from FISE.</p>
Financial Reporting, Auditing	S	<p>8. Semiannual Financial Reports.</p> <p>9. Annual External Audit Financial Statements for the entire Project life.</p> <p>10. Considering that reporting and audits will include on site review of support documentation in selected municipalities and rural communities, it also will require an extensive follow up and supervision from FISE.</p>
FM Risk	S	

18. **FM Action Plan.** An Action Plan has been prepared to ensure that adequate FM systems are in place before implementation begins. Detailed activities are presented in Table A.3.3.

19. **World Bank FM Supervision Plan.** A World Bank FM Specialist will complete a supervision mission prior to the Project's effectiveness to verify the implementation of the action plan and review all FM arrangements for the Project. After effectiveness, the FM Specialist will review the annual audit report and the financial sections of the semiannual IFRs and perform at least two formal supervision missions per year. his Supervision strategy will be reviewed periodically and updated based on performance and risk.

Table A.3.4 Action Plan for FISE

Action	Responsible Entity	Completion Date
1. Prepare audit Terms of Reference and Request for Proposals and submit to the Bank	FISE	By effectiveness
2. Revise and approve IFRs formats to be sent to the Bank	FISE	Completed
3. Contract external audit satisfactory to the World Bank for the entire implementation period of the Project	FISE	Four months after effectiveness
4. Draft Operational Manual reviewed by World Bank	FISE	Completed
5. Final Operational Manual including FM procedures	FISE	By effectiveness
6. Provide specific training in FM & Disbursements for Project FM Staff	World Bank	Completed

Procurement

A. General

20. Procurement for the Project will be carried out in accordance with the World Bank's "Guidelines Procurement of Goods, Works and Non-Consulting Services under IBRD Loans and IDA Credits and Grants by World Bank Borrowers," dated January 2011; the World Bank's "Guidelines Selection and Employment of Consultants under IBRD Loans and IDA Credits and Grants by World Bank Borrowers," dated January 2011; and the provisions stipulated in the Financing Agreement. For each contract to be financed by the Credit, the different procurement methods or consultant selection methods, the need for prequalification, estimated costs, prior review requirements, and timeframe will be agreed between the Borrower and the Bank in the Procurement Plan.

21. **Procurement of Works.** Works procured under this Project will include investment projects to increase access to WSS services. Due to the expected size of the civil works, no International Competitive Bidding (ICB) processes are expected. National Competitive Bidding (NCB) and Procurement of Small Works (Shopping) processes will be done using Standard Bidding Documents (SBDs) and simplified formats, respectively, agreed with or satisfactory to the Bank. Said SBDs and simplified formats will be included in the Operational Manual. Simple and small investment sub-projects may comprise the participation of related Communities as labor or local materials providers, municipalities shall carry out said processes using the Community Participation in Procurement method; all detailed procedures for such method will be described in the Operations Manual for *Proyectos guiados por la comunidad* (PGCs).

22. **Procurement of Goods.** Goods procured under the Project would include *inter alia* vehicles, motorcycles, computer equipment and software, office equipment and field and laboratory equipment. The Bank's SBD will be used for all ICB and National SBD acceptable to and agreed with the Bank for all NCB. For procurement of small value goods, shopping

procedures will be followed using a Request for Quotations acceptable to and agreed with the Bank and in accordance with paragraph 3.5 of the Procurement Guidelines.

23. Procurement of Non Consultant Services. Logistics for capacity-building events, printing of training materials, media campaigns, and related services for social and institutional strengthening components will be procured as non-consultant services. The Bank's SBD will be used for all ICB, and National SBD acceptable to and as agreed with the Bank for all NCB. For procurement of small value non-consulting services, shopping procedures will be followed using the Request for Quotations documents acceptable to and agreed with the Bank.

24. Selection of Consultants. Contracts for employment of consultants will include services for different types such as engineering designs, works supervision, and post-construction technical assistance, as well as social follow-up and capacity-building activities for the sub-projects and audits. Selection methods for consultants would include: quality-and cost-based selection (QCBS), Quality-Based Selection (QBS), Selection under a Fixed Budget (FBS), Least-Cost Selection (LCS), Selection based on Consultants' Qualifications (QCS), Single-source selection (SSS). Selection and contracting of consultant firms will be done using the Bank's Standard Request for Proposals. Selection and contracting of Individual Consultants will be done using a simplified request for curriculum vitae and a contract model agreed with or acceptable to the Bank. Contracts for employment of individuals will include technical, operational and administrative staff. Considering the substantial risks associated with the selection of large numbers of individual consultants, FISE shall include in the Operational Manual a procedure to check the authenticity of the experience and education claimed by the consultants in its expression of interest and curriculum vitae.

25. Operational Costs. The Project will finance Operational Costs consisting of expenses required for managing and supervising the Project, such as office supplies and consumables; utilities, internet, maintenance of vehicles and equipment; car and equipment insurance; travel; subsistence; and per diems. These items will be procured using procedures described in the Operational Manual.

26. Subproject Implementation Phase. FISE is currently implementing its subprojects through the municipalities, which are in charge of conducting the works procurement processes and managing the contracts and related funds. This Project will continue with that design, and in addition, municipalities may also carry out procurement processes to contract basic studies, social and technical (engineering) assistances, in coordination with FISE. Communities will be involved from the beginning making decisions on the service level and technical options during sub-project preparation, participating in sub-project construction, and managing the systems through the constitution of CAPS. Social interventions will focus on three main topics: community participation in the process, set-up and training of the CAPS, and community-wide activities on hygiene and sanitation promotion.

27. Community execution. FISE has an established tradition of having simple sub-projects executed directly by the communities. In such cases, the community manages the funds and

contracts the works following simplified procurement procedures, which are part of the Operations Manual⁴² and established in agreements with the Municipality (*convenios*). For some specific cases FISE will centralize the Procurement activities. The Operations Manual is being updated to include clear procedures for fiduciary management supervision integrated with monitoring and evaluation to ensure a close link between technical/progress reporting and fiduciary reporting, to support the validity of the expenditures.

B. Assessment of the Implementing Agency's Capacity to Carry Out Procurement

28. The Project will be implemented using the same arrangements as for PRASNICA. All procurement activities, with the exception of those implemented under sub-projects, will be carried out by FISE's Central Office or Department Delegations. Sub-project works contracts will be carried out by the participating Municipalities, which may involve the participation of related Communities (PGCs). In any case, FISE will be engaged in the follow-up and supervision of procurement procedures, and will be responsible for issuing a previous formal approval for each process.

29. As part of the preparation of the PRASNICA's Additional Financing, an assessment of the FISE's capacity to implement procurement actions was updated in September 2012. Based on the results of this assessment, the results of the Independent Procurement Audits and the Procurement Post Reviews conducted by the Bank, procurement capacity is rated Moderately Satisfactory for the proposed Project. The assessment looked into: (a) organizational structure, (b) facilities and support capacity, (c) qualifications and experience of the staff that would work in procurement, (d) record-keeping and filing systems, (e) procurement planning and monitoring/control systems used, and (f) capacity to meet the Bank's procurement contract reporting requirements. FISE has the staff, experience and capacity from the previous operations to manage the Project, implement World Bank procurement procedures, monitor implementation and provide technical assistance to the implementation agencies. Table A3.5 outlines a detailed action plan prepared to address the remaining procurement-related risks.

30. The overall Project risk for procurement is rated Substantial, considering the country risk, the agency's capacity to implement procurement and the complex implementation arrangements. The level of risk for the Project will be reassessed once there is evidence that the above-mentioned mitigating measures have been properly conducted.

31. FISE has prepared a detailed and comprehensive Procurement Plan, which includes all contracts for which invitations for bids and proposals will be issued in the first 18 months of Project implementation. The Procurement Plan will be available in the Procurement Plan Execution System (SEPA).

⁴² As part of the documentation that forms the Project Operations manual, it is included a PGC Manual (already developed and in use by FISE); and for the sub-projects in indigenous communities, there is a specific PGC manual (also already developed and in use by FISE).

Table A3.5 Detailed action plan to address the remaining procurement-related risks

MITIGATING MEASURES		STAGE
Preparation of a comprehensive General Procurement Plan	FISE	Completed
Preparation of a comprehensive, detailed Procurement Plan for the first 18 months of Project execution	FISE	Completed
Draft of Operational Manual	FISE	Completed
Preparation of Terms of reference and Request for Proposals for the Annual Procurement Audits.	FISE	By Credit effectiveness
Approval of Final Operational Manual. The Operational Manual (s) shall include procedures for fiduciary management supervision integrated with monitoring and evaluation to ensure a close link between technical/progress reporting and fiduciary reporting, as a way to support the validity of the expenditures.	FISE	By effectiveness
Establishment of SEPA as the system to monitor and expedite Procurement Plans	FISE / World Bank	After Credit effectiveness

Annual Procurement Audits

32. FISE shall: (i) have all the procurement records and documentation for each fiscal year of the Project audited, in accordance with appropriate procurement audit principles, by independent auditors acceptable to the Bank; (ii) furnish to the Bank as soon as available, but in any case not later than six months after the end of each such fiscal year, the procurement audit report of such audit by said auditors of such scope and in such detail as the Bank shall reasonably request and; (iii) furnish to the Bank such other information concerning said procurement records and documentation and the procurement review thereof as the Bank shall from time to time reasonably request. The Procurement Audit shall include in its scope the review of the community sub-projects to confirm that funds have been spend on the intended purpose and that the principle of value for money is dully respected.

C. Procurement Special Provisions *(please refer to the Financing agreement)*

D. Procurement Plan

I. General

Bank's approval Date of the Procurement Plan: **November 25, 2013**

Date of General Procurement Notice: **January 28, 2014**

Period covered by this Procurement Plan: **entire project**

II. Goods, Works and non-consulting services.

33. **Prior Review Threshold.** Procurement Decisions subject to Prior Review by the Bank as stated in Appendix 1 to the “Guidelines: Selection and Employment of Consultants by World Bank Borrowers”:

Table A3.6: Thresholds for procurement methods and prior review (thousands US\$)

Expenditure Category	Contract Value (Thresholds) US \$ thousands	Procurement Method	Contracts Subject to Prior Review
1. Works	>1,500	ICB	All
	150 – 1,500	NCB	First
	<150	Shopping	First
	NA	DC	All
2. Goods	>150	ICB	>350
	50 - 150	NCB	First
	<50	Shopping	First
	NA	DC	All
Note:	ICB = International Competitive Bidding NCB = National Competitive Bidding DC = Direct Contracting		

34. **Reference to Project Operational/Procurement Manual.** FISE has updated PRASNICA’s Operational Manual which provides detailed procurement information for Project implementation. An updated version of the Operational Manual with a clear framework of internal controls for the selection and contract’s administration on Individual Consultants will be prepared by FISE and approved by the World Bank before Project’s effectiveness.

Summary of the Procurement Packages for Works and Goods (based on Procurement Plan of November, 2013)

1	2	3	4	5	6	7
Ref. No.	Description	Estimated Cost US\$ million	Packages	Domestic Preference (yes/no)	Review by Bank (Prior/Post)	Comments
1	Summary of NCB/CDD (Works)	13.975	TBD	No	First	NA
2	Summary of NCB (Goods)	1.444	6	No	First	NA
4	Summary of Shopping (Works)	0,2	2	No	First	NA
5	Summary of Shopping (Goods)	0,244	8	No	First	NA
6	Summary of Shopping (Non-consultant services)	1,825	83	No	NA	NA

35. **Proposed Procedures for CDD Components.** FISE will implement some activities through Community-Driven Projects (PGC) using the same approach described in the PCG Operational Manual prepared and approved by the Bank for previous operations (particularly P106283- Rural Water Supply and Sanitation Project). An updated version of the Operational Manual with a clear framework for the supervision and audit of PGCs will be prepared by FISE and approved by the World Bank before Project's effectiveness.

III. Selection of Consultants

36. **Prior Review Threshold.** Selection decisions subject to Prior Review by Bank as stated in Appendix 1 to the Guidelines Selection and Employment of Consultants:

Table A3.7: Thresholds for methods and prior review (thousands US\$)

Consulting Services	Contract Value (Thresholds) US \$ thousands	Procurement Method	Contracts Subject to Prior Review
3.a Firms	>100	QCBS, QBS, FBS, LCS	>200; <200 Terms of Reference
	<100	QCBS, QBS, FBS, LCS, CQS	Terms of Reference
	<100	SSS	All
3.b Individuals		Comparison of 3 curriculum vitae in accordance with Chapter V of the Guidelines	>100; <100 Terms of Reference
		Single-source procedures for the Selection of Individual Consultants	All
Note:	QCBS = Quality- and Cost-Based Selection QBS = Quality-Based Selection FBS = Fixed Budget Selection LCS = Least-Cost Selection CQS = Selection Based on Consultants' Qualifications SSS: Single Source Selection		

37. **Short list comprising entirely of national consultants.** Short list of consultants for services, estimated to cost less than \$200,000 equivalent per contract, may consist entirely of national consultants in accordance with the provisions of paragraph 2.7 of the Consultant Guidelines.

**Consultancy Assignments with Selection Methods and Time Schedule
(based on Procurement Plan dated November, 2013)**

Ref. No.	Description of Assignment	Number	Estimated Cost US\$ million
1	Summary of number of contracts that will be let under QCBS	2	0,530
2	Summary of number of contracts that will be let under CQS	5	0,141
3	Summary of number of contracts that will be let under IC	Aprox. 600	9.494

38. In addition to the external Audit, the capacity assessment of the Implementing Agency has recommended annual supervision missions to visit the field to carry out post review of procurement actions. The size of the sample for post-review will be not less than one in ten contracts.

39. **Contingent Emergency Response** (Component 4). The Project will support Nicaragua to improve its capacity to respond promptly and effectively to emergencies through an immediate response mechanism (IRM) contingency component, as part of the IRM established for Nicaragua. Procurement arrangements are detailed in the IRM operations manual.

Environmental and Social (including safeguards)

40. **The Project has been classified as Category B per OP/BP 4.01, and is expected to have an overall positive impact on the environment**, by generating positive impacts on environmental sustainability in the future target areas by improving the access to potable water and sanitation. The Project will support rural, dispersed and small scale civil works to provide water and sanitation.). There will be no disposal of sewers (treated or untreated) in any waterways (mostly on-site sanitation solutions are contemplated). On an exceptional basis, the Project may also finance small sewerage (condominial) systems, and in this case, the effluent will be treated in a manner acceptable to the Bank, following the criteria adopted by the ESMF. Safeguards triggered are Environmental Assessment (OP/BP 4.01), Natural Habitats (OP 4.04), Forests (OP/BP 4.36), Physical Cultural Resources (OP/BP 4.11) and Projects on International Waterways (OP/BP7.50). An ESMF including criteria for screening investments, environmental assessment, mitigation measures, roles and responsibilities for environmental and social management and institutional strengthening measures, has been prepared, reviewed with key stakeholders, and disclosed in accordance with World Bank guidelines. Consultations on the ESMF took place on November 28, 2013 for the RAAN. Consultations for the RAAS took place on November 26, 27 and 29, 2013. Stakeholders from the North and Central pacific were consulted in November 27, 2013. Feedback from consultations was recorded by the Project and incorporated in the final version of the ESMF. No major issues or concerns were identified during the consultation process. The final version of the instruments was disclosed on the FISE website on December 4, 2013, and on the World Bank’s Infoshop on December 5, 2013.

41. **Institutional Capacity.** The Borrower has a system of environmental management to manage minor and expected Project impacts which was strengthened during the implementation of the Rural Water Supply and Sanitation Project – PRASNICA (P106283). This system has been integrated in the Project’s ESMF; therefore, FISE has the necessary experience to manage the environmental impacts of this Project. Currently, FISE employs a qualified ecologist and, in 2012, FISE hired an environmental consultant to strengthen the environmental management unit. In addition, FISE will hire two Consultant experts to ensure field supervision. FISE also has experience coordinating with at least 20 technical specialists (architects and engineers) in their 17 regional offices throughout Nicaragua. While FISE is responsible to ensure safeguards compliance and implementation, the on-going management system entrusts many technical decisions to decentralized units in municipalities led by municipal experts whose capacity will be strengthened as part of Project activities. The ESMF also details the requirements and criteria in order to ensure the institutional strengthening at the municipal levels, including (i) training sessions on the use of the ESMF at the municipal and community levels and (ii) workshops to exchange experiences among municipalities. The ESMF details roles and responsibilities for environmental management. Participating municipalities and communities will adopt the use of the ESMF as legally binding document as determined by the agreements to be signed with the FISE in order to access to the Project financing.

42. Overall, central technical capacity within FISE is adequate; however the Environmental Management Unit will deepen the technical analysis of proposed interventions considering their impacts in a broader scale, taking into account the level of degradation of watersheds as well as the area of influence of the interventions and their eventual effect on environmental flows. These specific technical aspects have been strengthened by including specific requirements in the Project’s ESMF and by planning specific technical exchanges and study tours for FISE environmental staff. These activities are part of the ESMF. In addition, this wider approach for environmental issues at a micro basin level will be adopted during the elaboration of municipal and/or territorial plans for rural WSS (subcomponent 1.2) which may be available at earlier stages of the Project to guide investments under other components. It is expected that these plans will identify the environmental restrictions and opportunities for WSS in rural areas.

43. In terms of specific experience with implementation of World Bank safeguards, FISE has adopted an ESMF which has been prepared for an on-going Bank financed operation (PRASNICA, P106283) and was updated and revised during the preparation of Adaptation of Nicaragua’s Water Supplies to Climate Change Project (PACCAS, P127088). This process also included a Safeguards Diagnostic Review which found FISE’s environmental management to be satisfactory. Overall safeguards compliance remains Satisfactory under these ongoing operations. FISE has been carrying out environmental supervision visits to sub-project sites, and has also been quite proactive in securing environmental documentation for the purposes of different projects. No remedial actions have been identified. Some gaps have been detected in the definition of the technical scope in Terms of Reference (for baseline studies, definition of area of influence, ecology of water bodies, wetlands conservation) and in the effective capacity to supervise a sub-project in the field, which involves multiple interventions in remote and non-accessible areas. It is therefore expected that environmental supervision will continue to be satisfactory under the proposed Project, which builds on these prior arrangements. The ESMF for the Project has included all the measure and procedures to address this capacity gaps.

44. *Environmental Assessment OP/BP 4.01.* The Project is expected to generate positive impacts on environmental sustainability in the future target areas by improving the access to potable water and sanitation. The Project will support rural, dispersed and small scale civil works to provide water and sanitation, potentially also including small condominium sanitation schemes. The Project is classified as Category “B,” requiring a partial assessment of the potential environmental and social impacts and mitigation measures to prevent and reduce adverse or negative impacts. The proposed Project interventions - dispersed and small scale civil works to provide water and sanitation, including small condominium sanitation schemes - are not likely to result in significant negative impacts on human populations and/or environmentally important areas. This is mainly due to the small scale of the interventions, their dispersed locations and nature of the potential impacts which are easily identifiable, mostly temporary, and easily mitigated with known management techniques. The implementation of the Project will also generate positive health impacts such as decreased incidence of waterborne diseases among the beneficiary communities. As the Project will include civil works, there will be minor environmental impacts such as digging trenches to install pipes or clearing small, vegetated areas to install a latrine, tanks, etc. Since these are small-scale systems for rural, often dispersed populations, no large scale, significant or irreversible impacts are likely or expected. Any sub-projects considered as Category A according to the definition of the World Bank are not eligible for funding by the Project. The ESMF includes the criteria to screen out this type of investments. An ESMF has been prepared on the basis of the PRASNICA ESMF, to screen, assess, and mitigate environmental and social impacts related to site selection, construction and operation of the water and sanitation facilities. The ESMF includes a few new interventions eligible for financing under this Project that were not contemplated under PRASNICA (in particular, small condominium sanitation schemes). The ESMF also includes the institutional and strengthening provisions for preparing and implementing the ESMF given the limited environmental and social management capacity of the implementing agencies, above all at the municipal level. FISE has prepared an institutional strengthening plan in order to ensure that the participating municipalities and communities are fully prepared to implement FISE’s ESMF. The ESMF takes into account this plan and clearly defines in detail the actions to be taken for institutional strengthening (e.g. training, technical assistance, etc).

45. The ESMF harmonizes with the assessments prepared and participatory processes undertaken as part of Project preparation, and these assessments and outcomes of the consultation process have been incorporated in consistency with the ESMF. Finally, the ESMF also covers the interventions proposed under Component 2 and the elaboration of municipal and/or territorial plans for rural WSS (under sub-component 1.2.). These plans may be available at earlier stages of the Project to guide investments under other components of the Project. The principles and criteria included in the ESMF will be integrated to these plans to guide priorities and investments.

46. *Natural Habitats OP/BP 4.04.* The policy is triggered since some small works could coincide with natural habitats such as wetlands or native forests. However, these works will not represent a significant conversion, loss or degradation of natural habitats directly or indirectly. The ESMF has adopted the Bank’s natural habitats definition and contains guidance on the selection of the minor works in this Project as well as information on the location of protected areas, both of which should minimize any impacts on the coastal ecosystems and forests. No civil works are eligible which may have adverse impacts on natural habitats. The screening

process for reviewing proposed sub-projects include criteria which explicitly excludes such works from Project support.

47. *Forests OP/BP 4.36.* The Project has no impact on the management, utilization or protection of any forested areas. However, this policy is triggered because small areas with native forest, which cannot be identified now due to the framework nature of the operation, could be slightly affected by the set-up of the proposed interventions. For these cases, the ESMF includes the procedures and measures to be followed to avoid unnecessary impact on native vegetation and to carry out restoration activities in the eventually affected sites.

48. *Pest Management OP 4.09.* This policy is not triggered because there are no interventions of the Project involving the use of pesticides.

49. *Physical Cultural Resources OP/BP 4.11.* This policy is triggered because the type of work, including small excavations, could eventually expose cultural property. The ESMF contains measures and instructions in the case of any “chance finds” of archeological materials. A screening mechanism is included in the ESMF to screen for and mitigate potential impacts on cultural resources.

50. *Safety of Dams OP/BP 4.37.* The Project will not finance the construction of new or rehabilitation of existing dams nor will the Project rely on the operation of existing dams. The water systems supported by the Project largely use wells as primary water source. There are also some proposed systems that catch water in local streams, but without the need of a dam. Any type of dams will be ineligible under this Project.

51. *Projects on International Waterways OP/BP 7.50.* There will be no direct water use from transboundary waterways by investments under the proposed operation, and total estimated additional water abstraction is therefore null. If some systems were to use surface water from small tributaries, the extraction would be non-material, since the estimated average flows per sub-project for the entire portfolio of similar sub-projects ongoing in the country (PRASNICA and Additional Financing) ranges from 0.01 l/s to 20 l/s, with an average of 3.4 l/s (while the flow of the Rio San Juan that is shared between Nicaragua and Costa Rica, for example, is about one million times that amount). However, considering that some beneficiary communities could be located in transboundary watersheds, the OP-BP 7.50 (Project on International Waterways) has been triggered. The main areas of influence of OP 7.50 are the Alto Coco and Rio San Juan watersheds, and a riparian notification was sent to the Governments of Costa Rica and Honduras on October 31, 2013 in compliance with this policy. The notification requested that comments to the proposed Project activities be conveyed by November 29, 2013. No response has been received, and the Association has determined to move ahead with processing of this operation.

52. *Projects in Disputed Areas OP/BP 7.60.* This policy is not triggered because there are no interventions of the Project in Disputed Areas. This will be reflected in the Operations Manual.

Social

57. **Social Management Scheme.** As the direct beneficiaries of the Project are the poorest communities of rural Nicaragua, a Social Management Scheme is integrated throughout the

Project, led by the MEPAS to reach particularly the extreme poor, Indigenous and Afro-Nicaraguan communities. The scheme guides the articulation of the social and technical works at each step of the project cycle: from the preparation of a community before the sub-project starts; through the community selection, review and approval of the designs of water system and affordable sanitation solutions (selected from a menu); to overseeing civil works during implementation; to abiding by their commitment to maintain the WSS facilities; to timely payment for the services after the works are concluded. In order to successfully carry out the Social Management Scheme FISE will create a special unit of social specialists, and enhance the social work throughout the sustainability chain, including technical support to regional Governments of RAAN and RAAS and indigenous territory Governments (particularly Alto Wangki y Bokay) and their social teams, for meaningful participation and approval of sub-projects by their Committees.

58. **Social Assessment.** A social assessment was carried out by FISE and a local team of consultants during the preparation of the proposed Project. The assessment outlines the legal framework for the participation of civil society in public consultations. It identifies key stakeholders and beneficiaries, and outlines the expected social impacts of the Project. It includes the results of free, prior and informed consultations with key stakeholders of the Project, particularly the regional Governments of the Autonomous Regions of RAAN and RAAS, the territorial Governments of Alto Wangki y Bokay (Jinotega), and of the Pacific, Center and North regions, and selected municipal Governments of both Pacific and Atlantic Regions. The assessment also included separate focus groups of men and of women in 16 communities in the Pacific and Atlantic Regions. The objective of the consultations was to improve the sustainability scheme of the Project by discussing with the various stakeholders their assessment of their roles, responsibilities and opportunities to participate and benefit from water and sanitation sub-projects. Another topic discussed was their traditional knowledge of water source protection, and the impact of WSS service provision on women in particular. Recommendations of the assessment include: (a) FISE should assist the Municipalities to prioritize WSS sub projects originating in the most vulnerable communities, for the Municipal Investment Plans; (b) Communities demand training on calculation of tariffs and costs of sustainability; (c) UMAS should be trained to provide services to CAPS and ensure that services reach the most vulnerable; (d) More training is needed for women leaders to manage the finances in CAPS, as women have proven to be better administrators in the water sector.

59. **Gender.** Although water and sanitation services affect the entire family, it is traditionally the women and children who spend a good part of the day fetching water from river/creeks/wells in rural areas, and the situation in Nicaragua is not different. Moreover, women were found to be in charge of children's health issues. Therefore, the Project has a solid approach to mainstream gender into it. This approach is built on the PRASNICA experience which prioritized women needs in the selection of the technical options for WSS, in training opportunities and also by promoting CAPS with over 30% of women participation, and women participation in their decision-making positions (President, Treasurer). The results obtained showed that in the communities support by the later Project, 90% of the CAPS have over 30% of women, and 77% have women in decision-making positions. Country-wide, according to information from the SIASAR, approximately 79% of CAPS have at least one woman. In addition, an econometric analysis carried out using country-wide data from SIASAR revealed that having a woman on the Executive Board of the CAPS positively influences systematic toilet use (communities whose

CAPS has at least one woman on the board are 13% more likely to systematically use toilets than communities with CAPS having no woman on the board).

60. Gender aspects have been mainstreamed in Project design, implementation and monitoring, through three dimensions: assessment, actions and M&E, as follows:

- (i) Inclusion of gender-related questions and gender-focal groups in the social assessment that was carried out in the Project preparation;
- (ii) Inclusion in the Project indicators of two indicators relating to the presence of women in community water boards, and of one indicator to calculate the total number of females amongst the Project's beneficiaries;
- (iii) Requirement that all sub-projects include at least 30% of women in the community water board; and also promote equal participation of men (50%) and women (50%) in training sessions and consultations, including in Indigenous and Afro-Nicaraguan communities.
- (iv) Review, through the Project's Impact Evaluation, any heterogeneous effects (depending on (a) gender of the household head for household level impacts, and (b) gender for individual level impacts), to monitor that men and women benefit equally from the Project, and to be able to address gender-specific barriers if they are revealed by the Impact Evaluation.
- (v) Assess, through the Project's Impact Evaluation, whether the impacts on WSS sustainability vary depending on the fraction of women in CAPS, and provide evidence on the benefits of greater participation of women in this type of community level organizations.

61. Social Safeguards. Two social safeguards are triggered: OP4.10 Indigenous Peoples, and OP4.12 Involuntary Resettlement. An Indigenous and Afro-Nicaraguan Peoples Planning Framework (IAPPF) and a Resettlement Policy Framework (RPF) were prepared by FISE using the experience and lessons learned from PRASNICA and the Greater Managua WSS Project, P110092. Consultations with stakeholders were carried out from November 26 to November 29, 2013. Frameworks were approved by the Bank on December 3, 2013, published on the FISE website on December 4, 2013 and at the Bank website on December 9, 2013. The IAPPF and RPF with guidelines for preparation, implementation, monitoring and evaluation of corresponding Indigenous and Afro-Nicaraguan Peoples Plans, and Resettlement Action Plans (RAP) are both self-standing documents and part of the ESMF.

62. Indigenous Peoples O.P. 4.10. The proposed Project will profit from the implementation of the Indigenous and Afro-Nicaraguan Peoples Plan executed under PRASNICA. Some of the lessons learned from implementation, which contribute to minimize the social risks are: (a) FISE should continue to strengthen the relationship and Cooperation Agreements established with the regional Governments of RAAN and RAAS, and municipalities using culturally-adequate methodologies that respect the forms of social organization and cosmo-visions of autochthonous groups; (b) Continue the legitimization of participation of regional and territory Governments in the WSS sector, by inviting their review and adaptation of FISE's operational instruments to respond to their needs and idiosyncrasies (instruments adapted under PRASNICA for interventions on the Caribbean Coast include: the Caribbean Coast Annex to the MEPAS, the Menu of sanitation facilities for the Caribbean Coast, the Indigenous PGC Manual, the

customized AVAR Training methodology, and others); (c) Continue to use cost cutoff tables adjusted to remote environments, lacking roads, with poor communication settings particularly on the Caribbean Coast and Alto Wangki y Bokay; and (d) Continue to elaborate bilingual training and education materials on hygiene and hand-washing, system maintenance, and payment for services⁴³. The IAPPF for the Project was prepared on the basis of the lessons learned from PRASNICA, the social assessment and the consultations. It intends to serve the needs of the Indigenous and Afro-Nicaraguan peoples in a culturally-adequate manner. During implementation, and as part of the Social Management scheme of FISE, Indigenous and Afro-Nicaraguan Peoples Plans will be prepared, implemented and monitored for satisfactory completion, whenever the policy is triggered. FISE's ORID bureau will be strengthened with more resources to continue to manage the Plans. The Municipal/territorial WSS Units (UMAS) together with the Water Boards (CAPS) and FISE Delegations will be trained by ORID for this purpose. Public consultations on the IAPPF were held between November 26 and 29, 2013 with nine presidents of indigenous territorial groups, 12 representatives of nine indigenous territories, 27 municipalities represented by two mayors and 27 technical staff (UMAS), four civil society organizations working in the rural WSS sector, four representatives of the RAAS and RAAN regional Governments, and two representatives of CAPS boards. Information was disclosed on the webpage of the FISE on December 4, 2013 and at the Bank website on December 5, 2013.

63. *Land Acquisition and Involuntary Resettlement OP4.12.* FISE will also benefit from the practice acquired under PRASNICA, which consisted of providing verification of land ownership by FISE and the municipalities, of the pieces of land that would be occupied by infrastructure built under the Project (i.e. water tanks, wells, water pumps, etc.). To ensure due diligence under the policy, it was agreed that the Project would include a Resettlement Policy Framework (RPF) which comprises the processes and procedures for identification, screening, assessment of impacts and corresponding compensation of lost assets at full replacement cost. The RPF and its instruments are included in the ESMF. It was agreed that involuntary resettlement should be avoided where feasible, or minimized, exploring all viable alternatives, but where it is not feasible to avoid it, resettlement should be conceived and executed as sustainable development programs. The policy framework covers direct economic and social impacts that both result from Bank-assisted investment projects, and are caused by the involuntary taking of land resulting in (i) relocation or loss of shelter (of social units or economic activities); (ii) loss of assets or access to assets, or (iii) loss of income sources or means of livelihood. The policy will apply to all components of the Project that result in resettlement, regardless of the source of financing. For the implementation of the policy, it was agreed that: (i) As only small pieces of land may be required for the construction of water facilities (tanks, pumps, wells or other), the instrument foreseen to be used is the Abbreviated RAP; (ii) A Resettlement Committee will be formed at FISE to foresee the preparation, implementation, monitoring and evaluation of RAPs; (iii) RAPs will either be prepared and implemented in-house by FISE or contracted out, but FISE will be responsible for monitoring and evaluation of resettlements; (iv) Since the application of the policy is new to FISE, particular attention must be paid to cases where vulnerable groups, the extreme poor, the landless, the elderly, and Indigenous peoples are involved; (v) As good practice, land acquisition and legalization will

⁴³The communications, consultations and training plans include gender and language-specific strategies.

need to be resolved before a sub-project is eligible for financing under the Project; (v) The RPF includes institutional responsibilities regarding financing of land acquisition and resettlement costs and compensations at replacement value. Land acquisition will not be financed with Project funds. FISE will be responsible for finding other sources of financing (mostly from the Municipalities); (iv) Technical assistance will be provided by the Bank to FISE to ensure adequate handling of the above Policy.

64. FISE prepared an RPF with technical assistance from the Bank team. The RPF was consulted on November 28, 2013 for the RAAN, on November 26, 27 and 29 for the RAAS, and on November 27 for stakeholders from the North and Central Pacific regions. It was disclosed on the FISE web page on December 4, 2013 and at the Bank's website on December 5, 2013. FISE is responsible for all safeguards implementation under the Project.

65. **Grievance and Redress Mechanism.** Information requests, submission of complaints coming from communities are channeled through the Regional Advisors (ARAS) or the Social Specialists who address the issue in the territory, and, if they cannot resolve them, take issues to the corresponding level (Central, Regional, Municipal). At the Central level, the Bureau of Regulation, Research and Development (ORID) responds to and solves grievances.

Monitoring & Evaluation

66. The Project-level monitoring and evaluation framework will track progress in implementation, measuring intermediate outcomes, and evaluating Project impacts. The framework in Annex 1 outlines key performance indicators, data collection methods, a timetable for collection, and responsible agencies. The Project Operations Manual also has complementing indicators and special procedures for the carrying out, monitoring and evaluation of the Project (including the procurement, disbursement, financial management, social and environmental requirements). FISE has a well-functioning system for the monitoring of sub-projects, which it uses under PRASNICA (SICPRO) and will continue using under the proposed Project for the tracking of Project indicators related to the provision of infrastructure. Additionally, progress reports will be established to describe the main achievements of the Project on a semi-annual basis. They will include complete information on procurement, contracts, disbursements, detailed information on the Project's financial status, inputs, number of beneficiaries, and other outputs. These reports have been successfully and regularly produced by FISE under PRASNICA, which will continue to prepare them for the Project. Annual independent audit reports are expected to monitor use of funds and physical progress.

67. In addition to these Project-level monitoring tools, FISE is currently finishing the roll-out of a cutting-edge decision-making and planning tool, which has been developed in Nicaragua, Panama and Honduras through World Bank funding. The *Sistema de Información de Agua y Saneamiento Rural* (SIASAR) consists of a mobile data collection device (Android tablets) and a web platform for data editing and analysis. SIASAR collects information and generates indicators on four basic dimensions of sustainable and efficient service provision in rural areas: access to service, quality of service and infrastructure conditions, organization and financial sustainability of the local service providers (CAPS), and effectiveness of technical assistance (UMAS). Whereas the SICPRO system is very useful for Project monitoring (for sub-projects

implemented by FISE, with indicators for daily supervision purposes, including physical and financial execution, and information specific to FISE's internal reporting), SIASAR is used for monitoring of the sector nation-wide, looking at more aggregated indicators for planning purposes of the sector. In Nicaragua, SIASAR data has been collected for over 4,000 communities to date, thanks to coordinated efforts between FISE and municipal WSS units, and the SIASAR baseline should be completed by end 2013. The proposed Project will ensure that use of SIASAR becomes mainstreamed in the sector's planning processes at various levels by providing trainings, incorporating SIASAR into the Project's results indicators, and including the updating of SIASAR every six months as a formal agreement between FISE and the municipalities participating in the Project. This should contribute to satisfactory monitoring of sector progress.

Role of Partners

68. The proposed operation is designed to enhance harmonization of existing activities under implementation, aiming at establishing a uniform policy for the sector. The Bank team has engaged and will continue to engage with main players in the sector to develop a common intervention strategy for rural areas. Strong coordination between the Bank, the Swiss Agency for Development and Cooperation, UNICEF and several other donors has been ongoing under the PRASNICA and will be maintained. Indeed, the Bank is currently leading the WSS technical donor table (*mesa de donantes*) in Nicaragua and is well-placed to ensure coordination between the different donor activities. The Bank is currently in discussions with the Central American Bank for Economic Integration regarding the possibility of a parallel financing of the proposed Project.

Annex 4
Operational Risk Assessment Framework (ORAF)
Nicaragua: Sustainable Rural Water Supply and Sanitation Sector (P147006)

Risks						
Project Stakeholder Risks						
Stakeholder Risk	Rating	Moderate				
<p>Risk Description:</p> <p>Project implementation encompasses several levels, including municipalities, RAAN and RAAS regional Governments, indigenous territories, and the Non Governmental Organizations and charitable sector amongst others. Difficulties in coordination may occur between central Government institutions and the different sector actors.</p>	<p>Risk Management:</p> <p>The coordination between FISE, regional/local Governments and municipalities requires intensive efforts, but has been improving year after year and is currently at a satisfactory level in the ongoing PRASNICA, especially thanks to the adoption of more participatory and inclusive decision-making processes and improved access to sector information gathered through rural WSS information system SIASAR. The lessons learned from this experience and the technical assistance activities supported by WSP are explicitly incorporated into the design of the Project (through sub-component 1.1, designed to improve FISE’s national stewardship of the sector and the coordination between different actors; through sub-component 1.2, designed to improve the capacity of municipal and territorial WSS authorities; and through the Project’s implementation arrangements and the revision of the project cycle). The Project has in place several measures (especially in Component 1) that should improve coordination between the central Government and RAAN and RAAS regional governments, Alto Wangki y Bokay, Indigenous authorities and municipalities, as well as coordination of different Government agencies and non-governmental actors intervening in the sector.</p>					
	Resp: Client	Status: In Progress	Stage: Both	Recurrent: <input checked="" type="checkbox"/>	Due Date:	Frequency: CONTINUOUS
Implementing Agency (IA) Risks (including Fiduciary Risks)						
Capacity	Rating	Moderate				

<p>Risk Description:</p> <p>FISE needs to increase its institutional capacity in order to manage the Project effectively, especially in financial management and procurement.</p> <p>FISE still has difficulties with the selection of consultant firms (specifically related to the estimation of costs) and with contracting works. These difficulties may be exacerbated in the RAAN and RAAS region and Alto Wangki y Bokay Territory owing to remoteness. FISE has also struggled with timely submission of financial audits.</p> <p>The process of implementing Projects involves central agencies and local Governments, and requires a strong cooperation between them.</p> <p>In addition to the Sector's overall instability, within FISE there is the risk associated to management turnover, which may change the prioritization of the rural WSS sector within FISE and also distort key concepts of the Project, such as sustainability.</p> <p>There is a risk that delegating further implementation responsibilities to the municipalities at certain stages of the Project cycle will result in poor implementation if local capacity is insufficient.</p>	<p>Risk Management:</p> <p>Close supervision by the Bank team is necessary during the preparation and implementation of the proposed operation. The preparation of the PRASNICA's Additional Financing in 2012/2013 was an opportunity to identify the main areas in which FISE needed to strengthen its fiduciary capacity, and appropriate mitigation measures were adopted on the basis of this review. These measures will be further strengthened under the Project.</p> <p>During the implementation of PRASNICA and its Additional Financing, FISE has gradually improved as an implementing agency, including through development of planning tools and better fiduciary management. Furthermore, some adjustments to the implementation arrangements are being made under the proposed operation to ensure that some of the central challenges identified in the PRASNICA will be avoided.</p> <p>On the FM side as part of the mitigation measures will include:</p> <ol style="list-style-type: none"> 1. Contract individual external audit for the entire implementation period of the proposed operation. 2. Continue use of SIAF as Integrated Financial Systems and as part of mitigation measure. 3. An individual Designated Accounts in dollars, under traditional mechanism of replenishment by SOE method. <p>Four months ago, the Bank has conducted a Fiduciary Workshop to relevant staff of the Project to ensure funds flow and accurate financial reporting.</p> <p>In terms of procurement, the increase in the use of individual consultants represents a potential risk in terms of fraud and fulfillment of the Project's development objectives. Therefore, FISE shall include in the Operational Manual a procedure to check the authenticity of the experience and education claimed by the consultants in its expression of interest and curriculum vitae.</p> <p>The successful experience of the PRASNICA in establishing coordination mechanisms with the municipalities and local Governments will be continued in the proposed operation, especially through capacity building activities under Component 1.</p> <p>The municipalities' role in implementation is limited to very specific tasks within the project cycle (that would benefit from more local engagement). Furthermore, municipalities will carry out these tasks through a support structure combining their existing resources, consultants hired by FISE with Project funds to fill capacity gaps, and specialized assistance from FISE. The exact package of implementation support to the municipality will be determined on the basis of the local capacity and of the portfolio's</p>
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		characteristics. The municipal involvement in implementation will be piloted at first in just 10% of Project municipalities, and may be expanded to the rest of municipalities should this pilot prove successful after mid-term review.					
		Resp: Both	Status: In Progress	Stage: Both	Recurrent: <input checked="" type="checkbox"/>	Due Date:	Frequency: CONTINUOUS
Governance		Rating	Moderate				
<p>Risk Description:</p> <p>There is a risk of subjective and/or discretionary selection of beneficiaries (municipalities and communities) in the Project.</p> <p>Additionally, there may be accountability and oversight risks at various stages of the Project cycle, between FISE and the Bank and between municipalities and FISE.</p>		<p>Risk Management:</p> <p>A number of technical eligibility criteria have been agreed upon and laid out in the MEPAS (sector-wide operating manual for WSS projects) developed in the context of the PRASNICA, which has so far been implemented with success. The MEPAS eligibility and funds allocation instruments are being revised and improved under the Project, drawing on the lessons learned from the PRASNICA, to include pro-poor eligibility and allocation criteria at the municipal and community levels. Municipalities with greater needs in terms of WSS coverage and higher poverty levels will be benefitted with higher funds allocation. These formulas and criteria are currently being developed by FISE with support from the Bank team and a specific consultancy. At the community level, eligibility the criteria prioritize funds for communities least benefitted in prior sub-projects and with greatest needs. SIASAR classifications will be used as the basic input for the development of these criteria, which will apply counterpart funding and subsidy rules differently based on the characteristics of different communities, CAPS and systems.</p> <p>In addition to technical eligibility criteria, the MEPAS project cycle considers involvement of direct beneficiaries promoting social accountability mechanisms, to improve transparency.</p> <p>Additionally, fiduciary assessments (procurement and financial management) have been carried out as part of the preparation of the Project. Procurement processes will be reviewed and recommendations for improving the systems and processes will be issued. Periodic Project audits will be carried out during implementation and special attention to fiduciary issues will be given during election years.</p> <p>The coordination mechanisms set up under sub-component 1.2 to strengthen different levels of the</p>					

sustainability chain should help to improve coordination between different levels of authority and thereby minimize accountability and oversight risks in Project implementation. FISE will also sign detailed agreements with the municipalities to lay out their respective roles and responsibilities throughout the Project cycle, and the Bank's oversight will be ensured by means of regular supervision missions.

Resp: Bank	Status: In Progress	Stage: Both	Recurrent: <input checked="" type="checkbox"/>	Due Date:	Frequency: CONTINUOUS
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Project Risks

Design	Rating	Low
<p>Risk Description:</p> <p>The political situation and general accessibility of the targeted communities for works in RAAS, RAAN and Alto Wangki y Bokay can make ongoing support by the implementing agency difficult.</p> <p>Design of the WSS sub-projects is well within the technical capacity of the implementing agency, which has a well-functioning system set up for implementing such sub-projects under PRASNICA. However, FISE needs to carry out further work on integrating social accompaniment into the delivery of sub-projects, in order to ensure that CAPS are fully equipped to manage the WSS systems sustainably once the Project ends.</p> <p>The country's exposure to natural disasters (hurricanes, floods, earthquakes) means the</p>	<p>Risk Management:</p> <p>FISE has strong local presence in the municipalities, and is improving coordination with local Government and Indigenous territories Groups, which will be key for a continuous local support. These aspects are further reinforced under Component 1 of the Project (especially sub-components 1.1 and 1.2).</p> <p>The Bank will follow up closely with FISE to ensure that the social accompaniment methodology for the works is carried out in a structured and effective manner during the design phase of sub-projects, and that community water boards (CAPS) are fully equipped to manage the WSS systems sustainably once the Project ends. The Project addresses these dimensions directly with CAPS training measures under sub-component 1.2.</p> <p>Like PRASNICA, the Project will promote regional best practices and use construction techniques that reduce the sensitivity of the investments to natural disasters. Use of local and simple technologies will</p>	

<p>systems built may be rendered ineffective before reaching their design life.</p>	<p>mean repairs can be made more easily. Additionally, Component 3 may contemplate assistance to municipal and territorial WSS units to develop climate change adaptation plans for their water sources, following the methodology developed by the Adaptation Project.</p>					
	<p>Resp: Bank</p>	<p>Status: In Progress</p>	<p>Stage: Both</p>	<p>Recurrent: <input checked="" type="checkbox"/></p>	<p>Due Date:</p>	<p>Frequency: CONTINUOUS</p>
<p>Social and Environmental</p>	<p>Rating</p>	<p>Moderate</p>				
<p>Risk Description:</p> <p>Both PRASNICA and the proposed operation support the goal of protecting people and the environment from potential health risks and pollution. Increased water supply and sanitation services or access to water and sanitation should decrease the incidence of waterborne diseases among the population. Overall, the proposed operation is expected to have positive environmental and health impacts. However, some of the Project activities may have unintended low and localized impacts as a result of planned small works associated with the provision of water and sanitation systems. In addition, the disposal of wastewater effluent may be an issue, though the quantities of wastewater are considered small.</p> <p>In addition, the technical scope of the environmental assessment processed conducted so far by FISE poses some challenges in terms of the definition of the area of influence of sub-projects, the impact of watershed degradation on the</p>	<p>Risk Management:</p> <p>The Environmental and Social Management Framework (ESMF), developed under the PRASNICA (and updated in 2012 for the PACCAS and the PRASNICA Additional Financing), includes criteria for carrying out a screening of sub-projects, as well as implementing and monitoring procedures based on the results of the environmental and social findings. The ESMF for the proposed Project has been built on this basis, and considers the construction of water and sanitation systems, including small condominium schemes. The ESMF includes guidelines for the use of environmentally sound design standards and sitting criteria for water supply and sanitation works. It also includes guidelines for the application of the social management schemes by FISE social teams, consultants, supervisors, municipal and regional WSS staff (UMAS and ARAS), and contractors before, during and after the public works, within the sub-project cycle. In addition, the ESMF includes technical specifications to address environmental degradation issues in watershed and criteria to take into account eventual negative impacts on the use of water resources (environmental flows, etc.). This will ensure that any negative impacts will be mitigated, managed, or minimized. Moreover, FISE's environmental capacity has been strengthened, with three specialists and a technical in training currently on the environmental supervision team, two social specialists at the central level, and one specialist at the Caribbean Coast Regional level. Finally, FISE will enhance even more its social management capacity by creating a special unit for Social Management work, which will coordinate the entire social work and support UMAS and CAPS.</p> <p>FISE prepared an institutional strengthening plan in order to ensure that the participating municipalities and communities are fully prepared to implement and participate in FISE's environmental and social assessment process. The cost of this implementation of the plan is factored in the relevant institutional strengthening component as part of the Project design.</p>					

sub-projects and the analytical underpinnings needed to make robust environmental management decisions around the use of water and eventual impacts on environmental flows, if relevant. Finally the decentralized scheme that directly involves municipalities in the preparation and supervision of environmental documents poses some risks in terms of capacity and availability of municipal staff to carry out this task.

Activities in indigenous and Afro-Caribbean communities require a more tailored process of consultation and participation, especially in the in the design and implementation of WSS investments, due to cultural characteristics. The risk is associated to an insufficient consultation and inclusion process, which may jeopardize the acceptance of the WSS solutions and the sustainability of the interventions.

The proposed operation will continue to support the fully participatory micro-planning process of the municipalities. The Indigenous and Afro-Nicaraguan Peoples Plan of the original PRASNICA provides specific attention to the cultural characteristics of Indigenous and Afro-Caribbean peoples, setting the basis for an intensive participatory and inclusive process. For the Project, an Indigenous and Afro-Nicaraguan Peoples Planning Framework (IAPPF) was elaborated by the client based on the results of a Social Assessment carried out during Project preparation, which includes a series of consultations intended to ensure broad community support, as follows: (a) Consultations carried out by FISE with regional Governments of RAAN and RAAS, territorial authorities of Alto Wangki y Bokay (Jinotega), and indigenous territories of RAAN, on the Caribbean Coast; (b) Consultations with regional Governments of Pacific, Center and North; (c) Consultations with Mayors and UMAS, and separate focus groups with men and women in 16 communities in both the Pacific and the Atlantic regions. The IAPPF lays out the procedures to screen Indigenous and Afro-Nicaraguan communities, to prepare the Indigenous and Afro-Nicaraguan Peoples Plans with the participation of the Traditional authorities whenever the policy is triggered by the presence of Indigenous Peoples in the Project area, which is expected to be highly recurrent in the proposed Project. The IAPPF also lays out the roles and responsibilities of the different stakeholders involved (FISE, Delegations, ARAS, UMAS, CAPS, etc.). The Social Management Unit of FISE will be responsible for overseeing the training of Municipal Teams (UMAS), Regional Delegates and local Contractors for the preparation and implementation of the Indigenous and Afro-Nicaraguan Peoples Plans. The Social Management Unit at the Central level, will submit the Indigenous and Afro-Nicaraguan Peoples Plans to the Bank for approval, and will be responsible for disclosure of the Indigenous and Afro-Nicaraguan Peoples Plans in the communities and on the website of FISE and the local Governments. The Bank team will be responsible for disclosure of Indigenous and Afro-Nicaraguan Peoples Plans on the Bank website. The IAPPF procedures have been consulted with a sample of communities to ensure broad community support and to seek their approval.

Additionally, a Resettlement Policy Framework (RPF) was developed to cover the entire Project in the event that any of the works particularly under Component 2 should require the acquisition of land or the resettlement of social units (families) or economic activities operating on the piece of land required for construction of water facilities under the Project. The RPF lays out the legal framework, processes and procedures for identification and screening of land, assessment of impacts and corresponding compensation of lost assets at full replacement cost. The RPF and its instruments are included in the ESMF. It was agreed that involuntary resettlement should be avoided where feasible, or minimized, exploring all viable alternatives, but where it is not feasible to avoid it, resettlement should be conceived and executed as sustainable development programs. The policy framework covers direct economic and social impacts that result from Bank-assisted investment projects, and are caused by the

	<p>involuntary taking of land resulting in (i) relocation or loss of shelter (of social units or economic activities); (ii) loss of assets or access to assets, or (iii) loss of income sources or means of livelihood. The policy will apply to all components of the Project that result in resettlement, regardless of the source of financing.</p>					
	Resp: Both	Status: In Progress	Stage: Both	Recurrent: <input checked="" type="checkbox"/>	Due Date:	Frequency: CONTINUOUS
Program and Donor	Rating		Low			
<p>Risk Description:</p> <p>Other donors, mainly the Swiss Cooperation, are working on related Projects in the country. There is a risk of duplication of efforts between these donors and the Bank. Overlaps and competition among donors create the coexistence of Projects with different rules and strategies to be implemented in parallel and are obstacles for Project implementation.</p> <p>In the implementation of WSS-related activities, FISE adopts a harmonized methodology with several donors (including the Bank), which strongly focuses in the sustainability of the interventions (this is the sector-wide operating manual for rural WSS projects, MEPAS). The development of the MEPAS was a key achievement for the WSS sector, moving toward a more sustainable approach. However, there is the risk that political/institutional turnovers and/or weak coordination with other donors and NGOs</p>	<p>Risk Management:</p> <p>The Project is designed in a way that enhances harmonization of existing activities under implementation, aiming at establishing a uniform policy for the sector. The Bank team has engaged and will continue to engage with main players in the sector to develop a common intervention strategy for rural areas. Strong coordination between the Bank, the Swiss Agency for Development and Cooperation, UNICEF and several other donors has been ongoing under the PRASNICA and will be maintained. Indeed, the Bank is currently leading the WSS technical donor table (mesa de donantes) in Nicaragua and is well-placed to ensure coordination between the different donor activities.</p> <p>More particularly, the World Bank is currently in discussions with the Central American Bank for Economic Integration regarding the possibility of a parallel financing of the proposed operation with this organization.</p> <p>The concept of sustainability and the adoption of a harmonized approach between donors and institutions are very well consolidated in PRASNICA, and will be furthered under the proposed operation with the focus on building FISE's stewardship role in the sector, including by divulgation and harmonization of sector manuals, and by carrying out a thorough revision of the MEPAS in coordination with other donors during Project preparation.</p>					
	Resp: Bank	Status: In Progress	Stage: Both	Recurrent: <input checked="" type="checkbox"/>	Due Date:	Frequency: CONTINUOUS

<p>may lead to failures in the harmonization and changes in the methodology, consequently jeopardizing the sustainability of the WSS interventions.</p>						
<p>Delivery Monitoring and Sustainability</p>	<p>Rating</p>	<p>Low</p>				
<p>Risk Description:</p> <p>FISE may not be consistently responsive and proactive in tracking results indicators, and this may pose a risk for delivery monitoring.</p> <p>Regarding sustainability, FISE has been receiving limited funds for its operational costs, including salaries of the key WSS personnel. PRASNICA and other donor-financed Projects are currently bearing these costs. There is a risk that, after the closing of proposed operation, the rural WSS sector structure within FISE will not be sustained.</p> <p>Continued work is also needed in terms of strengthening the sectoral vision both of FISE and of municipal water and sanitation units (UMAS), which were strengthened under the PRASNICA but remain engineering-focused to a certain degree. Unclear institutional responsibilities, lack of funding, and competing priorities also hamper long-term support to CAPS and systems, threatening sustainability. There is a risk that in the absence of further support, the institutional structure set up for the rural WSS sector may not last beyond the</p>	<p>Risk Management:</p> <p>The Project will continue to use arrangements well-established under the PRASNICA for monitoring and evaluation, but enhanced Bank supervision will be necessary to ensure that these arrangements are indeed tracked on a regular basis by FISE staff. Additionally, the consolidation of the rural water supply and sanitation system (SIASAR) - developed during the course of the PRASNICA to track WSS systems and service provision in the country – has become an institutional priority of FISE in the past year. The SIASAR will be strengthened further by the new operation in order to ensure that this valuable tool contributes to shaping sector planning and decision-making, monitoring the Project’s progress and strengthening the sustainability of its interventions.</p> <p>Regarding sustainability, the RoN has recently emitted a letter designating FISE as the national institution responsible for rural WSS in the country. However, operational costs continue to be largely supported by outside projects. The Project’s sub-component 1.1 will include measures to institutionalize FISE’s stewardship role in the sector, and the Bank will continue the dialogue to incentivize the RoN to gradually cover the institution’s operating costs. The Bank (in partnership with the Swiss Cooperation) is also supporting FISE to develop a detailed rural WSS master plan and an analysis of reorganization of FISE’s internal structure.</p> <p>PRASNICA and the Additional Financing give municipalities a very active role in Project preparation and execution, including an important co-financing requirement, ensuring they feel empowered by and committed to the CAPS and their systems. This approach will be further consolidated under the Project, and more specifically through capacity-building activities for CAPS and UMAS under Sub-component 1.2. Additionally, the Bank and other donors are engaged in a high-level policy dialogue with the RoN in order to push for institutional consolidation of the rural WSS sector, ensuring sustainability, and the outcomes of these discussions have informed the design of the Project (Sub-component 1.1 especially). Regarding monitoring risks, the results indicators presented in Annex 1 have been discussed at length with the Government and have been designed to reflect the sustainability dimension of WSS services, by using the SIASAR matrices that reflect international best practice in terms of measuring the long-term functionality of WSS services. Additionally, the M&E arrangements are very similar to those set</p>					

<p>Project's lifetime.</p> <p>Monitoring risks exist to the extent that the Project's achievements may not be sufficiently well tracked, especially in terms of aspects difficult to quantify, such as enhancing sustainability of the sector.</p>	<p>up under PRASNICA, and FISE has in place clear mechanisms for tracking this information on a regular basis through its SICPRO and SIASAR systems, which measure Project-level and sector-level outcomes respectively.</p>					
<p>Other (Optional)</p>	<p>Rating</p>	<p>Low</p>				
<p>Risk Description: Municipalities may not contribute counterpart funds.</p>	<p>Risk Management: Municipalities are already co-financing water and sanitation systems under PRASNICA, so the risk is not expected to be high; however, adequate communication and promotion of the Project at the local level will ensure this risk is kept low.</p>					
<p>Other (Optional)</p>	<p>Rating</p>	<p>High</p>				
<p>Risk Description: Implementing area risk: a large part of the Project's financing (US\$11 million of US\$32 million) will take place in the Caribbean Coast of Nicaragua where the remoteness of sub-project communities makes works are costlier, procurement processes more difficult to carry out, and implementation generally more subject to delays and difficulties. Placing a large part of the portfolio in this region may delay the implementation of the overall Project.</p>	<p>Risk Management: The Bank team recognizes that this risk is high, based on the slow implementation of the Caribbean coast portfolio in the PRASNICA and Additional Financing. Risk mitigation measures will be adopted, including capacity building of regional and territorial governments and of municipal and territorial WSS units in these regions; careful monitoring of the execution of this part of the portfolio during Bank supervision visits; and more flexible implementation arrangements whereby the social and technical assistance that accompanies the works is carried out directly by FISE in close coordination with municipal staff (note that in PRASNICA, these tasks were carried out by firms, which caused procurement difficulties especially in the Atlantic regions). Additionally it is important to note that the overall fiduciary responsibility for works in the Atlantic regions remains with FISE. The regional governments are not assigned any fiduciary responsibility under the Project, due to their still limited capacity, which the Project will strive to improve as part of its institutional strengthening activities.</p>					

	Resp: Both	Status:	Stage: Both	Recurrent:	Due Date:	Frequency: Continuous
Overall Risk						
Overall Implementation Risk: Moderate						
<p>Risk Description:</p> <p>Despite the fact that the proposed Project builds substantially on the mechanisms developed and tested under PRASNICA and FISE is familiar with Bank procedures, this agency still presents limitations in terms of implementation capacity. In parallel, the sector still requires additional pieces of formalization (such as an updated legal framework), and implementation is mostly concentrated in challenging areas in terms of accessibility (Atlantic regions). Therefore, the implementation risk is considered moderate.</p>						

Annex 5: Implementation Support Plan

Nicaragua: Sustainable Rural Water Supply and Sanitation Sector (P147006)

Strategy and Approach for Implementation Support

1. The strategy for Project Implementation Support (IS) by the Bank reflects the nature of the Project and its risk profile. The strategy aims at making IS to the client more efficient while remaining focused on implementation of the risk mitigation measures identified in the ORAF. The strategy is also an indicative and flexible instrument which will be revisited during Project implementation and as part of the Implementation Status and Results Report (ISR) reviews and updated based on emerging Project challenges and field conditions.

2. This Project builds upon the implementation experience of previous Bank projects in the Nicaragua, namely the PRASNICA (P106283), including its Additional Financing (P132102).

- **Overall Project Implementation.** Project supervision will support the following critical areas: (a) fiduciary capacity to promote the establishment of adequate internal control systems and overall governance; (b) technical expertise on rural WSS technologies and sector organization to support further adoption of good practices and sustainable service provision; (c) mitigation of potential political interference to maintain strong technical capacity, alignment with Project objectives, and due diligence; (d) free, prior, and informed consultations with indigenous peoples throughout Project implementation to ensure that they receive benefits that are culturally compatible; (e) management of environmental and social factors in protected areas and critical natural habitats to contribute to conservation without compromising the wellbeing of the local population; and (f) gender follow up to ensure that Project benefits are gender inclusive.
- **Fiduciary aspects.** The Bank will: (a) provide implementation support and training as necessary; (b) follow up on the Project's financial management system and its adherence to the Operational Manual, including but not limited to accounting, reporting and internal controls; (c) provide guidance on the Bank's Procurement Guidelines to the FISE and municipalities; (b) review procurement documents and provide timely feedback to FISE; and (c) help monitor procurement progress against the Procurement Plan.
- **Environmental and Social Aspects.** The Bank will emphasize opportunities for social development and environmental sustainability provided by the Project, as well adequate attention to gender and indigenous equity issues. Within this framework, the Bank will help to monitor the implementation of activities and of safeguard instruments. Bank social and environmental specialists will be available to provide timely guidance to FISE and will participate in field visits on a regular basis to maintain an ongoing understanding of the situation on the ground.
- **Information and Communication.** A Communication Plan will support the implementation of the Project, especially to enhance sector harmonization under Component 1.

Implementation Support Plan

3. Task team leadership, as well as safeguards and technical aspects, will be managed from the Bank's office in Washington, in close collaboration with the Country Office in Managua and with the WSP team. Implementation support for Project financial management will be carried

out from the Managua office. International and national consultants will be hired to provide advisory services in specialized land administration issues. Formal supervision and field visits will be carried out semi-annually or as needed to promote satisfactory Project implementation.

Time	Focus	Skills Needed	Resource Estimate (Staff Weeks, SW)	Partner Role
First twelve months	Procurement Training, Procurement review of bidding documents	Procurement Specialist	5	FISE trained, equipped and providing assistance to municipalities
	FM training and supervision	FM Specialists	3	
	Social Safeguards – Supervision and Training	Social Specialist	2	
	Gender Specialist	Gender Specialist	2	
	Environmental Safeguards – Supervision and Training	Environmental Specialist	3	N/A
	Technical review of the terms of reference, technical reports and bidding documents	Technical Specialists	10	
	MEPAS update	Task Team Leader, WSP team	2	
	Finalize PISASH component	Task Team Leader, WSP team	8	
Support to formalize agreements with regional Governments and Alto Wangki y Bokay	Task Team Leader, social specialist	2	Project committees established and operating	
After month 13	Procurement review of bidding documents	Procurement Specialist	3	N/A
	Technical review of the terms of reference, technical reports and bidding documents	Technical Specialists	8	
	FM training and supervision	FM Specialists	2	
	Social Safeguards – Supervision and Training	Social Specialist	2	
	Environmental Safeguards – Supervision and Training	Environmental Specialist	3	
	Project Management and Project supervision coordination	Task Team Leader	8	

Skills Mix Required

Skills Needed	# Staff Weeks per FY	# Trips per FY	Comments
Task Team Leader (Supervision)	12	3	HQ-based
Procurement Specialist	5	2	HQ-based
Financial Management Specialist	3	N/A	Country-based
Environmental Specialist	3	2	HQ-based
Social Specialist	3	2	HQ-based
Gender Specialist	2	2	HQ-based
Legal Counsel	2	1	HQ-based
Rural WSS specialist	4	N/A	Country-based
Institutional specialist	4	3	HQ-based
Sanitation Specialist	3	N/A	Country-based
Monitoring/Evaluation Specialist	4	2	HQ-based
Communications Analyst	2	N/A	Country-based

Partners

Name	Institution/Country	Role
Project Oversight	FISE	Provide overall Project oversight
Water and Sanitation Partners	Swiss Agency for Development and Cooperation, Central American Bank for Economic Integration	Harmonize rural WSS support
Other RoN institutions	MHCP, Ministry of External Affairs	Overall sector guidance, Project financing
Co-implementation partners	Municipalities	Support to implementation and supervision of sub-projects
Other participating institutions	Regional Governments and special territory of Alto Wangki y Bokay	Support to implementation and supervision of sub-projects

Annex 6: Economic Assessment

Nicaragua: Sustainable Rural Water Supply and Sanitation Sector (P147006)

1. This annex presents in detail the economic and financial analysis of the *Sustainable Rural Water Supply and Sanitation Sector Project* in Nicaragua. A cost benefit analysis was used for both water and sanitation components. The Project was evaluated taking as reference a sample of sub-projects already implemented by FISE under PRASNICA, and some additional options available for sanitation. The analysis was carried out from two perspectives: financial and economic, to test sustainability and economic viability. The evaluation was complemented with distributive, sensitivity, and risk analyses.

2. *The Project will impact positively socio-economic development* as it will generate more benefits than expected costs. Likewise, the design of the Project will allow it to be financially sustainable. The expected benefits with the Project are about 80% higher than the associated costs, with net economic benefit as high as US\$ 25 million and 24 % expected return. Health benefits alone yield benefits enough to pay for sanitation costs and account for about 80% of sanitation benefits. Additional benefits on savings on coping costs associated with inadequate water and sanitation services add benefits, making the Project more robust.

Results of the Economic Analysis of the Project

	<i>Present Value of Flows (000 US\$)</i>			
	<i>Costs</i>	<i>Benefits</i>	<i>Net Benefits</i>	<i>IRR</i>
<i>Water</i>	16,000	30,786	14,786	22%
<i>Sanitation</i>	16,000	26,520	10,520	26%
<i>Water and Sanitation</i>	32,000	57,306	25,306	24%

3. *Results of the cost benefit analysis of the sample* show that benefits are higher than costs, with net benefits of US\$0.9 million, and economic return of 24%.

4. *The analysis of different alternatives for sanitation.* The alternatives evaluated were: (i) latrines, as implemented in the first phase of PRASNICA; and (ii) three different options for rural toilets (*inodoros rurales*) with sewage disposal systems according to groundwater table levels and availability of water sources nearby. Results show that all options are economically viable. The best alternative is the rural toilet option 1 (known as *taza rural*), with a net benefit of about US\$1,000 per household and 26% return. The second best alternative is the latrine, however this option has some intangible inconveniences compared to other options, such as: lack of privacy, permanent odor, and poor sewage disposal system. Therefore all the options evaluated are considered good alternatives to be considered by FISE in selecting the right technology for the new operation.

5. From a financial point of view, results show that the Project is sustainable with the arrangement established, in which the community pays enough tariffs to cover operating costs. The sub-projects selected in the sample show that this is feasible, however continuous assistance and supervision is needed to guarantee sustainability.

6. The distributive analysis shows that the big winners from the intervention are the communities, with gains as high as US\$ 53 million, half of which is due to sanitation improvement and the corresponding impact on health. The Government shows losses equal to the full cost when it finances all the investment required in the Project. The fiscal impact will vary according to financial arrangements with local Governments and communities. Sensitivity and risk analyses show a robust Project with high probability of yielding positive economic returns.

7. **Rationale for public sector provision/financing.** Water and sanitation systems in Nicaragua receive very precarious technical and social post-construction support, and the public sector is needed to help communities access and sustain the service. Indeed, an assessment of the Nicaraguan Rural WSS sub-sector intervention model, carried out as part of Project preparation, indicates that public financing is the most appropriate source of financing compared to potential alternatives. Government involvement in the Project will help to (a) provide affordable water and sanitation solutions in rural areas; (b) design mechanisms to make these services sustainable in the medium and long term; and (c) develop institutional capacity of the sector by strengthening FISE's capacity to lead the Rural WSS sub-sector, and by improving the efficiency of the institutional support structure in order to guarantee sustainable services through CAPS. In addition, even though there are currently limited opportunities for private sector involvement in Rural WSS service provision, the Project includes measures that promote sharing financing responsibilities with domestic private sector— for example, by introducing policy measures in the MEPAS to adjust the level of subsidy (incorporating pro-poor criteria), or by including the sanitation marketing approaches among Project activities.

8. **World Bank Value Added.** Over the past years the Bank has established itself as a key Country interlocutor and has provided significant policy guidance in the WSS sector. The Bank's value added has been especially relevant in its role as a knowledge institution capable of convening expertise from numerous countries and of coordinating the sector's key donors around shared objectives. Important achievements have resulted from this engagement, but there is still ample room for improving the sector in areas where the World Bank has extensive experience. The regular coordination between the Bank and other donors in the sector will be maintained. There is also a strong likelihood of a parallel financing of the Project with the Central American Bank for Economic Integration.

Objective and Components evaluated

9. *Objective.* The objective of the Project is to increase sustainable water and sanitation coverage in rural areas with low coverage and high poverty levels. This objective will be attained through the implementation of affordable WSS systems, institutional strengthening, and building capacity of rural WSS sector. On the basis of this objective, the economic analysis assesses the expected benefits and compares them with the expected costs of the Project. The analysis also helps identifying the variables that carry the higher risk for the Project, as well as the probability of having positive results.

10. The Project has four components: (1) strengthening of the rural WSS sector; (2) sustainable WSS coverage increase in rural areas; (3) innovations in rural water, sanitation, and

hygiene; and (4) immediate response mechanism contingency. This evaluation is carried out for components 1 and 2, which correspond to 90% of the total Project.

Methodology

11. The Project was evaluated based on the analysis of: (a) a sample of sub-projects representative of the works to be implemented with the new operation; and (b) potential technological alternatives to be used in the sanitation sub-projects.

Sample

12. The sample consisted of eight sub-projects already implemented by FISE. Five of them corresponded to water and sanitation, and three only to sanitation. The sample included sub-projects in the Pacific and the Atlantic regions and with different implementation schemes: ones carried out through the municipalities (decentralized), and others through the communities (PGC).

13. The technologies evaluated for sanitation were: (i) latrines, as implemented in the first phase of PRASNICA; and (ii) three additional options for rural toilets (*inodoros rurales*) with sewage disposal systems according to groundwater table levels and availability of water sources nearby, namely: (a) rural toilet option 1 (*taza rural*), for areas where the water table is deeper than 15 meters and there are no water sources near the site; (b) rural toilet option 2 (*ecosan*), for areas where ground water level is also deeper than 15 meters, but water sources are available nearby; and (c) rural toilet option 3 (*biosan*), for areas where the groundwater table is lower than 15 meters.

Costs

14. *The investment cost for the sub-projects selected in the sample* was based on actual costs registered by FISE. These costs did not include design, supervision, or social activities, so 30% was added to account for them. Cost breakdown for water and sanitation was not available on sub-projects with both components, so estimations were made based on the average cost of sanitation obtained from sanitation sub-projects.

15. The unit cost per connection in the water sub-projects varies widely among communities, in a range of 1 to 8. In La Union the cost per house was just US\$245, while in Vista Alegre it was eight times higher (US\$1,600). The variation was due to: (a) type of works required bringing water to the houses; and (b) transportation cost according to distance to urban areas. In some communities only rehabilitation work was needed, while in others the whole or partial system was put in place: water intake, pipelines, reservoirs, and water connections.

16. The unit cost of sanitation per household varies from about US\$400 to US\$600. These differences are explained by the type of soil and distance to urban areas, which affects transportation cost. The Atlantic region presents the higher costs, due to transportation.

17. The investment cost of each of the alternatives evaluated for sanitation is presented in the following table. The first row presents the cost of works, as registered by FISE without including the 30% cost for design, supervision, and social work. An additional 23% is included for the institutional strengthening component of the Project⁴⁴.

Table 1. COST OF SANITATION ALTERNATIVES

	Latrine FISE	Rural Toilet1	Rural Toilet2	Rural Toilet3
Lifespan (years)	5	20	20	20
Investment cost :				
Hardware on site	443	650	815	993
Design supervision, and social work	133	195	245	298
Institutional Strengthening	103	152	190	232
Total Investment cost	679	997	1,250	1,523
Maintenance cost				
Maintenance/emptying cost	-	-	70	70
Frequency of maintenance (years)	-	-	5	5
Annual costs				
Investment cost	149*	117	147	178
Maintenance cost	-	-	18	18
Total annual cost	149	117	165	196

* The annual cost of latrine was calculated including every 5 years the cost of replacing it at 70% of its initial cost.

18. When comparing equivalent annual costs, it is interesting to note that the latrine is costlier than the rural toilet 1 even though it does not provide a system for sewage disposal, hence the Project's consideration of rural toilets instead.

19. FISE has established a ceiling for the cost per connection for both water and sanitation. For water, the ceiling per person varies according to population density from US\$189 to US\$261⁴⁵, or US\$980 to US\$1,357 per connection. In sanitation, the ceiling is US\$1357 per household. All the costs obtained in the sub-projects sample, as well as in the alternatives for sanitation are below the ceiling when only works are included. However with social work, design, and supervision costs, Vista Alegre presents a higher cost for its water project, as does the technological option of *biosan* (rural toilet 3) for sanitation.

20. Operating costs were based on actual costs of similar projects implemented by FISE.

21. Other costs include the cost of replacing equipment during the lifetime of the Project.

Approach used for the evaluation

22. Cost benefit analysis was used to measure net benefits generated from both water and sanitation sub-projects in the sample, and in the proposed alternatives for sanitation.

⁴⁴The 23% corresponds to the share of the Project's institutional strengthening component (USD 7M) within the total Project cost (USD 32M)

⁴⁵FISE (2013), MEPAS 4th version.

23. Expected benefits and costs attributable to the sub-projects were measured by comparing two scenarios: *with* and *without* sub-project. Each sub-project was evaluated from a financial and economic perspective. From a financial perspective, the sub-project was appraised measuring costs and benefits at market prices as the committee in charge of providing the service pays for the sub-project and receives from it. From an economic perspective the evaluation was done converting the financial cash flow to economic cash flow eliminating the externalities caused by market distortions, such as taxes and subsidies. Financial analysis shows the gains to the committee (CAPS) providing the service; economic analysis goes farther and shows the gains to society. The evaluation is complemented by a distributive analysis, as well as sensitivity and risk analyses. The distributive analysis helps to determine winners and losers from the sub-project, including the fiscal analysis that measures the impact for the Government.

24. The benefits that can be stated in monetary terms were estimated, while those that could not be quantified are mentioned. This evaluation employed the coping costs approach to derive the costs of inadequate water and sanitation in the rural areas, for which the costs of handling water insecurity, lack of treatment, and on-site sewage disposal systems were quantified. Explicit costs included: form of investments in water storage facilities, cost of improving water quality, and cost associated with on-site sewage disposal facilities. Implicit costs include: (i) opportunity cost of time associated with water collection, and accessing unimproved sanitation; and (ii) health costs due to lack of appropriate sanitation facilities.

25. Costs and Benefits are expressed at 2013 prices, and estimated over a 20 year-period. The discount rate used is 10 percent as a proxy of the opportunity cost in Nicaragua.

Benefits

26. *Benefits* were measured from financial and economic perspectives for water sub-projects; while for the sanitation sub-projects these were measured only from an economic perspective, as these are not revenue generating sub-projects. From a financial perspective, benefits correspond to the increase in revenues that comes along with the tariffs charged to the beneficiaries. The economic benefits go beyond the increase of revenues and capture benefits to be received by the whole society. Some of them are not quantified and so the economic analysis fell short on presenting all expected benefits. This evaluation quantified the following economic benefits: (a) savings attained when coping costs of inadequate water and sanitation services are reduced or eliminated; and (b) health benefits associated with the reduction of diseases⁴⁶ and premature deaths when water service or sanitation facilities improves; (c) improvement of quality of life when a convenient and private place to defecate is available. Among the important economic benefits not quantified are: (a) reduction of elimination of water pollution caused by poor sanitation; and (b) reduction of economic losses due to lower efficiency in productive activities in the zone, such as tourism, agriculture, recreation, etc.

Financial Benefits

⁴⁶Selected diseases were diarrhea, hepatitis, and intestinal parasites.

27. Financial benefits consisted of revenue from tariffs charged by the Committee as provider of the water service. Water tariff equals to operation and maintenance costs in all sub-projects of the sample. Each community has a financial arrangement for funding investment costs, which are financed by the Government (National and local), and the community. Financial agreements vary according to sub-project costs, income level of the community, and resources from the local Government. Sometimes the community helps finance the sub-project with labor.

28. As payments made by the community through tariffs equal operating cost, no financial benefit for the Committee is obtained. Likewise with investment cost, the financial agreements correspond to total cost with no profit for the CAPS. Arrangements for implementation and operation allow the services to be sustainable with no net financial profit.

Economic Benefits

29. The Project will be providing water and sanitation services in some areas, while in others only sanitation will be provided where the water service already exists (and vice versa). The benefits are estimated for both services

Benefits of water

30. The benefits that come with having water were estimated as the avoided costs that will come with adequate water service. Without the sub-project, communities have to take measures to find sources of water and treat it for cooking and drinking purposes. Common practices to find water are: (a) journeys to collect water from a source nearby (river, stream); (b) digging wells where groundwater is close to the surface; and (c) opportunity cost of time to walk to a nearby stream to take baths and wash clothes. Common practices for drinking and cooking water are: (a) boiling water; (b) purchasing bottled water; (c) filtering or chlorination. Health benefits were not included as they are partially obtained with the treatment of water at home.

31. Economic costs associated with lack of water have to do with: (a) time loss with daily journeys to collect water, take baths, or wash clothes. According to surveys in the field, the average time spent per person to collect water in 20-liters containers is about 30 minutes per trip and 4 trips are required per day per household. For washing clothes and baths an additional 50 minutes are required. The economic cost of time was valued as 30% of the estimated national average wage rate of about C\$ 17.5 (US\$0.86), as women and children are generally in charge of this chore; (b) containers to store water, which all the households have to use; (c) some digging of wells at a variable cost according to availability of water in the area. The weighted average cost of lacking water is about US\$210 per household per year.

32. Economic costs associated with lack of potable water depend on the practice used for treating it. The frequency of households using different options for drinking water is based on a recent study carried out by the World Bank (2013), which found that: (a) one to three percent of rural households in Nicaragua boil their drinking water, and use 0.5-1.0 liters per person per day; (b) about 30 percent of rural households disinfect drinking water in Nicaragua, with cost of chlorination at US\$10 per household per year; (c) about 5% of households use filters; (d) in rural

areas, a small fraction of households buy bottled water. The weighted average cost of treating water is about US\$7 per household per year.

Benefits of sanitation

33. The benefits for sanitation were based on the results of the study carried out in 2012 by WSP⁴⁷ in Nicaragua under the Economics of Sanitation Initiative (ESI). The study estimated benefits on health, water resources, welfare, and tourism. This evaluation used health and welfare benefits. These benefits were quantified as the averted costs when sanitation improves. Health costs consisted of: (a) healthcare costs from formal health care services and traditional healers; (b) productivity costs equivalent to welfare or income lost due to sickness time; and (c) costs of premature death, which correspond to discounted lifetime income losses for death. Welfare benefits consisted of reduction or elimination of time spent searching for a place to defecate.

34. The expected net benefits were calculated per household and then extrapolated to the total number of beneficiaries.

35. *Health.* The incidence of diseases attributable to poor sanitation presented in the ESI study in Nicaragua is as follows:

Table 2. Annual Incidences of diseases caused to poor sanitation and hygiene in Nicaragua

	Children <5	Children 5-4	Population 15+	Total
Diarrhea (1998-2007)	1,767,788	895,822	1986,872	4650,482
Hepatitis A (1998-2007)	245	503	185	933
Intestinal Parasites (2008-10)	152,042		346,458	498,500

Source: WSP-ESI (2012)

36. The WSP study found that on average, the estimated annual diarrheal incidence rate is 0.9 cases per person, and is 30% higher in rural areas than in urban areas. Annual diarrheal incidence is highly correlated with poverty level and share of population without a toilet facility. Total number of deaths attributable to poor sanitation is nearly 500 of which 308 are accounted for by diarrhea and 180 by diseases related to malnutrition caused by diarrhea infections in early childhood. 95% of these deaths correspond to children under five.

37. *Health Care Costs.* The study estimated the health care cost based on disease incidence rates, treatment-seeking rates, treatment practices, and unit costs. 43% of children under 5 receive treatment at a medical facility; this is also the case for 20% of older children, and 15% of adults. 90% of children under five with diarrhea receive one or more forms of treatment: from medical facilities, and also through purchase of oral rehydration salts (ORS) and medicines at pharmacies, and home remedies. Treatment cost varies from about US\$2 per pills and ORS to 15 US\$ at a medical facility.

⁴⁷WSP-LAC. World Bank (2012), *Economic Impacts of Sanitation in Nicaragua. A Country Study Under the Economics of Sanitation Initiative (ESI)*.

38. *Health Related Productivity Cost.* Disease takes away people from daily activities, which means loss of time for children and adults. Economic cost of time was valued for adults as 30% of the estimated national average wage rate of about C\$ 17.5 (US\$0.86). Child time was valued at half that of adult time. Time off daily activities varies by disease: one day for diarrhea, and fifteen days for hepatitis.

39. *Cost of premature death.* Premature death has an economic impact due to the loss of wages and economic outputs generated now and in the future. The WSP study used the “human capital approach” for children under 5 years of age, while the value of a statistical life (VSL) for the population of 5+ years of age. The human capital approach approximates the value of human life using the estimated future discounted income stream from a productive person, based on a working life of 17 to 65 years, a 2% annual growth in real income, and a 3% discount rate. The result was US\$71,200 per premature death. The VSL approach used the OECD average of US\$2M adjusted by the difference in GDP per capita between those countries and Nicaragua, and using an income elasticity of 1.0. The resulting value was US\$ 71,400 for premature death.

40. *Wealth Impact* was measured as a reduction of time spent when sanitary facility is available at the house. Without the sub-project, the population has to find a place for open defecation or has to wait for using shared latrines. Both options imply time loss, which was estimated by the WSP study of about 10 minutes per member of the household once a day. To value the time the same assumption used for the productivity costs was used. All options evaluated in sanitation, except for the latrine, will attain the full convenience benefit, as the household will have the sanitary facility at the house. However the latrine will not attain the full benefit, as the facility will be located outside and not be as private as the other options, and its smell will be permanent given its poor sewage disposal system. To account for all these intangible inconveniences, it was assumed that the welfare impact was 50% of all other options.

Impact of appropriate sanitation on health

41. The effect of improved sanitation on health is assumed at 45% when accompanied by hygiene practices such as hand washing. When hygiene practices are not present the impact reduces to 37.5%. The assumptions of the impact of sanitation were taken from the results of the studies carried out by Pruss et al. (2002)⁴⁸ and Esrey's⁴⁹. The Project is designed to include hand-washing facilities with each sanitation solution and so this evaluation uses the 45% impact estimate. However, there is a risk that households do not change behavior and the expected benefit is not fully achieved. The sensitivity and risk analyses will include this possibility and evaluate its impact on the outcome.

⁴⁸Priuss, Annette; David Kay; Lorna Fewetrell; and Jamie Bartram (2002). *Estimating the Burden of Disease from Water, Sanitation, and Hygiene at a Global Level*. Environmental Health Perspectives. 110 (5).

⁴⁹Esrey SA. Water, Waste, and Well-Being: a multicounty Study (1991). *Am J Epidemiol* 143 (6) 703-708

Benefits of water and sanitation

42. When water and sanitation benefits were added, the benefit of improving water treatment was not included to avoid double counting, as some of the health cost can be reduced when water is treated.

Results

Financial Results

43. The results of the financial analysis of water sub-projects show that arrangements made with the communities allow financial viability as tariffs are paying for operation and so services are sustainable, with no profit for the provider (committee / CAPS).

44. As the committee does not provide sanitation, it is not a revenue generating sub-project. The scheme is that each household maintains its sanitation facility. According to FISE the sub-projects selected in the sample have been operating well and the community is very satisfied with the works and is taking care of them appropriately.

Economic Results

45. The economic results are presented for the sample of sub-projects, and for the alternatives selected for sanitation. The analysis was done per household and the results were expanded to all beneficiaries of the sample, as well as to potential beneficiaries with the new operation.

46. Results of the sample show that the benefits attained are twice as much the costs with net benefit of US\$ 0.9M and internal rate of return of 24%. During the lifespan of the works, a net benefit per household of US\$8,000 is expected for both services.

Table 3. Results of the Economic Analysis of the Sub-projects selected in the Sample

	<i>Present Value of Flows (000 US\$)</i>			
	<i>Costs</i>	<i>Benefits</i>	<i>Net Benefits</i>	<i>IRR</i>
<i>Per Household</i>				
<i>Water</i>	5.7	9.4	3.7	22%
<i>Sanitation</i>	7.4	12.0	4.6	26%
<i>Water and Sanitation</i>	13.1	21.4	8.3	24%
<i>For all beneficiaries in the sample</i>				
<i>Water</i>	593	1,017	424	22%
<i>Sanitation</i>	655	1,103	449	26%
<i>Water and Sanitation</i>	1,247	2,120	872	24%

47. Each of the sub-projects attained returns from 12% to 85% (in La Union where the investment cost was the lowest of all).

Table 4. Results of the economic analysis for water sub-projects in the sample

	PV OF FLOWS (000 US\$)			IRR
	Costs	Benefits	Net Benefits	
La Paz del Tuma	181	280	99	20%
La Unión	64	217	153	85%
Vista Alegre	191	208	17	12%
San Agustín	55	76	21	17%
Rivas	102	236	134	38%
TOTAL	593	1,017	424	22%

48. Each sanitation sub-project showed benefits in a range of 19% to 33%.

Table 5. Results of the economic analysis for Sanitation sub-projects in the sample

	PV OF FLOWS (000 US\$)			IRR
	Costs	Benefits	Net Benefits	
La Paz del Tuma	125	222	97	30%
La Unión	101	180	78	30%
Vista Alegre	42	75	33	30%
San Agustín	90	120	29	19%
Rivas	17	30	13	30%
La Joba	152	291	139	33%
Chichicaste, La Manzana, Los Canales	88	135	47	24%
El Cedro	38	51	13	19%
TOTAL	655	1,103	449	26%

49. The combined results for water and sanitation show a net benefit of US\$ 0.9M and a return of 24%.

50. The analysis of sanitation alternatives shows that all options are viable with returns in a range of 13% to 26%. The best alternative is the rural toilet option 1 (*taza rural*) with net benefit of about US\$1,000 per household and 26% return. The second best alternative is the latrine, however this option has some intangible inconveniences, such as: lack of privacy, permanent odor, and poor sewage disposal system. All the options evaluated are good alternatives to be considered by FISE.

Table 6. Results of the economic evaluation per household of different alternatives for sanitation

	Present Value (US\$ per household)			IRR
	Costs	Benefits	Net Benefits	
Latrine	1,272	1,649	377	23%
Rural Toilet 1	997	1,918	921	26%
Rural Toilet 2	1,404	1,918	514	17%
Rural Toilet 3	1,677	1,918	241	13%

51. Assuming that the project will carry out water and sanitation sub-projects and applying the average costs and benefits obtained from the sample and the best technology for sanitation, results show that benefits are expected to be about US\$53M and net benefits about US\$23M with internal rate of return of 24%.

Table 7. Results of the Economic Analysis of the project

	Present Value of Flows (000 US\$)			
	Costs	Benefits	Net Benefits	IRR
Water	16,000	30,786	14,786	22%
Sanitation	16,000	26,520	10,520	26%
Water and Sanitation	32,000	57,306	25,306	24%

52. *Distributive Analysis.* The differences between economic and financial flows are rents or monetary flows that occur to someone different than the utility. Winners and losers are identified following the economic and financial cost breakdown.

53. The distribution analysis for the sub-projects of the sample shows that the population of rural communities reaped benefits as high as US\$2M, higher than the payments they have to make for tariffs for the water service (US\$185,000). Health benefits corresponded to 50% of total benefits. The Government had a net loss of US\$1M corresponding to the transfer that is passing on to the communities of the sample, to pay for the investment costs.

54. When extrapolating to the total Project, the benefits to be attained by the population are US\$26.5M. 54% of those benefits are due to improved sanitation and 46% to adequate water service. 77% of sanitation benefits are explained by health improvements.

55. *Sensitivity Analysis.* The sensitivity analysis allows comparing the base case scenario to additional scenarios changing one variable at a time. The break-even analysis allows identifying the value of the chosen variables that causes the Project to exactly break even. The variables identified as the ones with the greatest effect on the sub-project's outcome are: (i) investment and operating cost overrun; (ii) Project delays; and (iii) reduction on health benefits when proper hygiene is not attained.

56. The results show that the Project will yield economic benefits when investment cost increases up to 70%. Even if hygiene is not improved the sub-project will generate enough benefits to make it viable. The Project will be viable even if it is delayed and the benefits start on the 4th year.

57. *Risk Analysis.* To enhance the accuracy of the financial and economic analysis, a risk analysis was carried out using Crystal Ball. This software works with Monte Carlo simulation sampling probability distribution for each of the variables selected and produced hundreds or thousands of possible outcomes. The results determine the probability of obtaining positive results with the Project. The results show that the probability of having positive results is higher than 90%.

Annex 7: Map Nicaragua: Sustainable Rural Water Supply and Sanitation Sector (P147006)

